

116<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 4447

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## AN ACT

To establish an energy storage and microgrid grant and technical assistance program.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 (a) **SHORT TITLE.**—This Act may be cited as the  
3 “Clean Economy Jobs and Innovation Act”.

4 (b) **TABLE OF CONTENTS.**—The table of contents for  
5 this Act is as follows:

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1 **TITLE I—ENERGY EFFICIENCY**

2 **Subtitle A—Buildings**

3 **PART 1—BUILDING ENERGY CODES**

4 **SEC. 1101. GREATER ENERGY EFFICIENCY IN BUILDING**

5 **CODES.**

6 (a) DEFINITIONS.—Section 303 of the Energy Con-  
7 servation and Production Act (42 U.S.C. 6832) is amend-  
8 ed—

9 (1) by striking paragraph (14) and inserting  
10 the following:

11 “(14) MODEL BUILDING ENERGY CODE.—The  
12 term ‘model building energy code’ means a voluntary  
13 building energy code or standard developed and up-  
14 dated by interested persons, such as the code or  
15 standard developed by—

1           “(A) the Council of American Building Of-  
2           ficials, or its legal successor, International Code  
3           Council, Inc.;

4           “(B) the American Society of Heating, Re-  
5           frigerating, and Air-Conditioning Engineers; or

6           “(C) other appropriate organizations.”;  
7           and

8           (2) by adding at the end the following:

9           “(17) IECC.—The term ‘IECC’ means the  
10          International Energy Conservation Code.

11          “(18) INDIAN TRIBE.—The term ‘Indian tribe’  
12          has the meaning given the term in section 4 of the  
13          Native American Housing Assistance and Self-De-  
14          termination Act of 1996 (25 U.S.C. 4103).”.

15          (b) STATE BUILDING ENERGY EFFICIENCY  
16          CODES.—Section 304 of the Energy Conservation and  
17          Production Act (42 U.S.C. 6833) is amended to read as  
18          follows:

19          **“SEC. 304. UPDATING STATE BUILDING ENERGY EFFI-  
20          CIENCY CODES.**

21          “(a) VOLUNTARY CODES AND STANDARDS.—Not-  
22          withstanding any other provision of this section, any  
23          model building code or standard established under section  
24          304 shall not be binding on a State, local government, or  
25          Indian tribe as a matter of Federal law.

1 “(b) ACTION BY SECRETARY.—The Secretary shall—

2 “(1) encourage and support the adoption of  
3 building energy codes by States, Indian tribes, and,  
4 as appropriate, by local governments that meet or  
5 exceed the model building energy codes, or achieve  
6 equivalent or greater energy savings; and

7 “(2) support full compliance with the State and  
8 local codes.

9 “(c) STATE AND INDIAN TRIBE CERTIFICATION OF  
10 BUILDING ENERGY CODE UPDATES.—

11 “(1) REVIEW AND UPDATING OF CODES BY  
12 EACH STATE AND INDIAN TRIBE.—

13 “(A) IN GENERAL.—Not later than 2 years  
14 after the date of publication of a revision to a  
15 model building energy code, each State or In-  
16 dian tribe shall certify whether the State or In-  
17 dian tribe, respectively, has reviewed and up-  
18 dated the energy provisions of the building code  
19 of the State or Indian tribe, respectively.

20 “(B) DEMONSTRATION.—The certification  
21 shall include a demonstration of whether the  
22 energy savings for the code provisions that are  
23 in effect throughout the territory of the State  
24 or Indian tribe meet or exceed the energy sav-  
25 ings of the updated model building energy code.

1           “(C) NO MODEL BUILDING ENERGY CODE  
2 UPDATE.—If a model building energy code is  
3 not updated by a target date established under  
4 section 307(b)(2)(E), each State or Indian tribe  
5 shall, not later than 2 years after the specified  
6 date, certify whether the State or Indian tribe,  
7 respectively, has reviewed and updated the en-  
8 ergy provisions of the building code of the State  
9 or Indian tribe, respectively, to meet or exceed  
10 the target in section 307(b)(2).

11           “(2) VALIDATION BY SECRETARY.—Not later  
12 than 90 days after a State or Indian tribe certifi-  
13 cation under paragraph (1), the Secretary shall—

14           “(A) determine whether the code provi-  
15 sions of the State or Indian tribe, respectively,  
16 meet the criteria specified in paragraph (1);  
17 and

18           “(B) if the determination is positive, vali-  
19 date the certification.

20           “(d) IMPROVEMENTS IN COMPLIANCE WITH BUILD-  
21 ING ENERGY CODES.—

22           “(1) REQUIREMENT.—

23           “(A) IN GENERAL.—Not later than 3 years  
24 after the date of a certification under sub-  
25 section (c), each State and Indian tribe shall



1 certify whether the State and Indian tribe, re-  
2 spectively, has—

3 “(i) achieved full compliance under  
4 paragraph (3) with the applicable certified  
5 State and Indian tribe building energy  
6 code or with the associated model building  
7 energy code; or

8 “(ii) made significant progress under  
9 paragraph (4) toward achieving compliance  
10 with the applicable certified State and In-  
11 dian tribe building energy code or with the  
12 associated model building energy code.

13 “(B) REPEAT CERTIFICATIONS.—If the  
14 State or Indian tribe certifies progress toward  
15 achieving compliance, the State or Indian tribe  
16 shall repeat the certification until the State or  
17 Indian tribe certifies that the State or Indian  
18 tribe has achieved full compliance, respectively.

19 “(2) MEASUREMENT OF COMPLIANCE.—A cer-  
20 tification under paragraph (1) shall include docu-  
21 mentation of the rate of compliance based on—

22 “(A) independent inspections of a random  
23 sample of the buildings covered by the code in  
24 the preceding year; or

1           “(B) an alternative method that yields an  
2           accurate measure of compliance.

3           “(3) ACHIEVEMENT OF COMPLIANCE.—A State  
4           or Indian tribe shall be considered to achieve full  
5           compliance under paragraph (1) if—

6                   “(A) at least 90 percent of building space  
7                   covered by the code in the preceding year sub-  
8                   stantially meets all the requirements of the ap-  
9                   plicable code specified in paragraph (1), or  
10                  achieves equivalent or greater energy savings  
11                  level; or

12                   “(B) the estimated excess energy use of  
13                   buildings that did not meet the applicable code  
14                   specified in paragraph (1) in the preceding  
15                   year, compared to a baseline of comparable  
16                   buildings that meet this code, is not more than  
17                   5 percent of the estimated energy use of all  
18                   buildings covered by this code during the pre-  
19                   ceding year.

20           “(4)       SIGNIFICANT       PROGRESS       TOWARD  
21           ACHIEVEMENT OF COMPLIANCE.—A State or Indian  
22           tribe shall be considered to have made significant  
23           progress toward achieving compliance for purposes  
24           of paragraph (1) if the State or Indian tribe—

1           “(A) has developed and is implementing a  
2           plan for achieving compliance during the 8-  
3           year-period beginning on the date of enactment  
4           of the Clean Economy Jobs and Innovation Act,  
5           including annual targets for compliance and ac-  
6           tive training and enforcement programs; and

7           “(B) has met the most recent target under  
8           subparagraph (A).

9           “(5) VALIDATION BY SECRETARY.—Not later  
10          than 90 days after a State or Indian tribe certifi-  
11          cation under paragraph (1), the Secretary shall—

12           “(A) determine whether the State or In-  
13           dian tribe has demonstrated meeting the cri-  
14           teria of this subsection, including accurate  
15           measurement of compliance; and

16           “(B) if the determination is positive, vali-  
17           date the certification.

18          “(e) STATES OR INDIAN TRIBES THAT DO NOT  
19          ACHIEVE COMPLIANCE.—

20           “(1) REPORTING.—A State or Indian tribe that  
21           has not made a certification required under sub-  
22           section (e) or (d) by the applicable deadline shall  
23           submit to the Secretary a report describing—

1           “(A) the status of the State or Indian tribe  
2           with respect to meeting the requirements and  
3           submitting the certification; and

4           “(B) a plan for meeting the requirements  
5           and submitting the certification.

6           “(2) FEDERAL SUPPORT.—For any State or In-  
7           dian tribe for which the Secretary has not validated  
8           a certification by a deadline under subsection (c) or  
9           (d), the lack of the certification may be a consider-  
10          ation for Federal support authorized under this sec-  
11          tion for code adoption and compliance activities.

12          “(3) LOCAL GOVERNMENT.—In any State or  
13          Indian tribe for which the Secretary has not vali-  
14          dated a certification under subsection (c) or (d), a  
15          local government may be eligible for Federal support  
16          under subsections (f) and (g) by meeting the certifi-  
17          cation requirements of subsections (c) and (d).

18          “(4) REPORTS BY SECRETARY.—

19                 “(A) IN GENERAL.—Not later than De-  
20                 cember 31, 2021, and not less frequently than  
21                 once every 3 years thereafter, the Secretary  
22                 shall submit to Congress and publish a report  
23                 describing—

24                         “(i) the status of model building en-  
25                         ergy codes;

1 “(ii) the status of code adoption and  
2 compliance in the States and Indian tribes;

3 “(iii) implementation of this section;  
4 and

5 “(iv) improvements in energy savings  
6 over time as result of the targets estab-  
7 lished under section 307(b)(2).

8 “(B) IMPACTS.—The report shall include  
9 estimates of impacts of past action under this  
10 section, and potential impacts of further action,  
11 on—

12 “(i) upfront financial and construction  
13 costs, cost benefits and returns (using in-  
14 vestment analysis), and lifetime energy use  
15 for buildings;

16 “(ii) resulting energy costs to individ-  
17 uals and businesses; and

18 “(iii) resulting overall annual building  
19 ownership and operating costs.

20 “(f) TECHNICAL ASSISTANCE TO STATES AND IN-  
21 DIAN TRIBES.—The Secretary shall provide technical as-  
22 sistance to States and Indian tribes to implement the goals  
23 and requirements of this section, including procedures and  
24 technical analysis for States and Indian tribes—

1           “(1) to improve and implement State residential  
2           and commercial building energy codes;

3           “(2) to demonstrate that the code provisions of  
4           the States and Indian tribes achieve equivalent or  
5           greater energy savings than the model building en-  
6           ergy codes and targets;

7           “(3) to document the rate of compliance with a  
8           building energy code; and

9           “(4) to otherwise promote the design and con-  
10          struction of energy- and water-efficient buildings.

11         “(g) AVAILABILITY OF INCENTIVE FUNDING.—

12           “(1) IN GENERAL.—The Secretary shall provide  
13          incentive funding to States and Indian tribes—

14           “(A) to implement the requirements of this  
15          section;

16           “(B) to improve and implement residential  
17          and commercial building energy codes, including  
18          increasing and verifying compliance with the  
19          codes and training of State, tribal, and local  
20          building code officials to implement and enforce  
21          the codes; and

22           “(C) to promote building energy and water  
23          efficiency through the use of the codes and  
24          standards.

1           “(2) ADDITIONAL FUNDING.—Additional fund-  
2           ing shall be provided under this subsection for im-  
3           plementation of a plan to achieve and document full  
4           compliance with residential and commercial building  
5           energy codes under subsection (d)—

6                   “(A) to a State or Indian tribe for which  
7           the Secretary has validated a certification under  
8           subsection (c) or (d); and

9                   “(B) in a State or Indian tribe that is not  
10           eligible under subparagraph (A), to a local gov-  
11           ernment that is eligible under this section.

12           “(3) TRAINING.—Of the amounts made avail-  
13           able under this subsection, the State or Indian tribe  
14           may use amounts required, but not to exceed  
15           \$750,000 for a State, to train State and local build-  
16           ing code officials to implement and enforce codes de-  
17           scribed in paragraph (2).

18           “(4) LOCAL GOVERNMENTS.—States may share  
19           grants under this subsection with local governments  
20           that implement and enforce the codes.

21           “(h) STRETCH CODES AND ADVANCED STAND-  
22           ARDS.—

23                   “(1) IN GENERAL.—The Secretary shall provide  
24           technical and financial support for the development

1 of stretch codes and advanced standards for residen-  
2 tial and commercial buildings for use as—

3 “(A) an option for adoption as a building  
4 energy code by local, tribal, or State govern-  
5 ments; and

6 “(B) guidelines for energy-efficient build-  
7 ing design.

8 “(2) TARGETS.—The stretch codes and ad-  
9 vanced standards shall be designed—

10 “(A) to achieve substantial energy savings  
11 compared to the model building energy codes;  
12 and

13 “(B) to meet targets under section 307(b),  
14 if available, at least 3 to 6 years in advance of  
15 the target years.

16 “(i) STUDIES.—The Secretary, in consultation with  
17 building science experts from the National Laboratories  
18 and institutions of higher education, designers and build-  
19 ers of energy-efficient residential and commercial build-  
20 ings, code officials, code and standards developers, and  
21 other stakeholders, shall undertake a study of the feasi-  
22 bility, impact, economics, and merit of—

23 “(1) code and standards improvements that  
24 would require that buildings be designed, sited, and  
25 constructed in a manner that makes the buildings



1 more adaptable in the future to become zero-net-en-  
2 ergy after initial construction, as advances are  
3 achieved in energy-saving technologies;

4 “(2) code procedures to incorporate measured  
5 lifetimes, not just first-year energy use, in trade-offs  
6 and performance calculations;

7 “(3) legislative options for increasing energy  
8 savings from building energy codes and standards,  
9 including additional incentives for effective State  
10 and local action, and verification of compliance with  
11 and enforcement of a code or standard other than by  
12 a State or local government; and

13 “(4) code and standards improvements that  
14 consider energy efficiency and water efficiency and,  
15 to the maximum extent practicable, consider energy  
16 efficiency and water efficiency in an integrated man-  
17 ner.

18 “(j) EFFECT ON OTHER LAWS.—Nothing in this sec-  
19 tion or section 307 supersedes or modifies the application  
20 of sections 321 through 346 of the Energy Policy and  
21 Conservation Act (42 U.S.C. 6291 et seq.).

22 “(k) AUTHORIZATION OF APPROPRIATIONS.—There  
23 is authorized to be appropriated to carry out this section  
24 and section 307 \$200,000,000, to remain available until  
25 expended.”.

1 (c) FEDERAL BUILDING ENERGY EFFICIENCY  
2 STANDARDS.—Section 305 of the Energy Conservation  
3 and Production Act (42 U.S.C. 6834) is amended by strik-  
4 ing “voluntary building energy code” each place it appears  
5 in subsections (a)(2)(B) and (b) and inserting “model  
6 building energy code”.

7 (d) MODEL BUILDING ENERGY CODES.—

8 (1) IN GENERAL.—Section 307 of the Energy  
9 Conservation and Production Act (42 U.S.C. 6836)  
10 is amended to read as follows:

11 **“SEC. 307. SUPPORT FOR MODEL BUILDING ENERGY**  
12 **CODES.**

13 “(a) IN GENERAL.—The Secretary shall support the  
14 updating of model building energy codes.

15 “(b) TARGETS.—

16 “(1) IN GENERAL.—The Secretary shall sup-  
17 port the updating of the model building energy codes  
18 to enable the achievement of aggregate energy sav-  
19 ings targets established under paragraph (2).

20 “(2) TARGETS.—

21 “(A) IN GENERAL.—The Secretary shall  
22 work with State, Indian tribes, local govern-  
23 ments, code and standards developers (such as  
24 the entities described in section 303(14)), and  
25 other interested parties to support the updating

1 of model building energy codes by establishing  
2 1 or more national aggregate energy savings  
3 targets to achieve the purposes of this section.

4 “(B) SEPARATE TARGETS.—The Secretary  
5 shall establish separate targets for commercial  
6 and residential buildings.

7 “(C) BASELINES.—The baseline for updat-  
8 ing model building energy codes shall be the  
9 2009 IECC for residential buildings and  
10 ASHRAE Standard 90.1–2010 for commercial  
11 buildings.

12 “(D) CODE CYCLES.—The targets estab-  
13 lished under subparagraph (A) shall align with  
14 the respective code development cycles deter-  
15 mined by the model building energy code-setting  
16 and standards development organizations de-  
17 scribed in section 303(14).

18 “(E) SPECIFIC YEARS.—

19 “(i) IN GENERAL.—Targets for spe-  
20 cific years shall be established and revised  
21 by the Secretary through rulemaking and  
22 coordinated with code and standards devel-  
23 opers (such as the entities described in sec-  
24 tion 303(14)) at a level that—

1           “(I) is at the maximum level of  
2           energy efficiency that is techno-  
3           logically feasible and lifecycle cost ef-  
4           fective, while accounting for the eco-  
5           nomic considerations under paragraph  
6           (4);

7           “(II) is higher than the preceding  
8           target;

9           “(III) promotes the achievement  
10          of commercial and residential high-  
11          performance buildings (as defined in  
12          section 401 of the Energy Independ-  
13          ence and Security Act of 2007 (42  
14          U.S.C. 17061)) through high perform-  
15          ance energy efficiency; and

16          “(IV) takes into consideration  
17          the variations in climate zones used in  
18          model building energy codes.

19          “(ii) INITIAL TARGETS.—Not later  
20          than 1 year after the date of enactment of  
21          this clause, the Secretary shall establish  
22          initial targets under this subparagraph.

23          “(iii) DIFFERENT TARGET YEARS.—  
24          Subject to clause (i), prior to the applica-  
25          ble year, the Secretary may set a later tar-

1           get year for any of the model building en-  
2           ergy codes described in subparagraph (A)  
3           if the Secretary determines that a target  
4           cannot be met.

5           “(iv) SMALL BUSINESS.—When estab-  
6           lishing targets under this paragraph  
7           through rulemaking, the Secretary shall  
8           ensure compliance with the Small Business  
9           Regulatory Enforcement Fairness Act of  
10          1996 (5 U.S.C. 601 note; Public Law 104–  
11          121).

12          “(3) APPLIANCE STANDARDS AND OTHER FAC-  
13          TORS AFFECTING BUILDING ENERGY USE.—In es-  
14          tablishing building code targets under paragraph  
15          (2), the Secretary shall develop and adjust the tar-  
16          gets in recognition of potential savings and costs re-  
17          lating to—

18                 “(A) efficiency gains made in appliances,  
19                 lighting, windows, insulation, and building enve-  
20                 lope sealing;

21                 “(B) advancement of distributed genera-  
22                 tion and on-site renewable power generation  
23                 technologies;

24                 “(C) equipment improvements for heating,  
25                 cooling, and ventilation systems;

1           “(D) building management systems and  
2 smart technologies to reduce energy use; and

3           “(E) other technologies, practices, and  
4 building systems that the Secretary considers  
5 appropriate regarding building plug load and  
6 other energy uses.

7           “(4) ECONOMIC CONSIDERATIONS.—In estab-  
8 lishing and revising building code targets under  
9 paragraph (2), the Secretary shall consider the eco-  
10 nomic feasibility of achieving the proposed targets  
11 established under this section and the potential costs  
12 and savings for consumers and building owners, in-  
13 cluding a return on investment analysis.

14           “(c) TECHNICAL ASSISTANCE TO MODEL BUILDING  
15 ENERGY CODE-SETTING AND STANDARDS DEVELOPMENT  
16 ORGANIZATIONS.—

17           “(1) IN GENERAL.—The Secretary shall, on a  
18 timely basis, provide technical assistance to model  
19 building energy code-setting and standards develop-  
20 ment organizations consistent with the goals of this  
21 section.

22           “(2) ASSISTANCE.—The assistance shall in-  
23 clude, as requested by the organizations, technical  
24 assistance in—

1           “(A) evaluating code or standards pro-  
2           posals or revisions;

3           “(B) building energy and water analysis  
4           and design tools;

5           “(C) building demonstrations;

6           “(D) developing definitions of energy use  
7           intensity and building types for use in model  
8           building energy codes to evaluate the efficiency  
9           impacts of the model building energy codes;

10          “(E) performance-based standards;

11          “(F) evaluating economic considerations  
12          under subsection (b)(4); and

13          “(G) developing model building energy  
14          codes by Indian tribes in accordance with tribal  
15          law.

16          “(3) AMENDMENT PROPOSALS.—The Secretary  
17          may submit timely model building energy code  
18          amendment proposals to the model building energy  
19          code-setting and standards development organiza-  
20          tions, with supporting evidence, sufficient to enable  
21          the model building energy codes to meet the targets  
22          established under subsection (b)(2).

23          “(4) ANALYSIS METHODOLOGY.—The Secretary  
24          shall make publicly available the entire calculation  
25          methodology (including input assumptions and data)

1 used by the Secretary to estimate the energy savings  
2 of code or standard proposals and revisions.

3 “(d) DETERMINATION.—

4 “(1) REVISION OF MODEL BUILDING ENERGY  
5 CODES.—If the provisions of the IECC or ASHRAE  
6 Standard 90.1 regarding building energy use are  
7 proposed to be revised, the Secretary shall make a  
8 preliminary determination, by not later than 90 days  
9 after the date of receipt of the proposed revision,  
10 and a final determination by not later than 15  
11 months after the date of publication of the revision,  
12 regarding whether the revision will—

13 “(A) improve energy efficiency in build-  
14 ings, as compared to the existing model build-  
15 ing energy code; and

16 “(B) meet the applicable targets under  
17 subsection (b)(2).

18 “(2) CODES OR STANDARDS NOT MEETING TAR-  
19 GETS.—

20 “(A) PRELIMINARY DETERMINATION BY  
21 SECRETARY.—If the Secretary makes a prelimi-  
22 nary determination under paragraph (1)(B)  
23 that a code or standard does not meet an appli-  
24 cable target under subsection (b)(2), the Sec-  
25 retary shall contemporaneously provide to the



1 developer of the model building energy code or  
2 standard not fewer than 2 proposed changes  
3 that would result in a model building energy  
4 code that meets the applicable target, together  
5 with supporting evidence, taking into consider-  
6 ation—

7 “(i) whether the modified code is tech-  
8 nically feasible and lifecycle cost effective;

9 “(ii) available appliances, technologies,  
10 materials, and construction practices; and

11 “(iii) the economic considerations  
12 under subsection (b)(4).

13 “(B) DETERMINATION OR ELECTION BY  
14 DEVELOPER.—Not later than 270 days after  
15 the date of receipt of proposed changes of the  
16 Secretary under subparagraph (A), a developer  
17 shall—

18 “(i) determine whether—

19 “(I) to publish a new revised  
20 code accepting the proposed changes;

21 or

22 “(II) to reject the proposed  
23 changes; or

24 “(ii) if the developer elects not to  
25 make a determination under clause (i),

1 publish a notice of that election, together  
2 with the proposed changes.

3 “(C) FINAL DETERMINATION BY SEC-  
4 RETARY.—

5 “(i) IN GENERAL.—A final determina-  
6 tion by the Secretary shall be made on the  
7 model building energy code or standard, as  
8 modified by the changes proposed by the  
9 Secretary under subparagraph (A).

10 “(ii) ADDITIONAL DETERMINA-  
11 TIONS.—If a model building energy code or  
12 standards developer makes an election pur-  
13 suant to subparagraph (B)(ii), the Sec-  
14 retary shall make the following final deter-  
15 minations for purposes of this subsection:

16 “(I) A final determination re-  
17 garding whether the code or standard  
18 of the developer, absent any changes  
19 proposed by the Secretary under sub-  
20 paragraph (A), will—

21 “(aa) improve energy effi-  
22 ciency in buildings, as compared  
23 to the existing model building en-  
24 ergy code; and

1                   “(bb) meet the applicable  
2                   targets under subsection (b)(2).

3                   “(II) A final determination re-  
4                   garding whether the code or standard  
5                   of the developer, as modified by the  
6                   changes proposed by the Secretary  
7                   under subparagraph (A), would—

8                   “(aa) improve energy effi-  
9                   ciency in buildings, as compared  
10                  to the existing model building en-  
11                  ergy code; and

12                  “(bb) meet the applicable  
13                  targets under subsection (b)(2).

14           “(e) ADMINISTRATION.—In carrying out this section,  
15 the Secretary shall—

16           “(1) publish notice of targets and supporting  
17           analysis and determinations under this section in the  
18           Federal Register to provide an explanation of and  
19           the basis for such actions, including any supporting  
20           modeling, data, assumptions, protocols, and cost-  
21           benefit analysis, including return on investment; and

22           “(2) provide an opportunity for public comment  
23           on targets and supporting analysis and determina-  
24           tions under this section.”.

1           (2) CONFORMING AMENDMENT.—The table of  
2           contents for the Energy Conservation and Produc-  
3           tion Act is amended by amending the item relating  
4           to section 307 to read as follows:

“Sec. 307. Support for model building energy codes.”.

5 **SEC. 1102. COST-EFFECTIVE CODES IMPLEMENTATION FOR**  
6 **EFFICIENCY AND RESILIENCE.**

7           (a) IN GENERAL.—Title III of the Energy Conserva-  
8           tion and Production Act (42 U.S.C. 6831 et seq.) is  
9           amended by adding at the end the following:

10 **“SEC. 309. COST-EFFECTIVE CODES IMPLEMENTATION FOR**  
11 **EFFICIENCY AND RESILIENCE.**

12           “(a) DEFINITIONS.—In this section:

13                   “(1) ELIGIBLE ENTITY.—The term ‘eligible en-  
14                   tity’ means—

15                           “(A) a relevant State agency, as deter-  
16                           mined by the Secretary, such as a State build-  
17                           ing code agency or State energy office; and

18                           “(B) a partnership.

19                   “(2) PARTNERSHIP.—The term ‘partnership’  
20                   means a partnership between an eligible entity de-  
21                   scribed in paragraph (1)(A) and 1 or more of the  
22                   following entities:

23                           “(A) Local building code agencies.

24                           “(B) Codes and standards developers.

1           “(C) Associations of builders and design  
2           and construction professionals.

3           “(D) Local and utility energy efficiency  
4           programs.

5           “(E) Consumer, energy efficiency, and en-  
6           vironmental advocates.

7           “(F) Other entities, as determined by the  
8           Secretary.

9           “(3) SECRETARY.—The term ‘Secretary’ means  
10          the Secretary of Energy.

11          “(b) ESTABLISHMENT.—

12           “(1) IN GENERAL.—The Secretary shall estab-  
13          lish within the Building Technologies Office of the  
14          Department of Energy a program under which the  
15          Secretary shall award grants on a competitive basis  
16          to eligible entities to enable sustained cost-effective  
17          implementation of updated building energy codes.

18           “(2) UPDATED BUILDING ENERGY CODE.—An  
19          update to a building energy code under this section  
20          shall include any update made available after the ex-  
21          isting building energy code, even if it is not the most  
22          recent updated code available.

23          “(c) CRITERIA; PRIORITY.—In awarding grants  
24          under subsection (b), the Secretary shall—

25           “(1) consider—

1           “(A) prospective energy savings and plans  
2           to measure the savings;

3           “(B) the long-term sustainability of those  
4           measures and savings;

5           “(C) prospective benefits, and plans to as-  
6           sess the benefits, including benefits relating  
7           to—

8                   “(i) resilience and peak load reduc-  
9                   tion;

10                   “(ii) occupant safety and health; and

11                   “(iii) environmental performance;

12           “(D) the demonstrated capacity of the eli-  
13           gible entity to carry out the proposed project;  
14           and

15           “(E) the need of the eligible entity for as-  
16           sistance; and

17           “(2) give priority to applications from partner-  
18           ships.

19           “(d) ELIGIBLE ACTIVITIES.—

20                   “(1) IN GENERAL.—An eligible entity awarded  
21           a grant under this section may use the grant  
22           funds—

23                   “(A) to create or enable State or regional  
24           partnerships to provide training and materials  
25           to—

1           “(i) builders, contractors and sub-  
2           contractors, architects, and other design  
3           and construction professionals, relating to  
4           meeting updated building energy codes in a  
5           cost-effective manner; and

6           “(ii) building code officials, relating to  
7           improving implementation of and compli-  
8           ance with building energy codes;

9           “(B) to collect and disseminate quan-  
10          titative data on construction and codes imple-  
11          mentation, including code pathways, perform-  
12          ance metrics, and technologies used;

13          “(C) to develop and implement a plan for  
14          highly effective codes implementation, including  
15          measuring compliance;

16          “(D) to address various implementation  
17          needs in rural, suburban, and urban areas;

18          “(E) to implement updates in energy codes  
19          for—

20                 “(i) new residential and commercial  
21                 buildings (including multifamily buildings);  
22                 and

23                 “(ii) additions and alterations to ex-  
24                 isting residential and commercial buildings  
25                 (including multifamily buildings); and

1           “(F) to make an addition or alteration to,  
2           or to install, replace, or provide maintenance to,  
3           an air filtration and purification system of an  
4           HVAC system to meet exigencies related to the  
5           airborne epidemic transmissions of SARS-  
6           4CoV-2 or coronavirus disease 2019 (COVID-  
7           19).

8           “(2) RELATED TOPICS.—Training and mate-  
9           rials provided using a grant under this section may  
10          include information on the relationship between en-  
11          ergy codes and—

12                 “(A) cost-effective, high-performance, and  
13                 zero-net-energy buildings;

14                 “(B) improving resilience, health, and safe-  
15                 ty;

16                 “(C) water savings and other environ-  
17                 mental impacts; and

18                 “(D) the economic impacts of energy  
19                 codes.

20          “(e) PREVAILING WAGES.—All laborers and mechan-  
21          ics employed by contractors or subcontractors in the per-  
22          formance of construction, alteration, or repair work as-  
23          sisted, in whole or in part, by a grant under this section  
24          shall be paid wages at rates not less than those prevailing  
25          on similar construction in the locality as determined by



1 the Secretary of Labor in accordance with subchapter IV  
2 of chapter 31 of title 40. With respect to the labor stand-  
3 ards in this subsection, the Secretary of Labor shall have  
4 the authority and functions set forth in Reorganization  
5 Plan Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C.  
6 App.) and section 3145 of title 40.

7 “(f) AUTHORIZATION OF APPROPRIATIONS.—There  
8 are authorized to be appropriated to the Secretary to carry  
9 out this section—

10 “(1) \$25,000,000 for each of fiscal years 2021  
11 through 2030; and

12 “(2) for fiscal year 2031 and each fiscal year  
13 thereafter, such sums as are necessary.”.

14 (b) CONFORMING AMENDMENTS.—

15 (1) TABLE OF CONTENTS.—The table of con-  
16 tents for the Energy Conservation and Production  
17 Act is amended by inserting after the item relating  
18 to section 308 the following:

“Sec. 309. Cost-effective codes implementation for efficiency and resilience.”.

19 (2) DEFINITIONS.—Section 303 of the Energy  
20 Conservation and Production Act (42 U.S.C. 6832)  
21 is amended, in the matter preceding paragraph (1),  
22 by striking “As used in” and inserting “Except as  
23 otherwise provided, in”.

1 **SEC. 1103. COMMERCIAL BUILDING ENERGY CONSUMPTION**  
2 **INFORMATION SHARING.**

3 (a) IN GENERAL.—Not later than 120 days after the  
4 date of enactment of this Act, the Administrator of the  
5 Energy Information Administration (referred to in this  
6 section as the “Administrator”) and the Administrator of  
7 the Environmental Protection Agency shall sign, and sub-  
8 mit to Congress, an information sharing agreement (re-  
9 ferred to in this section as the “agreement”) relating to  
10 commercial building energy consumption data.

11 (b) CONTENT OF AGREEMENT.—The agreement  
12 shall—

13 (1) provide that the Administrator shall have  
14 access to building-specific data in the Portfolio Man-  
15 ager database of the Environmental Protection  
16 Agency;

17 (2) describe the manner in which the Adminis-  
18 trator shall incorporate appropriate data (including  
19 the data described in subsection (c)) into any Com-  
20 mercial Buildings Energy Consumption Survey (re-  
21 ferred to in this section as “CBECS”) published  
22 after the date of enactment of this Act for the pur-  
23 pose of analyzing and estimating building popu-  
24 lation, size, location, activity, energy usage, and any  
25 other relevant building characteristic; and

26 (3) describe and compare—

1 (A) the methodologies that the Energy In-  
2 formation Administration, the Environmental  
3 Protection Agency, and State and local govern-  
4 ment managers use to maximize the quality, re-  
5 liability, and integrity of data collected through  
6 CBECS, the Portfolio Manager database of the  
7 Environmental Protection Agency, and State  
8 and local building energy disclosure laws (in-  
9 cluding regulations), respectively, and the man-  
10 ner in which those methodologies can be im-  
11 proved; and

12 (B) consistencies and variations in data for  
13 buildings that were captured in the 2012  
14 CBECS cycle and in the Portfolio Manager  
15 database of the Environmental Protection  
16 Agency.

17 (c) DATA.—The data referred in subsection (b)(2) in-  
18 cludes data that—

19 (1) is collected through the Portfolio Manager  
20 database of the Environmental Protection Agency;

21 (2) is required to be publicly available on the  
22 internet under State and local government building  
23 energy disclosure laws (including regulations); and

24 (3) includes information on private sector build-  
25 ings that are not less than 250,000 square feet.

1 (d) PROTECTION OF INFORMATION.—In carrying out  
2 the agreement, the Administrator and the Administrator  
3 of the Environmental Protection Agency shall protect in-  
4 formation in accordance with—

5 (1) section 552(b)(4) of title 5, United States  
6 Code (commonly known as the ‘Freedom of Informa-  
7 tion Act’);

8 (2) subchapter III of chapter 35 of title 44,  
9 United States Code; and

10 (3) any other applicable law (including regula-  
11 tions).

## 12 **PART 2—WORKER TRAINING AND CAPACITY**

### 13 **BUILDING**

#### 14 **SEC. 1111. BUILDING TRAINING AND ASSESSMENT CEN-** 15 **TERS.**

16 (a) IN GENERAL.—The Secretary of Energy shall  
17 provide grants to institutions of higher education (as de-  
18 fined in section 101 of the Higher Education Act of 1965  
19 (20 U.S.C. 1001)) and Tribal Colleges or Universities (as  
20 defined in section 316(b) of that Act (20 U.S.C.  
21 1059c(b))) to establish building training and assessment  
22 centers—

23 (1) to identify opportunities for optimizing en-  
24 ergy efficiency and environmental performance in  
25 buildings;

1           (2) to promote the application of emerging con-  
2           cepts and technologies in commercial and institu-  
3           tional buildings;

4           (3) to train engineers, architects, building sci-  
5           entists, building energy permitting and enforcement  
6           officials, and building technicians in energy-efficient  
7           design and operation;

8           (4) to assist institutions of higher education  
9           and Tribal Colleges or Universities in training build-  
10          ing technicians;

11          (5) to promote research and development for  
12          the use of alternative energy sources and distributed  
13          generation to supply heat and power for buildings,  
14          particularly energy-intensive buildings;

15          (6) to coordinate with and assist State-accred-  
16          ited technical training centers, community colleges,  
17          and Tribal Colleges or Universities and ensure ap-  
18          propriate services are provided under this section to  
19          each region of the United States; and

20          (7) to identify diverse candidates and firms  
21          when procuring for the design and construction of  
22          training and assessment centers.

23          (b) COORDINATION AND NONDUPLICATION.—

24                 (1) IN GENERAL.—The Secretary of Energy  
25                 shall coordinate the program with the industrial re-

1 search and assessment centers program and with  
2 other Federal programs to avoid duplication of ef-  
3 fort.

4 (2) COLLOCATION.—To the maximum extent  
5 practicable, building, training, and assessment cen-  
6 ters established under this section shall be collocated  
7 with Industrial Assessment Centers.

8 (c) AUTHORIZATION OF APPROPRIATIONS.—There is  
9 authorized to be appropriated to carry out this section  
10 \$10,000,000, to remain available until expended.

11 **SEC. 1112. CAREER SKILLS TRAINING.**

12 (a) DEFINITION OF ELIGIBLE ENTITY.—In this sec-  
13 tion, the term “eligible entity” means a nonprofit partner-  
14 ship that—

15 (1) includes the equal participation of industry,  
16 including public or private employers, and labor or-  
17 ganizations, including joint labor-management train-  
18 ing programs;

19 (2) may include workforce investment boards,  
20 community-based organizations, qualified service and  
21 conservation corps, educational institutions, small  
22 businesses, cooperatives, State and local veterans  
23 agencies, and veterans service organizations; and

24 (3) demonstrates—

1 (A) experience in implementing and oper-  
2 ating worker skills training and education pro-  
3 grams;

4 (B) the ability to identify and involve in  
5 training programs carried out under this sec-  
6 tion, target populations of individuals who  
7 would benefit from training and be actively in-  
8 volved in activities relating to energy efficiency  
9 and renewable energy industries; and

10 (C) the ability to help individuals achieve  
11 economic self-sufficiency.

12 (b) ESTABLISHMENT.—The Secretary of Energy  
13 shall award grants to eligible entities to pay the Federal  
14 share of associated career skills training programs under  
15 which students concurrently receive classroom instruction  
16 and on-the-job training for the purpose of obtaining an  
17 industry-related certification to install energy efficient  
18 buildings technologies, including technologies described in  
19 subsection (b)(3) of section 307 of the Energy Conserva-  
20 tion and Production Act (42 U.S.C. 6836).

21 (c) FEDERAL SHARE.—The Federal share of the cost  
22 of carrying out a career skills training program described  
23 in subsection (a) shall be 50 percent.

1 (d) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated to carry out this section  
3 \$10,000,000, to remain available until expended.

4 **PART 3—SCHOOL BUILDINGS**

5 **SEC. 1121. COORDINATION OF ENERGY RETROFITTING AS-**  
6 **SISTANCE FOR SCHOOLS.**

7 Section 392 of the Energy Policy and Conservation  
8 Act (42 U.S.C. 6371a) is amended by adding at the end  
9 the following:

10 “(e) COORDINATION OF ENERGY RETROFITTING AS-  
11 SISTANCE FOR SCHOOLS.—

12 “(1) DEFINITION OF SCHOOL.—Notwith-  
13 standing section 391(6), for the purposes of this  
14 subsection, the term ‘school’ means—

15 “(A) an elementary school or secondary  
16 school (as defined in section 9101 of the Ele-  
17 mentary and Secondary Education Act of 1965  
18 (20 U.S.C. 7801));

19 “(B) an institution of higher education (as  
20 defined in section 102(a) of the Higher Edu-  
21 cation Act of 1965 (20 U.S.C. 1002(a)));

22 “(C) a school of the defense dependents’  
23 education system under the Defense Depend-  
24 ents’ Education Act of 1978 (20 U.S.C. 921 et



1 seq.) or established under section 2164 of title  
2 10, United States Code;

3 “(D) a school operated by the Bureau of  
4 Indian Affairs;

5 “(E) a tribally controlled school (as de-  
6 fined in section 5212 of the Tribally Controlled  
7 Schools Act of 1988 (25 U.S.C. 2511)); and

8 “(F) a Tribal College or University (as de-  
9 fined in section 316(b) of the Higher Education  
10 Act of 1965 (20 U.S.C. 1059c(b))).

11 “(2) ESTABLISHMENT OF CLEARINGHOUSE.—  
12 The Secretary, acting through the Office of Energy  
13 Efficiency and Renewable Energy, shall establish a  
14 clearinghouse to disseminate information regarding  
15 available Federal programs and financing mecha-  
16 nisms that may be used to help initiate, develop, and  
17 finance energy efficiency, distributed generation, and  
18 energy retrofitting projects for schools.

19 “(3) REQUIREMENTS.—In carrying out para-  
20 graph (2), the Secretary shall—

21 “(A) consult with appropriate Federal  
22 agencies to develop a list of Federal programs  
23 and financing mechanisms that are, or may be,  
24 used for the purposes described in paragraph  
25 (2); and

1           “(B) coordinate with appropriate Federal  
2 agencies to develop a collaborative education  
3 and outreach effort to streamline communica-  
4 tions and promote available Federal programs  
5 and financing mechanisms described in sub-  
6 paragraph (A), which may include the develop-  
7 ment and maintenance of a single online re-  
8 source that includes contact information for rel-  
9 evant technical assistance in the Office of En-  
10 ergy Efficiency and Renewable Energy that  
11 States, local education agencies, and schools  
12 may use to effectively access and use such Fed-  
13 eral programs and financing mechanisms.”.

14 **SEC. 1122. GRANTS FOR ENERGY EFFICIENCY IMPROVE-**  
15 **MENTS AND RENEWABLE ENERGY IMPROVE-**  
16 **MENTS AT PUBLIC SCHOOL FACILITIES.**

17 (a) DEFINITIONS.—In this section:

18           (1) ELIGIBLE ENTITY.—The term “eligible enti-  
19 ty” means a consortium of—

20                   (A) one local educational agency; and

21                   (B) one or more—

22                           (i) schools;

23                           (ii) nonprofit organizations;

24                           (iii) for-profit organizations; or

1 (iv) community partners that have the  
2 knowledge and capacity to partner and as-  
3 sist with energy improvements.

4 (2) ENERGY IMPROVEMENTS.—The term “en-  
5 ergy improvements” means—

6 (A) any improvement, repair, or renova-  
7 tion, to a school that will result in a direct re-  
8 duction in school energy costs including but not  
9 limited to improvements to building envelope,  
10 air conditioning, ventilation, heating system, do-  
11 mestic hot water heating, compressed air sys-  
12 tems, distribution systems, lighting, power sys-  
13 tems and controls;

14 (B) any improvement, repair, renovation,  
15 or installation that leads to an improvement in  
16 teacher and student health including but not  
17 limited to indoor air quality, daylighting, ven-  
18 tilation, electrical lighting, and acoustics; and

19 (C) the installation of renewable energy  
20 technologies (such as wind power, photovoltaics,  
21 solar thermal systems, geothermal energy, hy-  
22 drogen-fueled systems, biomass-based systems,  
23 biofuels, anaerobic digesters, and hydropower)  
24 involved in the improvement, repair, or renova-  
25 tion to a school.

1           (b) **AUTHORITY.**—From amounts made available for  
2 grants under this section, the Secretary of Energy shall  
3 provide competitive grants to eligible entities to make en-  
4 ergy improvements authorized by this section.

5           (c) **PRIORITY.**—In making grants under this section,  
6 the Secretary shall give priority to eligible entities that  
7 have renovation, repair, and improvement funding needs  
8 and are—

9                   (1) a high-need local educational agency, as de-  
10 fined in section 2102 of the Elementary and Sec-  
11 ondary Education Act of 1965 (20 U.S.C. 6602); or

12                   (2) a local educational agency designated with  
13 a metrocentric locale code of 41, 42, or 43, as deter-  
14 mined by the National Center for Education Statis-  
15 tics (NCES), in conjunction with the Bureau of the  
16 Census, using the NCES system for classifying local  
17 educational agencies.

18           (d) **COMPETITIVE CRITERIA.**—The competitive cri-  
19 teria used by the Secretary shall include the following:

20                   (1) The fiscal capacity of the eligible entity to  
21 meet the needs for improvements of school facilities  
22 without assistance under this section, including the  
23 ability of the eligible entity to raise funds through  
24 the use of local bonding capacity and otherwise.

1           (2) The likelihood that the local educational  
2 agency or eligible entity will maintain, in good condi-  
3 tion, any facility whose improvement is assisted.

4           (3) The potential energy efficiency and safety  
5 benefits from the proposed energy improvements.

6           (e) APPLICATIONS.—To be eligible to receive a grant  
7 under this section, an applicant must submit to the Sec-  
8 retary an application that includes each of the following:

9           (1) A needs assessment of the current condition  
10 of the school and facilities that are to receive the en-  
11 ergy improvements.

12           (2) A draft work plan of what the applicant  
13 hopes to achieve at the school and a description of  
14 the energy improvements to be carried out.

15           (3) A description of the applicant's capacity to  
16 provide services and comprehensive support to make  
17 the energy improvements.

18           (4) An assessment of the applicant's expected  
19 needs for operation and maintenance training funds,  
20 and a plan for use of those funds, if any.

21           (5) An assessment of the expected energy effi-  
22 ciency and safety benefits of the energy improve-  
23 ments.

24           (6) A cost estimate of the proposed energy im-  
25 provements.

1           (7) An identification of other resources that are  
2 available to carry out the activities for which funds  
3 are requested under this section, including the avail-  
4 ability of utility programs and public benefit funds.

5 (f) USE OF GRANT AMOUNTS.—

6           (1) IN GENERAL.—The recipient of a grant  
7 under this section shall use the grant amounts only  
8 to make the energy improvements contemplated in  
9 the application, subject to the other provisions of  
10 this subsection.

11           (2) OPERATION AND MAINTENANCE TRAIN-  
12 ING.—The recipient may use up to 5 percent for op-  
13 eration and maintenance training for energy effi-  
14 ciency and renewable energy improvements (such as  
15 maintenance staff and teacher training, education,  
16 and preventative maintenance training).

17           (3) AUDIT.—The recipient may use funds for a  
18 third-party investigation and analysis for energy im-  
19 provements (such as energy audits and existing  
20 building commissioning).

21           (4) CONTINUING EDUCATION.—The recipient  
22 may use up to 1 percent of the grant amounts to de-  
23 velop a continuing education curriculum relating to  
24 energy improvements.

25 (g) CONTRACTING REQUIREMENTS.—

1           (1) DAVIS-BACON.—Any laborer or mechanic  
2           employed by any contractor or subcontractor in the  
3           performance of work on any energy improvements  
4           funded by a grant under this section shall be paid  
5           wages at rates not less than those prevailing on  
6           similar construction in the locality as determined by  
7           the Secretary of Labor under subchapter IV of chap-  
8           ter 31 of title 40, United States Code (commonly re-  
9           ferred to as the Davis-Bacon Act).

10           (2) COMPETITION.—Each applicant that re-  
11           ceives funds shall ensure that, if the applicant car-  
12           ries out repair or renovation through a contract, any  
13           such contract process—

14                   (A) ensures the maximum number of quali-  
15                   fied bidders, including small, minority, and  
16                   women-owned businesses, through full and open  
17                   competition; and

18                   (B) gives priority to businesses located in,  
19                   or resources common to, the State or the geo-  
20                   graphical area in which the project is carried  
21                   out.

22           (h) REPORTING.—Each recipient of a grant under  
23           this section shall submit to the Secretary, at such time  
24           as the Secretary may require, a report describing the use  
25           of such funds for energy improvements, the estimated cost

1 savings realized by those energy improvements, the results  
2 of any audit, the use of any utility programs and public  
3 benefit funds and the use of performance tracking for en-  
4 ergy improvements (such as the Department of Energy:  
5 Energy Star program or LEED for Existing Buildings).

6 (i) BEST PRACTICES.—The Secretary shall develop  
7 and publish guidelines and best practices for activities car-  
8 ried out under this section.

9 (j) AUTHORIZATION OF APPROPRIATIONS.—There is  
10 authorized to be appropriated to carry out this section  
11 \$100,000,000 for each of fiscal years 2021 through 2025.

12 **PART 4—NATIONAL INSTITUTE OF STANDARDS**  
13 **AND TECHNOLOGY**

14 **SEC. 1132. RESEARCH FOR EFFECTIVENESS AND STAND-**  
15 **ARDS.**

16 The Director of the National Institute of Standards  
17 and Technology shall—

18 (1) collect data following wildfires in the  
19 wildland-urban interface related to the influence of  
20 building materials on structural fires and how wind,  
21 terrain, and moisture affect wildland fires; and

22 (2) contribute to the scientific basis for ana-  
23 lyzing economic outcomes of wildland-urban inter-  
24 face fire mitigation by conducting research on and  
25 developing metrics for the—



1 (A) relative contribution of moisture,  
2 weather, terrain, and infrastructure;

3 (B) losses and erosion of the forest floor  
4 resulting from wildfires in the wildland urban  
5 interface; and

6 (C) the performance of current designs,  
7 materials, and technologies used for—

8 (i) residential structures;

9 (ii) public and Federal government  
10 buildings;

11 (iii) electric grid infrastructure; and

12 (iv) other critical infrastructure.

13 **Subtitle B—Industrial Efficiency**  
14 **and Competitiveness**

15 **PART 1—MANUFACTURING ENERGY EFFICIENCY**

16 **SEC. 1201. PURPOSES.**

17 The purposes of this part are—

18 (1) to establish a clear and consistent authority  
19 for industrial efficiency programs of the Department  
20 of Energy;

21 (2) to accelerate the deployment of technologies  
22 and practices that will increase industrial energy ef-  
23 ficiency and improve productivity;

24 (3) to accelerate the development and dem-  
25 onstration of technologies that will assist the deploy-

1 ment goals of the industrial efficiency programs of  
2 the Department of Energy and increase manufac-  
3 turing efficiency;

4 (4) to stimulate domestic economic growth and  
5 improve industrial productivity and competitiveness;

6 (5) to meet the future workforce needs of in-  
7 dustry; and

8 (6) to strengthen partnerships between Federal  
9 and State governmental agencies and the private  
10 and academic sectors.

11 **SEC. 1202. FUTURE OF INDUSTRY PROGRAM AND INDUS-**  
12 **TRIAL RESEARCH AND ASSESSMENT CEN-**  
13 **TERS.**

14 (a) FUTURE OF INDUSTRY PROGRAM.—Section 452  
15 of the Energy Independence and Security Act of 2007 (42  
16 U.S.C. 17111) is amended—

17 (1) by striking the section heading and insert-  
18 ing the following: “**FUTURE OF INDUSTRY PRO-**  
19 **GRAM**”;

20 (2) in subsection (a)(2)—

21 (A) by redesignating subparagraph (E) as  
22 subparagraph (F); and

23 (B) by inserting after subparagraph (D)  
24 the following:

1           “(E) water and wastewater treatment fa-  
2           cilities, including systems that treat municipal,  
3           industrial, and agricultural waste; and”;  
4           (3) by striking subsection (e); and  
5           (4) by redesignating subsection (f) as sub-  
6           section (e).

7           (b) **INDUSTRIAL RESEARCH AND ASSESSMENT CEN-**  
8           **TERS.**—Subtitle D of title IV of the Energy Independence  
9           and Security Act of 2007 (42 U.S.C. 17111 et seq.) is  
10          amended by adding at the end the following:

11         **“SEC. 454. INDUSTRIAL RESEARCH AND ASSESSMENT CEN-**  
12                 **TERS.**

13           “(a) **DEFINITIONS.**—In this section:

14                 “(1) **ENERGY SERVICE PROVIDER.**—The term  
15           ‘energy service provider’ means—

16                         “(A) any business providing technology or  
17                         services to improve the energy efficiency, water  
18                         efficiency, power factor, or load management of  
19                         a manufacturing site or other industrial process  
20                         in an energy-intensive industry (as defined in  
21                         section 452(a)); and

22                         “(B) any utility operating under a utility  
23                         energy service project.

1           “(2) INDUSTRIAL RESEARCH AND ASSESSMENT  
2 CENTER.—The term ‘industrial research and assess-  
3 ment center’ means—

4           “(A) an institution of higher education-  
5 based industrial research and assessment center  
6 that is funded by the Secretary under sub-  
7 section (b); and

8           “(B) an industrial research and assess-  
9 ment center at a trade school, community col-  
10 lege, or union training program that is funded  
11 by the Secretary under subsection (f).

12       “(b) INSTITUTION OF HIGHER EDUCATION-BASED  
13 INDUSTRIAL RESEARCH AND ASSESSMENT CENTERS.—

14       “(1) IN GENERAL.—The Secretary shall provide  
15 funding to institution of higher education-based in-  
16 dustrial research and assessment centers.

17       “(2) PURPOSE.—The purpose of each institu-  
18 tion of higher education-based industrial research  
19 and assessment center shall be—

20           “(A) to identify opportunities for opti-  
21 mizing energy efficiency and environmental per-  
22 formance, including implementation of—

23           “(i) smart manufacturing;

24           “(ii) energy management systems;

25           “(iii) sustainable manufacturing; and

1                   “(iv) information technology advance-  
2                   ments for supply chain analysis, logistics,  
3                   system monitoring, industrial and manu-  
4                   facturing processes, and other purposes;

5                   “(B) to promote applications of emerging  
6                   concepts and technologies in small- and me-  
7                   dium-sized manufacturers (including water and  
8                   wastewater treatment facilities and federally  
9                   owned manufacturing facilities);

10                  “(C) to promote research and development  
11                  for the use of alternative energy sources to sup-  
12                  ply heat, power, and new feedstocks for energy-  
13                  intensive industries;

14                  “(D) to coordinate with appropriate Fed-  
15                  eral and State research offices;

16                  “(E) to provide a clearinghouse for indus-  
17                  trial process and energy efficiency technical as-  
18                  sistance resources; and

19                  “(F) to coordinate with State-accredited  
20                  technical training centers and community col-  
21                  leges, while ensuring appropriate services to all  
22                  regions of the United States.

23                  “(c) COORDINATION.—To increase the value and ca-  
24                  pabilities of the industrial research and assessment cen-  
25                  ters, the centers shall—

1           “(1) coordinate with Manufacturing Extension  
2 Partnership Centers of the National Institute of  
3 Standards and Technology;

4           “(2) coordinate with the Federal Energy Man-  
5 agement Program and the Building Technologies  
6 Program of the Department of Energy to provide  
7 building assessment services to manufacturers;

8           “(3) increase partnerships with the National  
9 Laboratories of the Department of Energy to lever-  
10 age the expertise, technologies, and research and de-  
11 velopment capabilities of the National Laboratories  
12 for national industrial and manufacturing needs;

13           “(4) increase partnerships with energy service  
14 providers and technology providers to leverage pri-  
15 vate sector expertise and accelerate deployment of  
16 new and existing technologies and processes for en-  
17 ergy efficiency, power factor, and load management;

18           “(5) identify opportunities for reducing green-  
19 house gas emissions and other air emissions; and

20           “(6) promote sustainable manufacturing prac-  
21 tices for small- and medium-sized manufacturers.

22           “(d) OUTREACH.—The Secretary shall provide fund-  
23 ing for—

24           “(1) outreach activities by the industrial re-  
25 search and assessment centers to inform small- and

1 medium-sized manufacturers of the information,  
2 technologies, and services available; and

3 “(2) coordination activities by each industrial  
4 research and assessment center to leverage efforts  
5 with—

6 “(A) Federal and State efforts;

7 “(B) the efforts of utilities and energy  
8 service providers;

9 “(C) the efforts of regional energy effi-  
10 ciency organizations; and

11 “(D) the efforts of other industrial re-  
12 search and assessment centers.

13 “(e) CENTERS OF EXCELLENCE.—

14 “(1) ESTABLISHMENT.—The Secretary shall es-  
15 tablish a Center of Excellence at not more than 5  
16 of the highest-performing industrial research and as-  
17 sessment centers, as determined by the Secretary.

18 “(2) DUTIES.—A Center of Excellence shall co-  
19 ordinate with and advise the industrial research and  
20 assessment centers located in the region of the Cen-  
21 ter of Excellence, including—

22 “(A) by mentoring new directors and staff  
23 of the industrial research and assessment cen-  
24 ters with respect to—

25 “(i) the availability of resources; and

1           “(ii) best practices for carrying out  
2           assessments, including through the partici-  
3           pation of the staff of the Center of Excel-  
4           lence in assessments carried out by new in-  
5           dustrial research and assessment centers;

6           “(B) by providing training to staff and  
7           students at the industrial research and assess-  
8           ment centers on new technologies, practices,  
9           and tools to expand the scope and impact of the  
10          assessments carried out by the centers;

11          “(C) by assisting the industrial research  
12          and assessment centers with specialized tech-  
13          nical opportunities, including by providing a  
14          clearinghouse of available expertise and tools to  
15          assist the centers and clients of the centers in  
16          assessing and implementing those opportunities;

17          “(D) by identifying and coordinating with  
18          regional, State, local, and utility energy effi-  
19          ciency programs for the purpose of facilitating  
20          efforts by industrial research and assessment  
21          centers to connect industrial facilities receiving  
22          assessments from those centers with regional,  
23          State, local, and utility energy efficiency pro-  
24          grams that could aid the industrial facilities in



1 implementing any recommendations resulting  
2 from the assessments;

3 “(E) by facilitating coordination between  
4 the industrial research and assessment centers  
5 and other Federal programs described in para-  
6 graphs (1) through (3) of subsection (c); and

7 “(F) by coordinating the outreach activi-  
8 ties of the industrial research and assessment  
9 centers under subsection (d)(1).

10 “(3) FUNDING.—Subject to the availability of  
11 appropriations, for each fiscal year, out of any  
12 amounts made available to carry out this section  
13 under subsection (i), the Secretary shall use not less  
14 than \$500,000 to support each Center of Excellence.

15 “(f) EXPANSION OF INDUSTRIAL RESEARCH AND AS-  
16 SESSMENT CENTERS.—

17 “(1) IN GENERAL.—The Secretary shall provide  
18 funding to establish additional industrial research  
19 and assessment centers at trade schools, community  
20 colleges, and union training programs.

21 “(2) PURPOSE.—

22 “(A) IN GENERAL.—Subject to subpara-  
23 graph (B), to the maximum extent practicable,  
24 an industrial research and assessment center  
25 established under paragraph (1) shall have the

1 same purpose as an institution of higher edu-  
2 cation-based industrial research center that is  
3 funded by the Secretary under subsection  
4 (b)(1).

5 “(B) CONSIDERATION OF CAPABILITIES.—  
6 In evaluating or establishing the purpose of an  
7 industrial research and assessment center es-  
8 tablished under paragraph (1), the Secretary  
9 shall take into consideration the varying capa-  
10 bilities of trade schools, community colleges,  
11 and union training programs.

12 “(g) WORKFORCE TRAINING.—

13 “(1) INTERNSHIPS.—The Secretary shall pay  
14 the Federal share of associated internship programs  
15 under which students work with or for industries,  
16 manufacturers, and energy service providers to im-  
17 plement the recommendations of industrial research  
18 and assessment centers.

19 “(2) APPRENTICESHIPS.—The Secretary shall  
20 pay the Federal share of associated apprenticeship  
21 programs under which—

22 “(A) students work with or for industries,  
23 manufacturers, and energy service providers to  
24 implement the recommendations of industrial  
25 research and assessment centers; and

1           “(B) employees of facilities that have re-  
2           ceived an assessment from an industrial re-  
3           search and assessment center work with or for  
4           an industrial research and assessment center to  
5           gain knowledge on engineering practices and  
6           processes to improve productivity and energy  
7           savings.

8           “(3) FEDERAL SHARE.—The Federal share of  
9           the cost of carrying out internship programs de-  
10          scribed in paragraph (1) and apprenticeship pro-  
11          grams described in paragraph (2) shall be 50 per-  
12          cent.

13          “(h) SMALL BUSINESS LOANS.—The Administrator  
14          of the Small Business Administration shall, to the max-  
15          imum extent practicable, expedite consideration of applica-  
16          tions from eligible small business concerns for loans under  
17          the Small Business Act (15 U.S.C. 631 et seq.) to imple-  
18          ment recommendations developed by the industrial re-  
19          search and assessment centers.

20          “(i) FUNDING.—There is authorized to be appro-  
21          priated to the Secretary to carry out this section  
22          \$30,000,000 for each fiscal year, to remain available until  
23          expended.”.

1 (c) CLERICAL AMENDMENTS.—The table of contents  
2 of the Energy Independence and Security Act of 2007 (42  
3 U.S.C. prec. 17001) is amended—

4 (1) in the item relating to section 452, by strik-  
5 ing “Energy-intensive industries program” and in-  
6 serting “Future of industry program”; and

7 (2) by adding at the end of the items relating  
8 to subtitle D of title IV the following:

“Sec. 454. Industrial research and assessment centers.”.

9 **SEC. 1203. SUSTAINABLE MANUFACTURING INITIATIVE.**

10 (a) IN GENERAL.—Part E of title III of the Energy  
11 Policy and Conservation Act (42 U.S.C. 6341 et seq.) is  
12 amended by adding at the end the following:

13 **“SEC. 376. SUSTAINABLE MANUFACTURING INITIATIVE.**

14 “(a) IN GENERAL.—As part of the Office of Energy  
15 Efficiency and Renewable Energy of the Department of  
16 Energy, the Secretary, on the request of a manufacturer,  
17 shall carry out onsite technical assessments to identify op-  
18 portunities for—

19 “(1) maximizing the energy efficiency of indus-  
20 trial processes and cross-cutting systems;

21 “(2) preventing pollution and minimizing waste;

22 “(3) improving efficient use of water in manu-  
23 facturing processes;

24 “(4) conserving natural resources; and

1           “(5) achieving such other goals as the Secretary  
2           determines to be appropriate.

3           “(b) COORDINATION.—To implement any rec-  
4           ommendations resulting from an onsite technical assess-  
5           ment carried out under subsection (a) and to accelerate  
6           the adoption of new and existing technologies and proc-  
7           esses that improve energy efficiency, the Secretary shall  
8           coordinate with—

9           “(1) the Advanced Manufacturing Office of the  
10          Department of Energy;

11          “(2) the Building Technologies Office of the  
12          Department of Energy;

13          “(3) the Federal Energy Management Program  
14          of the Department of Energy; and

15          “(4) the private sector and other appropriate  
16          agencies, including the National Institute of Stand-  
17          ards and Technology.

18          “(c) RESEARCH AND DEVELOPMENT PROGRAM FOR  
19          SUSTAINABLE MANUFACTURING AND INDUSTRIAL TECH-  
20          NOLOGIES AND PROCESSES.—As part of the industrial ef-  
21          ficiency programs of the Department of Energy, the Sec-  
22          retary shall carry out a joint industry-government partner-  
23          ship program to research, develop, and demonstrate new  
24          sustainable manufacturing and industrial technologies and

1 processes that maximize the energy efficiency of industrial  
2 plants, reduce pollution, and conserve natural resources.”.

3 (b) CLERICAL AMENDMENT.—The table of contents  
4 of the Energy Policy and Conservation Act (42 U.S.C.  
5 prec. 6201) is amended by adding at the end of the items  
6 relating to part E of title III the following:

“Sec. 376. Sustainable manufacturing initiative.”.

7 **SEC. 1204. CONFORMING AMENDMENTS.**

8 (a) Section 106 of the Energy Policy Act of 2005 (42  
9 U.S.C. 15811) and the item relating to such section in  
10 the table of contents of such Act are repealed.

11 (b) Sections 131, 132, 133, 2103, and 2107 of the  
12 Energy Policy Act of 1992 (42 U.S.C. 6348, 6349, 6350,  
13 13453, 13456) and the items relating to such section in  
14 the table of contents of such Act are repealed.

15 (c) Section 2101(a) of the Energy Policy Act of 1992  
16 (42 U.S.C. 13451(a)) is amended in the third sentence  
17 by striking “sections 2102, 2103, 2104, 2105, 2106,  
18 2107, and 2108” and inserting “sections 2102, 2104,  
19 2105, 2106, and 2108 of this Act and section 376 of the  
20 Energy Policy and Conservation Act,”.

21 **PART 2—EXTENDED PRODUCT SYSTEM REBATE**  
22 **PROGRAM**

23 **SEC. 1211. EXTENDED PRODUCT SYSTEM REBATE PRO-**  
24 **GRAM.**

25 (a) DEFINITIONS.—In this section:

1           (1) ELECTRIC MOTOR.—The term “electric  
2 motor” has the meaning given the term in section  
3 431.12 of title 10, Code of Federal Regulations (as  
4 in effect on the date of enactment of this Act).

5           (2) ELECTRONIC CONTROL.—The term “elec-  
6 tronic control” means—

7                   (A) a power converter; or

8                   (B) a combination of a power circuit and  
9 control circuit included on 1 chassis.

10          (3) EXTENDED PRODUCT SYSTEM.—The term  
11 “extended product system” means an electric motor  
12 and any required associated electronic control and  
13 driven load that—

14                   (A) offers variable speed or multispeed op-  
15 eration;

16                   (B) offers partial load control that reduces  
17 input energy requirements (as measured in kilo-  
18 watt-hours) as compared to identified base lev-  
19 els set by the Secretary of Energy; and

20                   (C)(i) has greater than 1 horsepower; and

21                   (ii) uses an extended product system tech-  
22 nology, as determined by the Secretary of En-  
23 ergy.

24          (4) QUALIFIED EXTENDED PRODUCT SYS-  
25 TEM.—

1 (A) IN GENERAL.—The term “qualified ex-  
2 tended product system” means an extended  
3 product system that—

4 (i) includes an electric motor and an  
5 electronic control; and

6 (ii) reduces the input energy (as  
7 measured in kilowatt-hours) required to  
8 operate the extended product system by  
9 not less than 5 percent, as compared to  
10 identified base levels set by the Secretary  
11 of Energy.

12 (B) INCLUSIONS.—The term “qualified ex-  
13 tended product system” includes commercial or  
14 industrial machinery or equipment that—

15 (i)(I) did not previously make use of  
16 the extended product system prior to the  
17 redesign described in subclause (II); and

18 (II) incorporates an extended product  
19 system that has greater than 1 horsepower  
20 into redesigned machinery or equipment;  
21 and

22 (ii) was previously used prior to, and  
23 was placed back into service during, cal-  
24 endar year 2021 or 2022.



1           (b) ESTABLISHMENT.—Not later than 180 days after  
2 the date of enactment of this Act, the Secretary of Energy  
3 shall establish a program to provide rebates for expendi-  
4 tures made by qualified entities for the purchase or instal-  
5 lation of a qualified extended product system.

6           (c) QUALIFIED ENTITIES.—

7           (1) ELIGIBILITY REQUIREMENTS.—A qualified  
8 entity under this section shall be—

9           (A) in the case of a qualified extended  
10 product system described in subsection  
11 (a)(4)(A), the purchaser of the qualified ex-  
12 tended product that is installed; and

13           (B) in the case of a qualified extended  
14 product system described in subsection  
15 (a)(4)(B), the manufacturer of the commercial  
16 or industrial machinery or equipment that in-  
17 corporated the extended product system into  
18 that machinery or equipment.

19           (2) APPLICATION.—To be eligible to receive a  
20 rebate under this section, a qualified entity shall  
21 submit to the Secretary of Energy—

22           (A) an application in such form, at such  
23 time, and containing such information as the  
24 Secretary of Energy may require; and

1 (B) a certification that includes dem-  
2 onstrated evidence—

3 (i) that the entity is a qualified entity;

4 and

5 (ii)(I) in the case of a qualified entity  
6 described in paragraph (1)(A)—

7 (aa) that the qualified entity in-  
8 stalled the qualified extended product  
9 system during the 2 fiscal years fol-  
10 lowing the date of enactment of this  
11 Act;

12 (bb) that the qualified extended  
13 product system meets the require-  
14 ments of subsection (a)(4)(A); and

15 (cc) showing the serial number,  
16 manufacturer, and model number  
17 from the nameplate of the installed  
18 motor of the qualified entity on which  
19 the qualified extended product system  
20 was installed; or

21 (II) in the case of a qualified entity  
22 described in paragraph (1)(B), dem-  
23 onstrated evidence—

1 (aa) that the qualified extended  
2 product system meets the require-  
3 ments of subsection (a)(4)(B); and

4 (bb) showing the serial number,  
5 manufacturer, and model number  
6 from the nameplate of the installed  
7 motor of the qualified entity with  
8 which the extended product system is  
9 integrated.

10 (d) AUTHORIZED AMOUNT OF REBATE.—

11 (1) IN GENERAL.—The Secretary of Energy  
12 may provide to a qualified entity a rebate in an  
13 amount equal to the product obtained by multi-  
14 plying—

15 (A) an amount equal to the sum of the  
16 nameplate rated horsepower of—

17 (i) the electric motor to which the  
18 qualified extended product system is at-  
19 tached; and

20 (ii) the electronic control; and

21 (B) \$25.

22 (2) MAXIMUM AGGREGATE AMOUNT.—A quali-  
23 fied entity shall not be entitled to aggregate rebates  
24 under this section in excess of \$25,000 per calendar  
25 year.

1 (e) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated to carry out this section  
3 \$5,000,000 for each of the first 2 full fiscal years following  
4 the date of enactment of this Act, to remain available until  
5 expended.

6 **PART 3—TRANSFORMER REBATE PROGRAM**

7 **SEC. 1221. ENERGY EFFICIENT TRANSFORMER REBATE**  
8 **PROGRAM.**

9 (a) DEFINITIONS.—In this section:

10 (1) QUALIFIED ENERGY EFFICIENT TRANS-  
11 FORMER.—The term “qualified energy efficient  
12 transformer” means a transformer that meets or ex-  
13 ceeds the applicable energy conservation standards  
14 described in the tables in subsection (b)(2) and  
15 paragraphs (1) and (2) of subsection (c) of section  
16 431.196 of title 10, Code of Federal Regulations (as  
17 in effect on the date of enactment of this Act).

18 (2) QUALIFIED ENERGY INEFFICIENT TRANS-  
19 FORMER.—The term “qualified energy inefficient  
20 transformer” means a transformer with an equal  
21 number of phases and capacity to a transformer de-  
22 scribed in any of the tables in subsection (b)(2) and  
23 paragraphs (1) and (2) of subsection (c) of section  
24 431.196 of title 10, Code of Federal Regulations (as

1 in effect on the date of enactment of this Act)  
2 that—

3 (A) does not meet or exceed the applicable  
4 energy conservation standards described in  
5 paragraph (1); and

6 (B)(i) was manufactured between January  
7 1, 1987, and December 31, 2008, for a trans-  
8 former with an equal number of phases and ca-  
9 pacity as a transformer described in the table  
10 in subsection (b)(2) of section 431.196 of title  
11 10, Code of Federal Regulations (as in effect on  
12 the date of enactment of this Act); or

13 (ii) was manufactured between January 1,  
14 1992, and December 31, 2011, for a trans-  
15 former with an equal number of phases and ca-  
16 pacity as a transformer described in the table  
17 in paragraph (1) or (2) of subsection (c) of that  
18 section (as in effect on the date of enactment  
19 of this Act).

20 (3) QUALIFIED ENTITY.—The term “qualified  
21 entity” means an owner of industrial or manufac-  
22 turing facilities, commercial buildings, or multifamily  
23 residential buildings, a utility, or an energy service  
24 company that fulfills the requirements of subsection  
25 (d).

1           (b) ESTABLISHMENT.—Not later than 90 days after  
2 the date of enactment of this Act, the Secretary of Energy  
3 shall establish a program to provide rebates to qualified  
4 entities for expenditures made by the qualified entity for  
5 the replacement of a qualified energy inefficient trans-  
6 former with a qualified energy efficient transformer.

7           (c) REQUIREMENTS.—To be eligible to receive a re-  
8 bate under this section, an entity shall submit to the Sec-  
9 retary of Energy an application in such form, at such  
10 time, and containing such information as the Secretary  
11 of Energy may require, including demonstrated evidence—

12                 (1) that the entity purchased a qualified energy  
13                 efficient transformer;

14                 (2) of the core loss value of the qualified energy  
15                 efficient transformer;

16                 (3) of the age of the qualified energy inefficient  
17                 transformer being replaced;

18                 (4) of the core loss value of the qualified energy  
19                 inefficient transformer being replaced—

20                         (A) as measured by a qualified professional  
21                         or verified by the equipment manufacturer, as  
22                         applicable; or

23                         (B) for transformers described in sub-  
24                         section (a)(2)(B)(i), as selected from a table of  
25                         default values as determined by the Secretary

1 of Energy in consultation with applicable indus-  
2 try; and

3 (5) that the qualified energy inefficient trans-  
4 former has been permanently decommissioned and  
5 scrapped.

6 (d) AUTHORIZED AMOUNT OF REBATE.—The  
7 amount of a rebate provided under this section shall be—

8 (1) for a 3-phase or single-phase transformer  
9 with a capacity of not less than 10 and not greater  
10 than 2,500 kilovolt-amperes, twice the amount equal  
11 to the difference in Watts between the core loss  
12 value (as measured in accordance with paragraphs  
13 (2) and (4) of subsection (c)) of—

14 (A) the qualified energy inefficient trans-  
15 former; and

16 (B) the qualified energy efficient trans-  
17 former; or

18 (2) for a transformer described in subsection  
19 (a)(2)(B)(i), the amount determined using a table of  
20 default rebate values by rated transformer output,  
21 as measured in kilovolt-amperes, as determined by  
22 the Secretary of Energy in consultation with applica-  
23 ble industry.

24 (e) AUTHORIZATION OF APPROPRIATIONS.—There is  
25 authorized to be appropriated to carry out this section

1 \$5,000,000 for each of fiscal years 2021 and 2022, to re-  
2 main available until expended.

3 (f) TERMINATION OF EFFECTIVENESS.—The author-  
4 ity provided by this section terminates on December 31,  
5 2022.

## 6 **Subtitle C—Federal Agency Energy** 7 **Efficiency**

### 8 **SEC. 1301. ENERGY-EFFICIENT AND ENERGY-SAVING IN-** 9 **FORMATION TECHNOLOGIES.**

10 (a) IN GENERAL.—Subtitle C of title V of the Energy  
11 Independence and Security Act of 2007 (Public Law 110–  
12 140; 121 Stat. 1661) is amended by adding at the end  
13 the following:

### 14 **“SEC. 530. ENERGY-EFFICIENT AND ENERGY-SAVING INFOR-** 15 **MATION TECHNOLOGIES.**

16 “(a) DEFINITIONS.—In this section:

17 “(1) DIRECTOR.—The term ‘Director’ means  
18 the Director of the Office of Management and Budg-  
19 et.

20 “(2) INFORMATION TECHNOLOGY.—The term  
21 ‘information technology’ has the meaning given that  
22 term in section 11101 of title 40, United States  
23 Code.

24 “(b) DEVELOPMENT OF IMPLEMENTATION STRAT-  
25 EGY.—Not later than 1 year after the date of enactment



1 of this section, each Federal agency shall coordinate with  
2 the Director, the Secretary, and the Administrator of the  
3 Environmental Protection Agency to develop an implemen-  
4 tation strategy (that includes best practices and measure-  
5 ment and verification techniques) for the maintenance,  
6 purchase, and use by the Federal agency of energy-effi-  
7 cient and energy-saving information technologies at or for  
8 federally owned and operated facilities, taking into consid-  
9 eration the performance goals established under sub-  
10 section (d).

11 “(c) ADMINISTRATION.—In developing an implemen-  
12 tation strategy under subsection (b), each Federal agency  
13 shall consider—

14 “(1) advanced metering infrastructure;

15 “(2) energy-efficient data center strategies and  
16 methods of increasing asset and infrastructure utili-  
17 zation;

18 “(3) advanced power management tools;

19 “(4) building information modeling, including  
20 building energy management;

21 “(5) secure telework and travel substitution  
22 tools; and

23 “(6) mechanisms to ensure that the agency re-  
24 alizes the energy cost savings brought about through  
25 increased efficiency and utilization.

1 “(d) PERFORMANCE GOALS.—

2 “(1) IN GENERAL.—Not later than 180 days  
3 after the date of enactment of this section, the Di-  
4 rector, in consultation with the Secretary, shall es-  
5 tablish performance goals for evaluating the efforts  
6 of Federal agencies in improving the maintenance,  
7 purchase, and use of energy-efficient and energy-sav-  
8 ing information technology at or for federally owned  
9 and operated facilities.

10 “(2) BEST PRACTICES.—The Chief Information  
11 Officers Council established under section 3603 of  
12 title 44, United States Code, shall recommend best  
13 practices for the attainment of the performance  
14 goals, which shall include Federal agency consider-  
15 ation of, to the extent applicable by law, the use  
16 of—

17 “(A) energy savings performance con-  
18 tracting; and

19 “(B) utility energy services contracting.

20 “(e) REPORTS.—

21 “(1) AGENCY REPORTS.—Each Federal agency  
22 shall include in the report of the agency under sec-  
23 tion 527 a description of the efforts and results of  
24 the agency under this section.

1           “(2) OMB GOVERNMENT EFFICIENCY REPORTS  
2           AND SCORECARDS.—Effective beginning not later  
3           than October 1, 2021, the Director shall include in  
4           the annual report and scorecard of the Director re-  
5           quired under section 528 a description of the efforts  
6           and results of Federal agencies under this section.”.

7           (b) CONFORMING AMENDMENT.—The table of con-  
8           tents for the Energy Independence and Security Act of  
9           2007 is amended by adding after the item relating to sec-  
10          tion 529 the following:

          “Sec. 530. Energy-efficient and energy-saving information technologies.”.

11       **SEC. 1302. ENERGY EFFICIENT DATA CENTERS.**

12          Section 453 of the Energy Independence and Security  
13       Act of 2007 (42 U.S.C. 17112) is amended—

14           (1) in subsection (b)—

15               (A) in paragraph (2)(D)(iv), by striking  
16               “determined by the organization” and inserting  
17               “proposed by the stakeholders”; and

18               (B) by striking paragraph (3); and

19           (2) by striking subsections (c) through (g) and  
20       inserting the following:

21          “(c) STAKEHOLDER INVOLVEMENT.—The Secretary  
22       and the Administrator shall carry out subsection (b) in  
23       collaboration with information technology industry and  
24       other key stakeholders, with the goal of producing results  
25       that accurately reflect the most relevant and useful infor-

1 mation. In such collaboration, the Secretary and the Ad-  
2 ministrator shall pay particular attention to organizations  
3 that—

4 “(1) have members with expertise in energy ef-  
5 ficiency and in the development, operation, and  
6 functionality of data centers, information technology  
7 equipment, and software, such as representatives of  
8 hardware manufacturers, data center operators, and  
9 facility managers;

10 “(2) obtain and address input from Department  
11 of Energy National Laboratories or any college, uni-  
12 versity, research institution, industry association,  
13 company, or public interest group with applicable ex-  
14 pertise;

15 “(3) follow—

16 “(A) commonly accepted procedures for  
17 the development of specifications; and

18 “(B) accredited standards development  
19 processes; and

20 “(4) have a mission to promote energy effi-  
21 ciency for data centers and information technology.

22 “(d) MEASUREMENTS AND SPECIFICATIONS.—The  
23 Secretary and the Administrator shall consider and assess  
24 the adequacy of the specifications, measurements, best  
25 practices, and benchmarks described in subsection (b) for

1 use by the Federal Energy Management Program, the En-  
2 ergy Star Program, and other efficiency programs of the  
3 Department of Energy or the Environmental Protection  
4 Agency.

5 “(e) STUDY.—The Secretary, in collaboration with  
6 the Administrator, shall, not later than 4 years after the  
7 date of enactment of the Clean Economy Jobs and Innova-  
8 tion Act, make available to the public an update to the  
9 report of the Lawrence Berkeley National Laboratory en-  
10 titled ‘United States Data Center Energy Usage Report’  
11 and dated June, 2016 (prepared as an update to the Re-  
12 port to Congress on Server and Data Center Energy Effi-  
13 ciency, published on August 2, 2007, under section 1 of  
14 Public Law 109–431 (120 Stat. 2920)), that includes—

15 “(1) a comparison and gap analysis of the esti-  
16 mates and projections contained in the report with  
17 new data regarding the period from 2015 through  
18 2020;

19 “(2) an analysis considering the impact of in-  
20 formation technologies, including virtualization and  
21 cloud computing, in the public and private sectors;

22 “(3) an evaluation of the impact of the com-  
23 bination of cloud platforms, mobile devices, social  
24 media, and big data on data center energy usage;

1           “(4) an evaluation of water usage in data cen-  
2           ters and recommendations for reductions in such  
3           water usage; and

4           “(5) updated projections and recommendations  
5           for best practices through fiscal year 2025.

6           “(f) DATA CENTER ENERGY PRACTITIONER PRO-  
7           GRAM.—The Secretary, in collaboration with key stake-  
8           holders and the Director of the Office of Management and  
9           Budget, shall maintain a data center energy practitioner  
10          program that leads to the certification of energy practi-  
11          tioners qualified to evaluate the energy usage and effi-  
12          ciency opportunities in federally owned and operated data  
13          centers. Each Federal agency shall consider having the  
14          data centers of the agency evaluated every 4 years, in ac-  
15          cordance with section 543(f) of the National Energy Con-  
16          servation Policy Act, by energy practitioners certified pur-  
17          suant to such program.

18          “(g) OPEN DATA INITIATIVE.—The Secretary, in col-  
19          laboration with key stakeholders and the Office of Man-  
20          agement and Budget, shall establish an open data initia-  
21          tive relating to energy usage at federally owned and oper-  
22          ated data centers, with the purpose of making such data  
23          available and accessible in a manner that encourages fur-  
24          ther data center innovation, optimization, and consolida-

1 tion. In establishing the initiative, the Secretary shall con-  
2 sider the use of the online Data Center Maturity Model.

3 “(h) INTERNATIONAL SPECIFICATIONS AND  
4 METRICS.—The Secretary, in collaboration with key  
5 stakeholders, shall actively participate in efforts to har-  
6 monize global specifications and metrics for data center  
7 energy and water efficiency.

8 “(i) DATA CENTER UTILIZATION METRIC.—The Sec-  
9 retary, in collaboration with key stakeholders, shall facili-  
10 tate in the development of an efficiency metric that meas-  
11 ures the energy efficiency of a data center (including  
12 equipment and facilities).

13 “(j) PROTECTION OF PROPRIETARY INFORMATION.—  
14 The Secretary and the Administrator shall not disclose  
15 any proprietary information or trade secrets provided by  
16 any individual or company for the purposes of carrying  
17 out this section or the programs and initiatives established  
18 under this section.”.

## 19 **Subtitle D—Regulatory Provisions**

### 20 **PART 1—FEDERAL GREEN BUILDINGS**

#### 21 **SEC. 1401. HIGH-PERFORMANCE GREEN FEDERAL BUILD-** 22 **INGS.**

23 Section 436(h) of the Energy Independence and Se-  
24 curity Act of 2007 (42 U.S.C. 17092(h)) is amended—

1           (1) in the subsection heading, by striking “SYS-  
2           TEM” and inserting “SYSTEMS”;

3           (2) by striking paragraph (1) and inserting the  
4           following:

5           “(1) IN GENERAL.—Based on an ongoing re-  
6           view, the Federal Director shall identify and shall  
7           provide to the Secretary pursuant to section  
8           305(a)(3)(D) of the Energy Conservation and Pro-  
9           duction Act (42 U.S.C. 6834(a)(3)(D)) a list of  
10          those certification systems that the Director identi-  
11          fies as the most likely to encourage a comprehensive  
12          and environmentally sound approach to certification  
13          of green buildings.”; and

14          (3) in paragraph (2)—

15                 (A) in the matter preceding subparagraph  
16                 (A), by striking “system” and inserting “sys-  
17                 tems”;

18                 (B) by striking subparagraph (A) and in-  
19                 serting the following:

20                         “(A) an ongoing review provided to the  
21                         Secretary pursuant to section 305(a)(3)(D) of  
22                         the Energy Conservation and Production Act  
23                         (42 U.S.C. 6834(a)(3)(D)), which shall—



1                   “(i) be carried out by the Federal Di-  
2                   rector to compare and evaluate standards;  
3                   and

4                   “(ii) allow any developer or adminis-  
5                   trator of a rating system or certification  
6                   system to be included in the review;”;

7                   (C) in subparagraph (E)(v), by striking  
8                   “and” after the semicolon at the end;

9                   (D) in subparagraph (F), by striking the  
10                  period at the end and inserting a semicolon;  
11                  and

12                  (E) by adding at the end the following:

13                  “(G) a finding that, for all credits address-  
14                  ing the sourcing of grown, harvested, or mined  
15                  materials, the system rewards the use of prod-  
16                  ucts that have obtained certifications of respon-  
17                  sible sourcing, such as certifications provided by  
18                  the Sustainable Forestry Initiative, the Forest  
19                  Stewardship Council, the American Tree Farm  
20                  System, or the Programme for the Endorse-  
21                  ment of Forest Certification; and

22                  “(H) a finding that the system incor-  
23                  porates life-cycle assessment as a credit path-  
24                  way.”.

1 **PART 2—ENERGY AND WATER PERFORMANCE**

2 **REQUIREMENTS FOR FEDERAL BUILDINGS**

3 **SEC. 1411. FEDERAL ENERGY MANAGEMENT PROGRAM.**

4 (a) FINDINGS.—Congress finds the following:

5 (1) The Federal Government is the largest en-  
6 ergy user in the United States.

7 (2) Reducing energy and water use in Federal  
8 facilities—

9 (A) saves taxpayer dollars;

10 (B) reduces greenhouse gas emissions from  
11 the Federal sector; and

12 (C) increases employee comfort and pro-  
13 ductivity.

14 (3) It is important for the Federal Government  
15 to—

16 (A) develop goals for energy and water use  
17 reduction in Federal facilities; and

18 (B) to the maximum extent practicable,  
19 take measures that are life cycle cost effective.

20 (b) SENSE OF CONGRESS.—It is the sense of Con-  
21 gress that Federal agencies should—

22 (1) for each of fiscal years 2020 through 2030,  
23 reduce average building energy intensity (as meas-  
24 ured in British thermal units per gross square foot)  
25 at facilities of the agency by 2.5 percent each fiscal  
26 year, relative to the average building energy inten-

1       sity of the facilities of the agency in fiscal year  
2       2018; and

3               (2) for each of fiscal years 2020 through 2030,  
4       improve water use efficiency and management, in-  
5       cluding stormwater management, at facilities of the  
6       agency by reducing agency water consumption inten-  
7       sity—

8               (A) by reducing the potable water con-  
9       sumption by 54 percent by fiscal year 2030, rel-  
10      ative to the potable water consumption of the  
11      agency in fiscal year 2007, through reductions  
12      of 2 percent each fiscal year (as measured in  
13      gallons per gross square foot);

14              (B) by reducing the industrial, land-  
15      scaping, and agricultural water consumption of  
16      the agency, as compared to a baseline of that  
17      consumption by the agency in fiscal year 2010,  
18      through reductions of 2 percent each fiscal year  
19      (as measured in gallons); and

20              (C) by installing appropriate infrastructure  
21      features on federally owned property to improve  
22      stormwater and wastewater management.

23       (c) ENERGY MANAGEMENT REQUIREMENTS.—Sec-  
24      tion 543 of the National Energy Conservation Policy Act

1 (42 U.S.C. 8253) is amended by adding at the end the  
2 following:

3 “(h) FEDERAL ENERGY MANAGEMENT PROGRAM.—

4 “(1) IN GENERAL.—The Secretary shall carry  
5 out a program, to be known as the ‘Federal Energy  
6 Management Program’ (referred to in this sub-  
7 section as the ‘Program’), to facilitate the implemen-  
8 tation by the Federal Government of cost-effective  
9 energy and water management and energy-related  
10 investment practices—

11 “(A) to coordinate and strengthen Federal  
12 energy and water resilience; and

13 “(B) to promote environmental steward-  
14 ship.

15 “(2) FEDERAL DIRECTOR.—The Secretary shall  
16 appoint an individual to serve as the director of the  
17 Program (referred to in this subsection as the ‘Fed-  
18 eral Director’), which shall be a career position in  
19 the Senior Executive service, to administer the Pro-  
20 gram.

21 “(3) PROGRAM ACTIVITIES.—

22 “(A) STRATEGIC PLANNING AND TECH-  
23 NICAL ASSISTANCE.—In administering the Pro-  
24 gram, the Federal Director shall—

1           “(i) provide technical assistance and  
2 project implementation support and guid-  
3 ance to agencies to identify, implement,  
4 procure, and track energy and water con-  
5 servation measures required under this Act  
6 and under other provisions of law;

7           “(ii) in coordination with the Admin-  
8 istrator of the General Services Adminis-  
9 tration, establish appropriate procedures,  
10 methods, and best practices for use by  
11 agencies to select, monitor, and terminate  
12 contracts entered into pursuant to a utility  
13 incentive program under section 546(c)  
14 with utilities;

15           “(iii) carry out the responsibilities of  
16 the Secretary under section 801, as deter-  
17 mined appropriate by the Secretary;

18           “(iv) establish and maintain internet-  
19 based information resources and project  
20 tracking systems and tools for energy and  
21 water management;

22           “(v) coordinate comprehensive and  
23 strategic approaches to energy and water  
24 resilience planning for agencies; and

1 “(vi) establish a recognition program  
2 for Federal achievement in energy and  
3 water management, energy-related invest-  
4 ment practices, environmental stewardship,  
5 and other relevant areas, through events  
6 such as individual recognition award cere-  
7 monies and public announcements.

8 “(B) ENERGY AND WATER MANAGEMENT  
9 AND REPORTING.—In administering the Pro-  
10 gram, the Federal Director shall—

11 “(i) track and report on the progress  
12 of agencies in meeting the requirements of  
13 the agency under this section;

14 “(ii) make publicly available agency  
15 performance data required under—

16 “(I) this section and sections  
17 544, 546, 547, and 548; and

18 “(II) section 203 of the Energy  
19 Policy Act of 2005 (42 U.S.C.  
20 15852);

21 “(iii)(I) collect energy and water use  
22 and consumption data from each agency;  
23 and

24 “(II) based on that data, submit to  
25 each agency a report that will facilitate the

1 energy and water management, energy-re-  
2 lated investment practices, and environ-  
3 mental stewardship of the agency in sup-  
4 port of Federal goals under this Act and  
5 under other provisions of law;

6 “(iv) carry out the responsibilities of  
7 the Secretary under section 305 of the En-  
8 ergy Conservation and Production Act (42  
9 U.S.C. 6834);

10 “(v) in consultation with the Adminis-  
11 trator of the General Services Administra-  
12 tion, acting through the head of the Office  
13 of High-Performance Green Buildings, es-  
14 tablish and implement sustainable design  
15 principles for Federal facilities; and

16 “(vi) designate products that meet the  
17 highest energy conservation standards for  
18 categories not covered under the Energy  
19 Star program established under section  
20 324A of the Energy Policy and Conserva-  
21 tion Act (42 U.S.C. 6294a).

22 “(C) FEDERAL INTERAGENCY COORDINA-  
23 TION.—In administering the Program, the Fed-  
24 eral Director shall—

1           “(i) develop and implement accredited  
2 training consistent with existing Federal  
3 programs and activities—

4           “(I) relating to energy and water  
5 use, management, and resilience in  
6 Federal facilities, energy-related in-  
7 vestment practices, and environmental  
8 stewardship; and

9           “(II) that includes in-person  
10 training, internet-based programs,  
11 and national in-person training  
12 events;

13           “(ii) carry out the functions of the  
14 Secretary with respect to the Interagency  
15 Energy Management Task Force under  
16 section 547; and

17           “(iii) report on the implementation of  
18 the priorities of the President, including  
19 Executive orders, relating to energy and  
20 water use in Federal facilities, in coordina-  
21 tion with—

22           “(I) the Office of Management  
23 and Budget;

24           “(II) the Council on Environ-  
25 mental Quality; and



1                   “(III) any other entity, as consid-  
2                   ered necessary by the Federal Direc-  
3                   tor.

4                   “(D) FACILITY AND FLEET OPTIMIZA-  
5                   TION.—In administering the Program, the Fed-  
6                   eral Director shall develop guidance, supply as-  
7                   sistance to, and track the progress of agen-  
8                   cies—

9                   “(i) in conducting portfolio-wide facil-  
10                  ity energy and water resilience planning  
11                  and project integration;

12                  “(ii) in building new construction and  
13                  major renovations to meet the sustainable  
14                  design and energy and water performance  
15                  standards required under this section;

16                  “(iii) in developing guidelines for—

17                          “(I) facility commissioning; and

18                          “(II) facility operations and  
19                          maintenance; and

20                  “(iv) in coordination with the Admin-  
21                  istrator of the General Services Adminis-  
22                  tration, in meeting statutory and agency  
23                  goals for Federal fleet vehicles.

1           “(4) MANAGEMENT COUNCIL.—The Federal Di-  
 2           rector shall establish a management council to ad-  
 3           vise the Federal Director that shall—

4                   “(A) convene not less frequently than once  
 5           every quarter; and

6                   “(B) consist of representatives from—

7                           “(i) the Council on Environmental  
 8           Quality;

9                           “(ii) the Office of Management and  
 10          Budget; and

11                          “(iii) the Office of Federal High-Per-  
 12          formance Green Buildings in the General  
 13          Services Administration.

14           “(5) AUTHORIZATION OF APPROPRIATIONS.—  
 15          There is authorized to be appropriated to the Sec-  
 16          retary to carry out this subsection \$36,000,000 for  
 17          each of fiscal years 2021 through 2025.”.

18 **SEC. 1412. FEDERAL BUILDING ENERGY EFFICIENCY PER-**  
 19 **FORMANCE STANDARDS; CERTIFICATION**  
 20 **SYSTEM AND LEVEL FOR GREEN BUILDINGS.**

21          (a) DEFINITIONS.—Section 303 of the Energy Con-  
 22          servation and Production Act (42 U.S.C. 6832) is further  
 23          amended by adding at the end the following:

24                   “(19) MAJOR RENOVATION.—The term ‘major  
 25          renovation’ means a modification of the energy sys-

1       tems of a building that is sufficiently extensive to  
2       ensure that the entire building can achieve compli-  
3       ance with applicable energy standards for new build-  
4       ings, as established by the Secretary.”.

5       (b) FEDERAL BUILDING EFFICIENCY STANDARDS.—  
6 Section 305 of the Energy Conservation and Production  
7 Act (42 U.S.C. 6834) is amended—

8             (1) in subsection (a)(3)—

9                     (A) by striking “(3)(A) Not later than”  
10                    and all that follows through subparagraph (B)  
11                    and inserting the following:

12                    “(3) REVISED FEDERAL BUILDING ENERGY EF-  
13                    FICIENCY PERFORMANCE STANDARDS; CERTIFI-  
14                    CATION FOR GREEN BUILDINGS.—

15                    “(A) REVISED FEDERAL BUILDING EN-  
16                    ERGY EFFICIENCY PERFORMANCE STAND-  
17                    ARDS.—

18                    “(i) IN GENERAL.—Not later than 1  
19                    year after the date of enactment of the  
20                    Clean Economy Jobs and Innovation Act,  
21                    the Secretary shall establish, by regulation,  
22                    revised Federal building energy efficiency  
23                    performance standards that require that—

1           “(I) subject to clause (ii), new  
2 Federal buildings and Federal build-  
3 ings with major renovations—

4           “(aa) meet or exceed the  
5 most recently published version  
6 of the International Energy Con-  
7 servation Code (in the case of  
8 residential buildings) or  
9 ASHRAE Standard 90.1 (in the  
10 case of commercial buildings) as  
11 of the date of enactment of the  
12 Clean Economy Jobs and Innova-  
13 tion Act; and

14           “(bb) meet or exceed the en-  
15 ergy provisions of the State and  
16 local building codes applicable to  
17 the building if the codes are more  
18 stringent than the most recently  
19 published version of the Inter-  
20 national Energy Conservation  
21 Code or ASHRAE Standard 90.1  
22 as of the date of enactment of  
23 the Clean Economy Jobs and In-  
24 novation Act, as applicable;

1 “(II) unless demonstrated not to  
2 be life cycle cost-effective for new  
3 Federal buildings and Federal build-  
4 ings with major renovations—

5 “(aa) the buildings shall be  
6 designed to achieve energy con-  
7 sumption levels that are not less  
8 than 30 percent below the levels  
9 established in the most recently  
10 published version of the Inter-  
11 national Energy Conservation  
12 Code or the ASHRAE Standard,  
13 as of the date of enactment of  
14 the Clean Economy Jobs and In-  
15 novation Act, as appropriate; and

16 “(bb) sustainable design  
17 principles are applied to the loca-  
18 tion, siting, design, and construc-  
19 tion of all new Federal buildings  
20 and replacement Federal build-  
21 ings;

22 “(III) if water is used to achieve  
23 energy efficiency, water conservation  
24 technologies shall be applied to the ex-

1           tent that the technologies are life-  
2           cycle cost effective; and

3                   “(IV) if life-cycle cost effective,  
4                   as compared to other reasonably avail-  
5                   able technologies, not less than 30  
6                   percent of the hot water demand for  
7                   each new Federal building or Federal  
8                   building undergoing a major renova-  
9                   tion be met through the installation  
10                  and use of solar hot water heaters.

11                  “(ii) EXCEPTION.—Clause (i)(I) shall  
12                  not apply to the unaltered portions of Fed-  
13                  eral buildings and systems that have un-  
14                  dergone major renovations.

15                  “(B) UPDATES.—Not later than 1 year  
16                  after the date of approval of each subsequent  
17                  revision of the ASHRAE Standard or the Inter-  
18                  national Energy Conservation Code, as appro-  
19                  priate, the Secretary shall determine whether  
20                  the revised standards established under sub-  
21                  clauses (I) and (II) of subparagraph (A)(i)  
22                  should be updated to reflect the revisions, based  
23                  on the energy savings and life cycle cost-effec-  
24                  tiveness of the revisions.”;

1 (B) in subparagraph (C), by striking “(C)  
2 In the budget request” and inserting the fol-  
3 lowing:

4 “(C) BUDGET REQUEST.—In the budget  
5 request”; and

6 (C) in subparagraph (D)—

7 (i) by striking subclause (III) of  
8 clause (i);

9 (ii) by striking “(D) Not later than”  
10 and inserting the following:

11 “(D) STANDARDS; CERTIFICATION FOR  
12 GREEN BUILDINGS.—

13 “(i) STANDARDS.—Not later than”;

14 (iii) by striking “standards that re-  
15 quire that:” and all that follows through  
16 “For new Federal buildings” and inserting  
17 “standards that require that, for new  
18 buildings”; and

19 (iv) by striking clauses (ii) through  
20 (vii) and inserting the following:

21 “(ii) SUSTAINABLE DESIGN PRIN-  
22 CIPLES.—Sustainable design principles  
23 shall be applied to the siting, design, and  
24 construction of buildings covered by this  
25 subparagraph.

1           “(iii) SELECTION OF CERTIFICATION  
2           SYSTEMS.—The Secretary, after reviewing  
3           the findings of the Federal Director under  
4           section 436(h) of the Energy Independence  
5           and Security Act of 2007 (42 U.S.C.  
6           17092(h)), in consultation with the Admin-  
7           istrator of General Services, and in con-  
8           sultation with the Secretary of Defense re-  
9           lating to those facilities under the custody  
10          and control of the Department of Defense,  
11          shall determine those certification systems  
12          for green commercial and residential build-  
13          ings that the Secretary determines to be  
14          the most likely to encourage a comprehen-  
15          sive and environmentally sound approach  
16          to certification of green buildings.

17          “(iv) BASIS FOR SELECTION.—The  
18          determination of the certification systems  
19          under clause (iii) shall be based on ongoing  
20          review of the findings of the Federal Direc-  
21          tor under section 436(h) of the Energy  
22          Independence and Security Act of 2007  
23          (42 U.S.C. 17092(h)) and the criteria de-  
24          scribed in clause (vi).



1           “(v) ADMINISTRATION.—In deter-  
2           mining certification systems under this  
3           subparagraph, the Secretary shall—

4                   “(I) make a separate determina-  
5                   tion for all or part of each system;  
6                   and

7                   “(II) confirm that the criteria  
8                   used to support the selection of build-  
9                   ing products, materials, brands, and  
10                  technologies—

11                          “(aa) are based on relevant  
12                          technical data;

13                          “(bb) use and reward eval-  
14                          uation of health, safety, and envi-  
15                          ronmental risks and impacts  
16                          across the lifecycle of the build-  
17                          ing product, material, brand, or  
18                          technology, including methodolo-  
19                          gies generally accepted by the ap-  
20                          plicable scientific disciplines;

21                          “(cc) as practicable, give  
22                          preference to performance stand-  
23                          ards instead of prescriptive meas-  
24                          ures; and

1                   “(dd) reward continual im-  
2                   provements in the lifecycle man-  
3                   agement of health, safety, and  
4                   environmental risks and impacts.

5                   “(vi) CONSIDERATIONS.—In deter-  
6                   mining the green building certification sys-  
7                   tems under this subparagraph, the Sec-  
8                   retary shall take into consideration—

9                   “(I) the ability and availability of  
10                  assessors and auditors to independ-  
11                  ently verify the criteria and measure-  
12                  ment of metrics at the scale necessary  
13                  to implement this subparagraph;

14                  “(II) the ability of the applicable  
15                  certification organization to collect  
16                  and reflect public comment;

17                  “(III) the ability of the standard  
18                  to be developed and revised through a  
19                  consensus-based process;

20                  “(IV) an evaluation of the  
21                  robustness of the criteria for a high-  
22                  performance green building, which  
23                  shall give credit for promoting—

1           “(aa) efficient and sustain-  
2           able use of water, energy, and  
3           other natural resources;

4           “(bb) use of renewable en-  
5           ergy sources;

6           “(cc) improved indoor envi-  
7           ronmental quality through en-  
8           hanced indoor air quality, ther-  
9           mal comfort, acoustics, day light-  
10          ing, pollutant source control, and  
11          use of low-emission materials and  
12          building system controls;

13          “(dd) the responsible  
14          sourcing of grown, harvested, or  
15          mined materials, including  
16          through certifications of respon-  
17          sible sourcing, such as certifi-  
18          cations provided by the Forest  
19          Stewardship Council, the Sus-  
20          tainable Forestry Initiative, the  
21          American Tree Farm System, or  
22          the Programme for the Endorse-  
23          ment of Forest Certification; and

1                   “(ee) such other criteria as  
2                   the Secretary determines to be  
3                   appropriate; and

4                   “(V) national recognition within  
5                   the building industry.

6                   “(vii) REVIEW.—The Secretary, in  
7                   consultation with the Administrator of  
8                   General Services and the Secretary of De-  
9                   fense, shall conduct an ongoing review to  
10                  evaluate and compare private sector green  
11                  building certification systems, taking into  
12                  account—

13                  “(I) the criteria described in  
14                  clause (vi); and

15                  “(II) the identification made by  
16                  the Federal Director under section  
17                  436(h) of the Energy Independence  
18                  and Security Act of 2007 (42 U.S.C.  
19                  17092(h)).

20                  “(viii) EXCLUSIONS.—

21                  “(I) IN GENERAL.—Subject to  
22                  subclause (II), if a certification sys-  
23                  tem fails to meet the review require-  
24                  ments of clause (vi), the Secretary  
25                  shall—

1           “(aa) identify the portions  
2 of the system, whether pre-  
3 requisites, credits, points, or oth-  
4 erwise, that meet the review cri-  
5 teria of clause (vi);

6           “(bb) determine the portions  
7 of the system that are suitable  
8 for use; and

9           “(cc) exclude all other por-  
10 tions of the system from identi-  
11 fication and use.

12           “(II) ENTIRE SYSTEMS.—The  
13 Secretary shall exclude an entire sys-  
14 tem from use if an exclusion under  
15 subclause (I)—

16           “(aa) impedes the integrated  
17 use of the system;

18           “(bb) creates disparate re-  
19 view criteria or unequal point ac-  
20 cess for competing materials; or

21           “(cc) increases agency costs  
22 of the use.

23           “(ix) INTERNAL CERTIFICATION PROC-  
24 ESSES.—The Secretary may by rule allow  
25 Federal agencies to develop internal certifi-

1 cation processes, using certified profes-  
2 sionals, in lieu of certification by certifi-  
3 cation entities identified under clause (iii).

4 “(x) PRIVATIZED MILITARY HOUS-  
5 ING.—With respect to privatized military  
6 housing, the Secretary of Defense, after  
7 consultation with the Secretary may,  
8 through rulemaking, develop alternative  
9 certification systems and levels than the  
10 systems and levels identified under clause  
11 (iii) that achieve an equivalent result in  
12 terms of energy savings, sustainable de-  
13 sign, and green building performance.

14 “(xi) WATER CONSERVATION TECH-  
15 NOLOGIES.—In addition to any use of  
16 water conservation technologies otherwise  
17 required by this section, water conservation  
18 technologies shall be applied to the extent  
19 that the technologies are life-cycle cost-ef-  
20 fective.

21 “(xii) EFFECTIVE DATE.—

22 “(I) DETERMINATIONS MADE  
23 AFTER DECEMBER 31, 2020.—The  
24 amendments made by section  
25 1422(b)(1)(C) of the Clean Economy

1 Jobs and Innovation Act shall apply  
2 to any determination made by a Fed-  
3 eral agency after December 31, 2020.

4 “(II) DETERMINATIONS MADE ON  
5 OR BEFORE DECEMBER 31, 2020.—

6 This subparagraph (as in effect on the  
7 day before the date of enactment of  
8 the Clean Economy Jobs and Innova-  
9 tion Act) shall apply to any use of a  
10 certification system for green commer-  
11 cial and residential buildings by a  
12 Federal agency on or before December  
13 31, 2020.”; and

14 (2) by striking subsections (c) and (d) and in-  
15 serting the following:

16 “(c) PERIODIC REVIEW.—The Secretary shall—

17 “(1) once every 5 years, review the Federal  
18 building energy standards established under this sec-  
19 tion; and

20 “(2) on completion of a review under paragraph  
21 (1), if the Secretary determines that significant en-  
22 ergy savings would result, upgrade the standards to  
23 include all new energy efficiency and renewable en-  
24 ergy measures that are technologically feasible and  
25 economically justified.”.

1           (c) FEDERAL COMPLIANCE.—Section 306 of the En-  
2   ergy Conservation and Production Act (42 U.S.C. 6835)  
3   is amended—

4           (1) in subsection (a)—

5           (A) in paragraph (1)—

6           (i) by striking “(1) The head” and in-  
7           serting the following:

8           “(1) IN GENERAL.—The head”; and

9           (ii) by striking “assure that new Fed-  
10          eral buildings” and inserting “ensure that  
11          new Federal buildings and Federal build-  
12          ings with major renovations”; and

13          (B) in paragraph (2)—

14          (i) by striking the second sentence  
15          and inserting the following:

16          “(B) PROCEDURES.—The Architect of the  
17          Capitol shall adopt procedures necessary to en-  
18          sure that the buildings referred to in subpara-  
19          graph (A) meet or exceed the standards de-  
20          scribed in that subparagraph.”; and

21          (ii) in the first sentence—

22           (I) by inserting “and Federal  
23           buildings with major renovations”  
24           after “new buildings”; and



1 (II) by striking “(2) The Fed-  
2 eral” and inserting the following:

3 “(2) APPLICABILITY.—

4 “(A) IN GENERAL.—The Federal”; and

5 (2) in subsection (b)—

6 (A) by striking the subsection heading and  
7 inserting “EXPENDITURES”; and

8 (B) by inserting “or a Federal building  
9 with major renovations” after “new Federal  
10 building”.

11 **SEC. 1413. USE OF ENERGY AND WATER EFFICIENCY MEAS-**  
12 **URES IN FEDERAL BUILDINGS.**

13 (a) FINDINGS.—Congress finds the following:

14 (1) Performance contracting is a private financ-  
15 ing tool with guaranteed energy savings and has  
16 been used by the Federal Government for nearly 30  
17 years.

18 (2) Energy savings performance contracts and  
19 utility energy service contracts allow the Government  
20 to invest in infrastructure using private sector fi-  
21 nancing and expertise, with a guarantee of results.

22 (3) Use of performance contracting has saved  
23 the Government and taxpayers more than  
24 \$18,000,000,000.

1           (4) By law, performance contracts are guaran-  
2           teed to provide savings to Federal agencies.

3           (5) On average, performance contracts achieve  
4           savings in excess of the contractual and statutory  
5           guarantee.

6           (6) In a fiscally constrained environment, per-  
7           formance contracting helps to address the Federal  
8           Government's backlog of maintenance and supple-  
9           ment scarce operations and maintenance dollars.

10          (7) The House of Representatives, the Senate,  
11          and the Office of Management and Budget have all  
12          acted to recognize the value of performance con-  
13          tracts by providing distinct budgetary consideration  
14          of them; in the 115th Congress, the House of Rep-  
15          resentatives included section 5109 in H. Con. Res.  
16          71 to enable the greater use of performance con-  
17          tracting and to recognize their full cost savings ben-  
18          efits.

19          (8) Federal agencies are not taking full advan-  
20          tage of the cost-effective energy efficiency measures  
21          that are available and documented.

22          (9) Using performance contracts to carry out  
23          such energy efficiency measures would benefit tax-  
24          payers, the economy, and the environment.

1 (b) REPORTS.—Section 548(b) of the National En-  
2 ergy Conservation Policy Act (42 U.S.C. 8258(b)) is  
3 amended—

4 (1) in paragraph (3), by striking “and” at the  
5 end;

6 (2) in paragraph (4), by striking the period at  
7 the end and inserting “; and”; and

8 (3) by adding at the end the following:

9 “(5)(A) the status of the energy savings per-  
10 formance contracts and utility energy service con-  
11 tracts of each agency, to the extent that the infor-  
12 mation is not duplicative of information provided to  
13 the Secretary under a separate authority;

14 “(B) the quantity and investment value of the  
15 contracts for the previous year;

16 “(C) the guaranteed energy savings, or for con-  
17 tracts without a guarantee, the estimated energy  
18 savings, for the previous year, as compared to the  
19 measured energy savings for the previous year;

20 “(D) a forecast of the estimated quantity and  
21 investment value of contracts anticipated in the fol-  
22 lowing year for each agency; and

23 “(E)(i) a comparison of the information de-  
24 scribed in subparagraph (B) and the forecast de-

1 scribed in subparagraph (D) in the report of the  
2 previous year; and

3 “(ii) if applicable, the reasons for any dif-  
4 ferences in the data compared under clause (i).”.

## 5 **Subtitle E—HOPE for HOMES**

### 6 **SEC. 1501. DEFINITIONS.**

7 In this subtitle:

8 (1) CONTRACTOR CERTIFICATION.—The term  
9 “contractor certification” means an industry recog-  
10 nized certification that may be obtained by a resi-  
11 dential contractor to advance the expertise and edu-  
12 cation of the contractor in energy efficiency retrofits  
13 of residential buildings, including—

14 (A) a certification provided by—

15 (i) the Building Performance Insti-  
16 tute;

17 (ii) the Air Conditioning Contractors  
18 of America;

19 (iii) the National Comfort Institute;

20 (iv) the North American Technician  
21 Excellence;

22 (v) RESNET;

23 (vi) the United States Green Building  
24 Council; or

1 (vii) Home Innovation Research Labs;

2 and

3 (B) any other certification the Secretary  
4 determines appropriate for purposes of the  
5 Home Energy Savings Retrofit Rebate Pro-  
6 gram.

7 (2) CONTRACTOR COMPANY.—The term “con-  
8 tractor company” means a company—

9 (A) the business of which is to provide  
10 services to residential building owners with re-  
11 spect to HVAC systems, insulation, air sealing,  
12 or other services that are approved by the Sec-  
13 retary;

14 (B) that holds the licenses and insurance  
15 required by the State in which the company  
16 provides services; and

17 (C) that provides services for which a par-  
18 tial system rebate, measured performance re-  
19 bate, or modeled performance rebate may be  
20 provided pursuant to the Home Energy Savings  
21 Retrofit Rebate Program.

22 (3) ENERGY AUDIT.—The term “energy audit”  
23 means an inspection, survey, and analysis of the en-  
24 ergy use of a building, including the building enve-  
25 lope and HVAC system.

1           (4) HOME.—The term “home” means a manu-  
2           factured home (as such term is defined in section  
3           603 of the National Manufactured Housing Con-  
4           struction and Safety Standards Act of 1974 (42  
5           U.S.C. 5402)), or a residential dwelling unit in a  
6           building with no more than 4 dwelling units that—

7                   (A) is located in the United States;

8                   (B) was constructed before the date of en-  
9           actment of this Act; and

10                  (C) is occupied at least 6 months out of  
11           the year.

12           (5) HOME ENERGY SAVINGS RETROFIT REBATE  
13           PROGRAM.—The term “Home Energy Savings Ret-  
14           rofit Rebate Program” means the Home Energy  
15           Savings Retrofit Rebate Program established under  
16           section 1521.

17           (6) HOMEOWNER.—The term “homeowner”  
18           means the owner of an owner-occupied home or a  
19           tenant-occupied home.

20           (7) HOME VALUATION CERTIFICATION.—The  
21           term “home valuation certification” means the fol-  
22           lowing home assessments:

23                   (A) Home Energy Score.

24                   (B) PEARL Certification.

25                   (C) National Green Building Standard.

1 (D) LEED.

2 (E) Any other assessment the Secretary  
3 determines to be appropriate.

4 (8) HOPE QUALIFICATION.—The term “HOPE  
5 Qualification” means the qualification described in  
6 section 1513.

7 (9) HOPE TRAINING CREDIT.—The term  
8 “HOPE training credit” means a HOPE training  
9 task credit or a HOPE training supplemental credit.

10 (10) HOPE TRAINING TASK CREDIT.—The  
11 term “HOPE training task credit” means a credit  
12 described in section 1512(a).

13 (11) HOPE TRAINING SUPPLEMENTAL CRED-  
14 IT.—The term “HOPE training supplemental cred-  
15 it” means a credit described in section 1512(b).

16 (12) HVAC SYSTEM.—The term “HVAC sys-  
17 tem” means a system—

18 (A) consisting of a heating component, a  
19 ventilation component, and an air-conditioning  
20 component; and

21 (B) which components may include central  
22 air conditioning, a heat pump, a furnace, a boil-  
23 er, a rooftop unit, and a window unit.

24 (13) MEASURED PERFORMANCE REBATE.—The  
25 term “measured performance rebate” means a re-

1       bate provided in accordance with section 1523 and  
2       described in subsection (e) of that section.

3           (14) MODELED PERFORMANCE REBATE.—The  
4       term “modeled performance rebate” means a rebate  
5       provided in accordance with section 1523 and de-  
6       scribed in subsection (d) of that section.

7           (15) MODERATE INCOME.—The term “mod-  
8       erate income” means, with respect to a household, a  
9       household with an annual income that is less than  
10      80 percent of the area median income, as deter-  
11      mined annually by the Department of Housing and  
12      Urban Development.

13          (16) MULTIFAMILY BUILDING.—The term  
14      “multifamily building” means a structure with 5 or  
15      more tenant-occupied residential dwelling units  
16      that—

17           (A) is located in the United States;

18           (B) was constructed before the date of en-  
19      actment of this Act; and

20           (C) is occupied at least 6 months out of  
21      the year.

22          (17) MULTIFAMILY BUILDING OWNER.—The  
23      term “multifamily building owner” means the owner  
24      of a tenant-occupied multifamily building.



1           (18) PARTIAL SYSTEM REBATE.—The term  
2           “partial system rebate” means a rebate provided in  
3           accordance with section 1522.

4           (19) SECRETARY.—The term “Secretary”  
5           means the Secretary of Energy.

6           (20) STATE.—The term “State” includes—

7                   (A) a State;

8                   (B) the District of Columbia;

9                   (C) the Commonwealth of Puerto Rico;

10                  (D) Guam;

11                  (E) American Samoa;

12                  (F) the Commonwealth of the Northern  
13           Mariana Islands;

14                  (G) the United States Virgin Islands; and

15                  (H) any other territory or possession of the  
16           United States.

17           (21) STATE ENERGY OFFICE.—The term “State  
18           energy office” means the office or agency of a State  
19           responsible for developing the State energy conserva-  
20           tion plan for the State under section 362 of the En-  
21           ergy Policy and Conservation Act (42 U.S.C. 6322).

**PART 1—HOPE TRAINING****SEC. 1511. NOTICE FOR HOPE QUALIFICATION TRAINING  
AND GRANTS.**

Not later than 30 days after the date of enactment of this Act, the Secretary, acting through the Director of the Building Technologies Office of the Department of Energy, shall issue a notice that includes—

(1) criteria established under section 1512 for approval by the Secretary of courses for which credits may be issued for purposes of a HOPE Qualification;

(2) a list of courses that meet such criteria and are so approved; and

(3) information on how individuals and entities may apply for grants under this part.

**SEC. 1512. COURSE CRITERIA.**

(a) HOPE TRAINING TASK CREDIT.—

(1) CRITERIA.—The Secretary shall establish criteria for approval of a course for which a credit, to be known as a HOPE training task credit, may be issued, including that such course—

(A) is equivalent to at least 30 hours in total course time;

(B) is accredited by the Interstate Renewable Energy Council or is determined to be equivalent by the Secretary;

1 (C) is, with respect to a particular job,  
2 aligned with the relevant National Renewable  
3 Energy Laboratory Job Task Analysis, or other  
4 credentialing program foundation that helps  
5 identify the necessary core knowledge areas,  
6 critical work functions, or skills, as approved by  
7 the Secretary;

8 (D) has established learning objectives;  
9 and

10 (E) includes, as the Secretary determines  
11 appropriate, an appropriate assessment of such  
12 learning objectives that may include a final  
13 exam, to be proctored on-site or through remote  
14 proctoring, or an in-person field exam.

15 (2) INCLUDED COURSES.—The Secretary shall  
16 approve one or more courses that meet the criteria  
17 described in paragraph (1) for training related to—

18 (A) contractor certification;

19 (B) energy auditing or assessment, includ-  
20 ing energy audits and assessments relevant to  
21 multifamily buildings;

22 (C) home and multifamily building energy  
23 systems (including HVAC systems);

24 (D) insulation installation and air leakage  
25 control;

1 (E) health and safety regarding the instal-  
2 lation of energy efficiency measures or health  
3 and safety impacts associated with energy effi-  
4 ciency retrofits; and

5 (F) indoor air quality.

6 (b) HOPE TRAINING SUPPLEMENTAL CREDIT CRI-  
7 TERIA.—The Secretary shall establish criteria for approval  
8 of a course for which a credit, to be known as a HOPE  
9 training supplemental credit, may be issued, including  
10 that such course provides—

11 (1) training related to—

12 (A) small business success, including man-  
13 agement, home energy efficiency software, or  
14 general accounting principles;

15 (B) the issuance of a home valuation cer-  
16 tification;

17 (C) the use of wifi-enabled technology in  
18 an energy efficiency upgrade; or

19 (D) understanding and being able to par-  
20 ticipate in the Home Energy Savings Retrofit  
21 Rebate Program; and

22 (2) as the Secretary determines appropriate, an  
23 appropriate assessment of such training that may in-  
24 clude a final exam, to be proctored on-site or

1 through remote proctoring, or an in-person field  
2 exam.

3 (c) EXISTING APPROVED COURSES.—The Secretary  
4 may approve a course that meets the applicable criteria  
5 established under this section that is approved by the ap-  
6 plicable State energy office or relevant State agency with  
7 oversight authority for residential energy efficiency pro-  
8 grams.

9 (d) IN-PERSON AND ONLINE TRAINING.—An online  
10 course approved pursuant to this section may be con-  
11 ducted in-person, but may not be offered exclusively in-  
12 person.

13 **SEC. 1513. HOPE QUALIFICATION.**

14 (a) ISSUANCE OF CREDITS.—

15 (1) IN GENERAL.—The Secretary, or an entity  
16 authorized by the Secretary pursuant to paragraph

17 (2), may issue—

18 (A) a HOPE training task credit to any  
19 individual that completes a course that meets  
20 applicable criteria under section 1512; and

21 (B) a HOPE training supplemental credit  
22 to any individual that completes a course that  
23 meets the applicable criteria under section  
24 1512.

1           (2) OTHER ENTITIES.—The Secretary may au-  
2           thorize a State energy office implementing an au-  
3           thorized program under subsection (b)(2), an organi-  
4           zation described in section 1514(b), and any other  
5           entity the Secretary determines appropriate, to issue  
6           HOPE training credits in accordance with para-  
7           graph (1).

8           (b) HOPE QUALIFICATION.—

9           (1) IN GENERAL.—The Secretary may certify  
10          that an individual has achieved a qualification, to be  
11          known as a HOPE Qualification, that indicates that  
12          the individual has received at least 3 HOPE training  
13          credits, of which at least 2 shall be HOPE training  
14          task credits.

15          (2) STATE PROGRAMS.—The Secretary may au-  
16          thorize a State energy office to implement a pro-  
17          gram to provide HOPE Qualifications in accordance  
18          with this part.

19   **SEC. 1514. GRANTS.**

20          (a) IN GENERAL.—The Secretary shall, to the extent  
21          amounts are made available in appropriations Acts for  
22          such purposes, provide grants to support the training of  
23          individuals toward the completion of a HOPE Qualifica-  
24          tion.

25          (b) PROVIDER ORGANIZATIONS.—

1           (1) IN GENERAL.—The Secretary may provide a  
2           grant of up to \$20,000 under this section to an or-  
3           ganization to provide training online, including es-  
4           tablishing, modifying, or maintaining the online sys-  
5           tems, staff time, and software and online program  
6           management, through a course that meets the appli-  
7           cable criteria established under section 1512.

8           (2) CRITERIA.—In order to receive a grant  
9           under this subsection, an organization shall be—

10                   (A) a nonprofit organization;

11                   (B) an educational institution; or

12                   (C) an organization that has experience  
13           providing training to contractors that work with  
14           the weatherization assistance program imple-  
15           mented under part A of title IV of the Energy  
16           Conservation and Production Act (42 U.S.C.  
17           6861 et seq.) or equivalent experience, as deter-  
18           mined by the Secretary.

19           (3) ADDITIONAL CERTIFICATIONS.—In addition  
20           to any grant provided under paragraph (1), the Sec-  
21           retary may provide an organization up to \$5,000 for  
22           each additional course for which a HOPE training  
23           credit may be issued that is offered by the organiza-  
24           tion.

1           (c) CONTRACTOR COMPANY.—The Secretary may  
2 provide a grant under this section of \$1,000 per employee  
3 to a contractor company, up to a maximum of \$10,000,  
4 to reimburse the contractor company for training costs for  
5 employees, and any home technology support needed for  
6 an employee to receive training pursuant to this section.  
7 Grant funds provided under this subsection may be used  
8 to support wages of employees during training.

9           (d) TRAINEES.—The Secretary may provide a grant  
10 of up to \$1,000 under this section to an individual who  
11 receives a HOPE Qualification.

12          (e) STATE ENERGY OFFICE.—The Secretary may  
13 provide a grant under this section to a State energy office  
14 of up to \$25,000 to implement an authorized program  
15 under section 1513(b).

16 **SEC. 1515. AUTHORIZATION OF APPROPRIATIONS.**

17          There is authorized to be appropriated to carry out  
18 this part \$500,000,000 for the period of fiscal years 2021  
19 through 2025, to remain available until expended.



1       **PART 2—HOME ENERGY SAVINGS RETROFIT**

2                               **REBATE PROGRAM**

3       **SEC. 1521. ESTABLISHMENT OF HOME ENERGY SAVINGS**

4                               **RETROFIT REBATE PROGRAM.**

5               The Secretary shall establish a program, to be known  
6 as the Home Energy Savings Retrofit Rebate Program,  
7 to—

8                       (1) provide rebates in accordance with section  
9               1522; and

10                      (2) provide grants to States to carry out pro-  
11 grams to provide rebates in accordance with section  
12               1523.

13       **SEC. 1522. PARTIAL SYSTEM REBATES.**

14               (a) AMOUNT OF REBATE.—In carrying out the Home  
15 Energy Savings Retrofit Rebate Program, and subject to  
16 the availability of appropriations for such purpose, the  
17 Secretary shall provide a homeowner or multifamily build-  
18 ing owner a rebate, to be known as a partial system re-  
19 bate, of, except as provided in section 1524, up to—

20                      (1) \$800 for the purchase and installation of  
21               insulation and air sealing within a home of the  
22               homeowner or the household living in a multifamily  
23               building; and

24                      (2) \$1,500 for the purchase and installation of  
25               insulation and air sealing within a home of the  
26               homeowner or the household living in a multifamily

1 building and replacement of an HVAC system, the  
2 heating component of an HVAC system, or the cool-  
3 ing component of an HVAC system, of such home.

4 (b) SPECIFICATIONS.—

5 (1) COST.—The amount of a partial system re-  
6 bate provided under this section shall, except as pro-  
7 vided in section 1524, not exceed 30 percent of cost  
8 of the purchase and installation of insulation and air  
9 sealing under subsection (a)(1), or the purchase and  
10 installation of insulation and air sealing and replace-  
11 ment of an HVAC system, the heating component of  
12 an HVAC system, or the cooling component of an  
13 HVAC system, under subsection (a)(2). Labor may  
14 be included in such cost but may not exceed—

15 (A) in the case of a rebate under sub-  
16 section (a)(1), 50 percent of such cost; and

17 (B) in the case of a rebate under sub-  
18 section (a)(2), 25 percent of such cost.

19 (2) REPLACEMENT OF AN HVAC SYSTEM, THE  
20 HEATING COMPONENT OF AN HVAC SYSTEM, OR THE  
21 COOLING COMPONENT OF AN HVAC SYSTEM.—In  
22 order to qualify for a partial system rebate described  
23 in subsection (a)(2)—

24 (A) any HVAC system, heating component  
25 of an HVAC system, or cooling component of

1 an HVAC system installed shall be Energy Star  
2 Most Efficient certified;

3 (B) installation of such an HVAC system,  
4 the heating component of an HVAC system, or  
5 the cooling component of an HVAC system,  
6 shall be completed in accordance with standards  
7 specified by the Secretary that are at least as  
8 stringent as the applicable guidelines of the Air  
9 Conditioning Contractors of America that are in  
10 effect on the date of enactment of this Act;

11 (C) if ducts are present, replacement of an  
12 HVAC system, the heating component of an  
13 HVAC system, or the cooling component of an  
14 HVAC system shall include duct sealing; and

15 (D) the installation of insulation and air  
16 sealing shall occur within 6 months of the re-  
17 placement of the HVAC system, the heating  
18 component of an HVAC system, or the cooling  
19 component of an HVAC system.

20 (e) ADDITIONAL INCENTIVES FOR CONTRACTORS.—  
21 In carrying out the Home Energy Savings Retrofit Rebate  
22 Program, the Secretary may provide a \$250 payment to  
23 a contractor per home of a homeowner or household living  
24 in a multifamily building for which—

1           (1) a partial system rebate is provided under  
2 this section for the installation of insulation and air  
3 sealing, or installation of insulation and air sealing  
4 and replacement of an HVAC system, the heating  
5 component of an HVAC system, or the cooling com-  
6 ponent of an HVAC system, by the contractor;

7           (2) the applicable homeowner has signed and  
8 submitted to the Secretary a release form made  
9 available pursuant to section 1526(b) authorizing  
10 the contractor access to information in the utility  
11 bills of the homeowner or the applicable multifamily  
12 building owner has signed and submitted an agree-  
13 ment with the contractor to provide whole-building  
14 aggregate information about the building's energy  
15 use; and

16           (3) the contractor inputs, into the Department  
17 of Energy's Building Performance Database—

18           (A) the energy usage for the home of a  
19 homeowner or for the household living in a mul-  
20 tifamily building for the 12 months preceding,  
21 and the 24 months following, the installation of  
22 insulation and air sealing or installation of in-  
23 sulation and air sealing and replacement of an  
24 HVAC system, the heating component of an

1 HVAC system, or the cooling component of an  
2 HVAC system;

3 (B) a description of such installation or in-  
4 stallation and replacement; and

5 (C) the total cost to the homeowner or  
6 multifamily building owner for such installation  
7 or installation and replacement.

8 (d) PROCESS.—

9 (1) FORMS; REBATE PROCESSING SYSTEM.—

10 Not later than 90 days after the date of enactment  
11 of this Act, the Secretary, in consultation with the  
12 Secretary of the Treasury, shall—

13 (A) develop and make available rebate  
14 forms required to receive a partial system re-  
15 bate under this section;

16 (B) establish a Federal rebate processing  
17 system which shall serve as a database and in-  
18 formation technology system that will allow  
19 homeowners and multifamily building owners to  
20 submit required rebate forms; and

21 (C) establish a website that provides infor-  
22 mation on partial system rebates provided  
23 under this section, including how to determine  
24 whether particular measures qualify for a re-

1           bate under this section and how to receive such  
2           a rebate.

3           (2) SUBMISSION OF FORMS.—In order to re-  
4           ceive a partial system rebate under this section, a  
5           homeowner or multifamily building owner shall sub-  
6           mit the required rebate forms, and any other infor-  
7           mation the Secretary determines appropriate, to the  
8           Federal rebate processing system established pursu-  
9           ant to paragraph (1).

10          (e) FUNDING.—

11           (1) LIMITATION.—For each fiscal year, the Sec-  
12           retary may not use more than 50 percent of the  
13           amounts made available to carry out this part to  
14           carry out this section.

15           (2) ALLOCATION.—The Secretary shall allocate  
16           amounts made available to carry out this section for  
17           partial system rebates among the States using the  
18           same formula as is used to allocate funds for States  
19           under part D of title III of the Energy Policy and  
20           Conservation Act (42 U.S.C. 6321 et seq.).

21 **SEC. 1523. STATE ADMINISTERED REBATES.**

22           (a) FUNDING.—In carrying out the Home Energy  
23           Savings Retrofit Rebate Program, and subject to the  
24           availability of appropriations for such purpose, the Sec-

1 retary shall provide grants to States to carry out programs  
2 to provide rebates in accordance with this section.

3 (b) STATE PARTICIPATION.—

4 (1) PLAN.—In order to receive a grant under  
5 this section a State shall submit to the Secretary an  
6 application that includes a plan to implement a  
7 State program that meets the minimum criteria  
8 under subsection (c).

9 (2) APPROVAL.—Not later than 60 days after  
10 receipt of a completed application for a grant under  
11 this section, the Secretary shall either approve the  
12 application or provide to the applicant an expla-  
13 nation for denying the application.

14 (c) MINIMUM CRITERIA FOR STATE PROGRAMS.—  
15 Not later than 6 months after the date of enactment of  
16 this Act, the Secretary shall establish and publish min-  
17 imum criteria for a State program to meet to qualify for  
18 funding under this section, including—

19 (1) that the State program be carried out by  
20 the applicable State energy office or its designee;

21 (2) that a rebate be provided under a State pro-  
22 gram only for a home energy efficiency retrofit  
23 that—

24 (A) is completed by a contractor who  
25 meets minimum training requirements and cer-

1           tification requirements set forth by the Sec-  
2           retary;

3           (B) includes installation of one or more  
4           home energy efficiency retrofit measures for a  
5           home that together are modeled to achieve, or  
6           are shown to achieve, a reduction in home en-  
7           ergy use of 20 percent or more from the base-  
8           line energy use of the home;

9           (C) does not include installation of any  
10          measure that the Secretary determines does not  
11          improve the thermal energy performance of the  
12          home, such as a pool pump, pool heater, spa, or  
13          EV charger; and

14          (D) includes, after installation of the appli-  
15          cable home energy efficiency retrofit measures,  
16          a test-out procedure conducted in accordance  
17          with guidelines issued by the Secretary of such  
18          measures to ensure—

19                 (i) the safe operation of all systems  
20                 post retrofit; and

21                 (ii) that all improvements are included  
22                 in, and have been installed according to—

23                         (I) manufacturers installation  
24                         specifications; and



1 (II) all applicable State and local  
2 codes or equivalent standards ap-  
3 proved by the Secretary;

4 (3) that the State program utilize—

5 (A) for purposes of modeled performance  
6 rebates, modeling software approved by the Sec-  
7 retary for determining and documenting the  
8 baseline energy use of a home and the reduc-  
9 tions in home energy use resulting from the im-  
10 plementation of a home energy efficiency ret-  
11 rofit; and

12 (B) for purposes of measured performance  
13 rebates, methods and procedures approved by  
14 the Secretary for determining and documenting  
15 the baseline energy use of a home and the re-  
16 ductions in home energy use resulting from the  
17 implementation of a home energy efficiency ret-  
18 rofit, including methods and procedures for use  
19 of advanced metering infrastructure, weather-  
20 normalized data, and open source standards, to  
21 measure such baseline energy use and such re-  
22 ductions in home energy use;

23 (4) that the State program include implementa-  
24 tion of a quality assurance program—

1 (A) to ensure that home energy efficiency  
2 retrofits are achieving the stated level of energy  
3 savings, that efficiency measures were installed  
4 correctly, and that work is performed in accord-  
5 ance with procedures developed by the Sec-  
6 retary, including through quality-control inspec-  
7 tions for a portion of home energy efficiency  
8 retrofits completed by each applicable con-  
9 tractor; and

10 (B) under which a quality-control inspec-  
11 tion of a home energy efficiency retrofit is per-  
12 formed by a quality assurance provider who—

13 (i) is independent of the contractor  
14 for such retrofit; and

15 (ii) will confirm that such contractor  
16 is a contractor who meets minimum train-  
17 ing requirements and certification require-  
18 ments set forth by the Secretary;

19 (5) that the State program include require-  
20 ments for a homeowner, contractor, or rebate  
21 aggregator to claim a rebate, including that the  
22 homeowner, contractor, or rebate aggregator submit  
23 any applicable forms approved by the Secretary to  
24 the State, including a copy of the certificate pro-

1 vided by the applicable contractor certifying pro-  
2 jected or measured reduction of home energy use;

3 (6) that the State program may include require-  
4 ments for an entity to be eligible to serve as a rebate  
5 aggregator to facilitate the delivery of rebates to  
6 homeowners or contractors;

7 (7) that the State program include procedures  
8 for a homeowner to transfer the right to claim a re-  
9 bate to the contractor performing the applicable  
10 home energy efficiency retrofit or to a rebate  
11 aggregator that works with the contractor; and

12 (8) that the State program provide that a  
13 homeowner, contractor, or rebate aggregator may  
14 claim more than one rebate under the State pro-  
15 gram, and may claim a rebate under the State pro-  
16 gram after receiving a partial system rebate under  
17 section 1522, provided that no 2 rebates may be  
18 provided with respect to a home using the same  
19 baseline energy use of such home.

20 (d) MODELED PERFORMANCE REBATES.—

21 (1) IN GENERAL.—In carrying out a State pro-  
22 gram under this section, a State may provide a  
23 homeowner, contractor, or rebate aggregator a re-  
24 bate, to be known as a modeled performance rebate,  
25 for an energy audit of a home and a home energy

1 efficiency retrofit that is projected, using modeling  
2 software approved by the Secretary, to reduce home  
3 energy use by at least 20 percent.

4 (2) AMOUNT.—

5 (A) IN GENERAL.—Except as provided in  
6 section 1524, and subject to subparagraph (B),  
7 the amount of a modeled performance rebate  
8 provided under a State program shall be equal  
9 to 50 percent of the cost of the applicable en-  
10 ergy audit of a home and home energy effi-  
11 ciency retrofit, including the cost of diagnostic  
12 procedures, labor, reporting, and modeling.

13 (B) LIMITATION.—Except as provided in  
14 section 1524, with respect to an energy audit  
15 and home energy efficiency retrofit that is pro-  
16 jected to reduce home energy use by—

17 (i) at least 20 percent, but less than  
18 40 percent, the maximum amount of a  
19 modeled performance rebate shall be  
20 \$2,000; and

21 (ii) at least 40 percent, the maximum  
22 amount of a modeled performance rebate  
23 shall be \$4,000.

24 (e) MEASURED PERFORMANCE REBATES.—

1           (1) IN GENERAL.—In carrying out a State pro-  
2           gram under this section, a State may provide a  
3           homeowner, contractor, or rebate aggregator a re-  
4           bate, to be known as a measured performance re-  
5           bate, for a home energy efficiency retrofit that re-  
6           duces home energy use by at least 20 percent as  
7           measured using methods and procedures approved  
8           by the Secretary.

9           (2) AMOUNT.—

10           (A) IN GENERAL.—Except as provided in  
11           section 1524, and subject to subparagraph (B),  
12           the amount of a measured performance rebate  
13           provided under a State program shall be equal  
14           to 50 percent of the cost, including the cost of  
15           diagnostic procedures, labor, reporting, and en-  
16           ergy measurement, of the applicable home en-  
17           ergy efficiency retrofit.

18           (B) LIMITATION.—Except as provided in  
19           section 1524, with respect to a home energy ef-  
20           ficiency retrofit that is measured as reducing  
21           home energy use by—

22                   (i) at least 20 percent, but less than  
23                   40 percent, the maximum amount of a  
24                   measured performance rebate shall be  
25                   \$2,000; and

1 (ii) at least 40 percent, the maximum  
2 amount of a measured performance rebate  
3 shall be \$4,000.

4 (f) COORDINATION OF REBATE AND EXISTING  
5 STATE-SPONSORED OR UTILITY-SPONSORED PRO-  
6 GRAMS.—A State that receives a grant under this section  
7 is encouraged to work with State agencies, energy utilities,  
8 nonprofits, and other entities—

9 (1) to assist in marketing the availability of the  
10 rebates under the applicable State program;

11 (2) to coordinate with utility or State managed  
12 financing programs;

13 (3) to assist in implementation of the applicable  
14 State program, including installation of home energy  
15 efficiency retrofits; and

16 (4) to coordinate with existing quality assur-  
17 ance programs.

18 (g) ADMINISTRATION AND OVERSIGHT.—

19 (1) REVIEW OF APPROVED MODELING SOFT-  
20 WARE.—The Secretary shall, on an annual basis, list  
21 and review all modeling software approved for use in  
22 determining and documenting the reductions in  
23 home energy use for purposes of modeled perform-  
24 ance rebates under subsection (d). In approving such  
25 modeling software each year, the Secretary shall en-

1       sure that modeling software approved for a year will  
2       result in modeling of energy efficiency gains for any  
3       type of home energy efficiency retrofit that is at  
4       least as substantial as the modeling of energy effi-  
5       ciency gains for such type of home energy efficiency  
6       retrofit using the modeling software approved for  
7       the previous year.

8               (2) OVERSIGHT.—If the Secretary determines  
9       that a State is not implementing a State program  
10       that was approved pursuant to subsection (b) and  
11       that meets the minimum criteria under subsection  
12       (c), the Secretary may, after providing the State a  
13       period of at least 90 days to meet such criteria,  
14       withhold grant funds under this section from the  
15       State.

16 **SEC. 1524. SPECIAL PROVISIONS FOR MODERATE INCOME**  
17 **HOUSEHOLDS.**

18       (a) CERTIFICATIONS.—The Secretary shall establish  
19       procedures for certifying that the household of a home-  
20       owner or that, in the case of a multifamily building, the  
21       majority of households in the building is moderate income  
22       for purposes of this section.

23       (b) PERCENTAGES.—Subject to subsection (c), for  
24       households that are certified pursuant to the procedures  
25       established under subsection (a) as moderate income the—

1           (1) amount of a partial system rebate under  
2 section 1522 shall not exceed 60 percent of the ap-  
3 plicable purchase and installation costs described in  
4 section 1522(b)(1); and

5           (2) amount of—

6           (A) a modeled performance rebate under  
7 section 1523 provided shall be equal to 80 per-  
8 cent of the applicable costs described in section  
9 1523(d)(2)(A); and

10           (B) a measured performance rebate under  
11 section 1523 provided shall be equal to 80 per-  
12 cent of the applicable costs described in section  
13 1523(e)(2)(A).

14       (c) MAXIMUM AMOUNTS.—For households that are  
15 certified pursuant to the procedures established under  
16 subsection (a) as moderate income the maximum  
17 amount—

18           (1) of a partial system rebate—

19           (A) under section 1522(a)(1) for the pur-  
20 chase and installation of insulation and air seal-  
21 ing within a home of the homeowner or the  
22 household living in a multifamily building shall  
23 be \$1600; and

24           (B) under section 1522(a)(2) for the pur-  
25 chase and installation of insulation and air seal-



1           ing within a home of the homeowner or the  
2           household living in a multifamily building and  
3           replacement of an HVAC system, the heating  
4           component of an HVAC system, or the cooling  
5           component of an HVAC system, of such home,  
6           shall be \$3,000;

7           (2) of a modeled performance rebate under sec-  
8           tion 1523 for an energy audit and home energy effi-  
9           ciency retrofit that is projected to reduce home en-  
10          ergy use as described in—

11                   (A) section 1523(d)(2)(B)(i) shall be  
12                   \$4,000; and

13                   (B) section 1523(d)(2)(B)(ii) shall be  
14                   \$8,000; and

15          (3) of a measured performance rebate under  
16          section 1523 for a home energy efficiency retrofit  
17          that reduces home energy use as described in—

18                   (B) section 1523(e)(2)(B)(i) shall be  
19                   \$4,000; and

20                   (C) section 1523(e)(2)(B)(ii) shall be  
21                   \$8,000.

22          (d) OUTREACH.—The Secretary shall establish proce-  
23          dures to—

24                  (1) provide information to households of home-  
25          owners or multifamily building owners that are cer-

1       tified pursuant to the procedures established under  
2       subsection (a) as moderate income regarding other  
3       programs and resources relating to assistance for  
4       energy efficiency upgrades of homes, including the  
5       weatherization assistance program implemented  
6       under part A of title IV of the Energy Conservation  
7       and Production Act (42 U.S.C. 6861 et seq.); and  
8               (2) refer such households and owners, as appli-  
9       cable, to such other programs and resources.

10 **SEC. 1525. EVALUATION REPORTS TO CONGRESS.**

11       (a) IN GENERAL.—Not later than 3 years after the  
12       date of enactment of this Act and annually thereafter until  
13       the termination of the Home Energy Savings Retrofit Re-  
14       bate Program, the Secretary shall submit to Congress a  
15       report on the use of funds made available to carry out  
16       this part.

17       (b) CONTENTS.—Each report submitted under sub-  
18       section (a) shall include—

19               (1) how many home energy efficiency retrofits  
20       have been completed during the previous year under  
21       the Home Energy Savings Retrofit Rebate Program;

22               (2) an estimate of how many jobs have been  
23       created through the Home Energy Savings Retrofit  
24       Rebate Program, directly and indirectly;

1           (3) a description of what steps could be taken  
2           to promote further deployment of energy efficiency  
3           and renewable energy retrofits;

4           (4) a description of the quantity of verifiable  
5           energy savings, homeowner energy bill savings, and  
6           other benefits of the Home Energy Savings Retrofit  
7           Rebate Program;

8           (5) a description of any waste, fraud, or abuse  
9           with respect to funds made available to carry out  
10          this part; and

11          (6) any other information the Secretary con-  
12          siders appropriate.

13 **SEC. 1526. ADMINISTRATION.**

14          (a) **IN GENERAL.**—The Secretary shall provide such  
15          administrative and technical support to contractors, rebate  
16          aggregators, States, and Indian Tribes as is necessary to  
17          carry out this part.

18          (b) **INFORMATION COLLECTION.**—The Secretary  
19          shall establish, and make available to a homeowner, or the  
20          homeowner’s designated representative, seeking a rebate  
21          under this part, release forms authorizing access by the  
22          Secretary, or a designated third-party representative to in-  
23          formation in the utility bills of the homeowner with appro-  
24          priate privacy protections in place.

1 (c) APPLICATION OF WAGE RATE REQUIREMENTS TO  
2 PARTIAL SYSTEM AND STATE ADMINISTERED RE-  
3 BATES.—Section 12202 of this Act shall not apply to re-  
4 bates under sections 1522 and 1523.

5 **SEC. 1527. AUTHORIZATION OF APPROPRIATIONS.**

6 (a) IN GENERAL.—There are authorized to be appro-  
7 priated to the Secretary to carry out this part  
8 \$1,600,000,000 for each of fiscal years 2021 through  
9 2025, to remain available until expended.

10 (b) TRIBAL ALLOCATION.—Of the amounts made  
11 available pursuant to subsection (a) for a fiscal year, the  
12 Secretary shall work with Indian Tribes and use 2 percent  
13 of such amounts to carry out a program or programs that  
14 as close as possible reflect the goals, requirements, and  
15 provisions of this part, taking into account any factors  
16 that the Secretary determines to be appropriate.

17 **PART 3—GENERAL PROVISIONS**

18 **SEC. 1531. APPOINTMENT OF PERSONNEL.**

19 Notwithstanding the provisions of title 5, United  
20 States Code, regarding appointments in the competitive  
21 service and General Schedule classifications and pay rates,  
22 the Secretary may appoint such professional and adminis-  
23 trative personnel as the Secretary considers necessary to  
24 carry out this subtitle.

1 **SEC. 1532. MAINTENANCE OF FUNDING.**

2 Each State receiving Federal funds pursuant to this  
3 subtitle shall provide reasonable assurances to the Sec-  
4 retary that it has established policies and procedures de-  
5 signed to ensure that Federal funds provided under this  
6 subtitle will be used to supplement, and not to supplant,  
7 State and local funds.

8 **Subtitle F—Weatherization**

9 **SEC. 1601. WEATHERIZATION ASSISTANCE PROGRAM.**

10 (a) REAUTHORIZATION OF WEATHERIZATION AS-  
11 SISTANCE PROGRAM.—Section 422 of the Energy Con-  
12 servation and Production Act (42 U.S.C. 6872) is amend-  
13 ed by striking paragraphs (1) through (5) and inserting  
14 the following:

15 “(1) \$410,000,000 for fiscal year 2021;

16 “(2) \$430,000,000 for fiscal year 2022;

17 “(3) \$450,000,000 for fiscal year 2023;

18 “(4) \$450,000,000 for fiscal year 2024; and

19 “(5) \$450,000,000 for fiscal year 2025.”

20 (b) MODERNIZING THE DEFINITION OF WEATHER-  
21 IZATION MATERIALS.—Section 412(9)(J) of the Energy  
22 Conservation and Production Act (42 U.S.C. 6862(9)(J))  
23 is amended—

24 (1) by inserting “, including renewable energy  
25 technologies and other advanced technologies,” after  
26 “devices or technologies”; and

1           (2) by striking “, after consulting with the Sec-  
2           retary of Housing and Urban Development, the Sec-  
3           retary of Agriculture, and the Director of the Com-  
4           munity Services Administration”.

5           (c) CONSIDERATION OF HEALTH BENEFITS.—Sec-  
6           tion 413(b) of the Energy Conservation and Production  
7           Act (42 U.S.C. 6863(b)) is amended—

8           (1) in paragraph (1), by striking “Health, Edu-  
9           cation, and Welfare” and inserting “Health and  
10          Human Services”;

11          (2) in paragraph (2)(A), by striking “Health,  
12          Education, and Welfare” and inserting “Health and  
13          Human Services”;

14          (3) in paragraph (3)—

15                (A) by striking “and with the Director of  
16                the Community Services Administration”;

17                (B) by inserting “and by” after “in car-  
18                rying out this part,”; and

19                (C) by striking “, and the Director of the  
20                Community Services Administration in carrying  
21                out weatherization programs under section  
22                222(a)(12) of the Economic Opportunity Act of  
23                1964”;

24          (4) by redesignating paragraphs (4) through  
25          (6) as paragraphs (5) through (7), respectively; and

1           (5) by inserting after paragraph (3), the fol-  
2           lowing:

3           “(4) The Secretary may amend the regulations pre-  
4           scribed under paragraph (1) to provide that the standards  
5           described in paragraph (2)(A) take into consideration im-  
6           provements in the health and safety of occupants of dwell-  
7           ing units, and other non-energy benefits, from weatheriza-  
8           tion.”.

9           (d) CONTRACTOR OPTIMIZATION.—

10           (1) IN GENERAL.—The Energy Conservation  
11           and Production Act is amended by inserting after  
12           section 414B (42 U.S.C. 6864b) the following:

13           **“SEC. 414C. CONTRACTOR OPTIMIZATION.**

14           “(a) IN GENERAL.—The Secretary may request that  
15           entities receiving funding from the Federal Government  
16           or from a State through a weatherization assistance pro-  
17           gram under section 413 or section 414 perform periodic  
18           reviews of the use of private contractors in the provision  
19           of weatherization assistance, and encourage expanded use  
20           of contractors as appropriate.

21           “(b) USE OF TRAINING FUNDS.—Entities described  
22           in subsection (a) may use funding described in such sub-  
23           section to train private, non-Federal entities that are con-  
24           tracted to provide weatherization assistance under a

1 weatherization program, in accordance with rules deter-  
2 mined by the Secretary.”.

3           (2) TABLE OF CONTENTS AMENDMENT.—The  
4 table of contents for the Energy Conservation and  
5 Production Act is amended by inserting after the  
6 item relating to section 414B the following:

“Sec. 414C. Contractor optimization.”.

7           (e) FINANCIAL ASSISTANCE FOR WAP ENHANCE-  
8 MENT AND INNOVATION.—

9           (1) IN GENERAL.—The Energy Conservation  
10 and Production Act is amended by inserting after  
11 section 414C (as added by subsection (d) of this sec-  
12 tion) the following:

13 **“SEC. 414D. FINANCIAL ASSISTANCE FOR WAP ENHANCE-**  
14 **MENT AND INNOVATION.**

15           “(a) PURPOSES.—The purposes of this section are—

16           “(1) to expand the number of dwelling units  
17 that are occupied by low-income persons that receive  
18 weatherization assistance by making such dwelling  
19 units weatherization-ready;

20           “(2) to promote the deployment of renewable  
21 energy in dwelling units that are occupied by low-in-  
22 come persons;

23           “(3) to ensure healthy indoor environments by  
24 enhancing or expanding health and safety measures



1 and resources available to dwellings that are occu-  
2 pied by low-income persons;

3 “(4) to disseminate new methods and best prac-  
4 tices among entities providing weatherization assist-  
5 ance;

6 “(5) to encourage entities providing weatheriza-  
7 tion assistance to hire and retain employees who are  
8 individuals—

9 “(A) from the community in which the as-  
10 sistance is provided; and

11 “(B) from communities or groups that are  
12 underrepresented in the home energy perform-  
13 ance workforce, including religious and ethnic  
14 minorities, women, veterans, individuals with  
15 disabilities, and individuals who are  
16 socioeconomically disadvantaged; and

17 “(6) to enhance or expand the use of materials  
18 that are resistant to high heat and fire in dwellings  
19 occupied by low-income persons in areas at risk from  
20 drought and wildfires.

21 “(b) FINANCIAL ASSISTANCE.—The Secretary shall,  
22 to the extent funds are made available, award financial  
23 assistance, on an annual basis, through a competitive  
24 process to entities receiving funding from the Federal Gov-  
25 ernment or from a State, tribal organization, or unit of

1 general purpose local government through a weatheriza-  
2 tion program under section 413 or section 414, or to non-  
3 profit entities, to be used by such an entity—

4 “(1) with respect to dwelling units that are oc-  
5 cupied by low-income persons, to—

6 “(A) implement measures to make such  
7 dwelling units weatherization-ready by address-  
8 ing structural, plumbing, roofing, and electrical  
9 issues, environmental hazards, or other meas-  
10 ures that the Secretary determines to be appro-  
11 priate;

12 “(B) install energy efficiency technologies,  
13 including home energy management systems,  
14 smart devices, and other technologies the Sec-  
15 retary determines to be appropriate;

16 “(C) install renewable energy systems (as  
17 defined in section 415(c)(6)(A));

18 “(D) implement measures to ensure  
19 healthy indoor environments by improving in-  
20 door air quality, accessibility, and other healthy  
21 homes measures as determined by the Sec-  
22 retary; and

23 “(E) implement measures to enhance  
24 health and safety through use of materials that

1 are resistant to high heat and fire in areas at  
2 risk from drought and wildfires;

3 “(2) to improve the capability of the entity—

4 “(A) to significantly increase the number  
5 of energy retrofits performed by such entity;

6 “(B) to replicate best practices for work  
7 performed pursuant to this section on a larger  
8 scale;

9 “(C) to leverage additional funds to sus-  
10 tain the provision of weatherization assistance  
11 and other work performed pursuant to this sec-  
12 tion after financial assistance awarded under  
13 this section is expended; and

14 “(D) to hire and retain employees who are  
15 individuals described subsection (a)(5);

16 “(3) for innovative outreach and education re-  
17 garding the benefits and availability of weatheriza-  
18 tion assistance and other assistance available pursu-  
19 ant to this section;

20 “(4) for quality control of work performed pur-  
21 suant to this section;

22 “(5) for data collection, measurement, and  
23 verification with respect to such work;

24 “(6) for program monitoring, oversight, evalua-  
25 tion, and reporting regarding such work;

1           “(7) for labor, training, and technical assist-  
2           ance relating to such work;

3           “(8) for planning, management, and adminis-  
4           tration (up to a maximum of 15 percent of the as-  
5           sistance provided); and

6           “(9) for such other activities as the Secretary  
7           determines to be appropriate.

8           “(c) AWARD FACTORS.—In awarding financial assist-  
9           ance under this section, the Secretary shall consider—

10           “(1) the applicant’s record of constructing, ren-  
11           ovating, repairing, or making energy efficient single-  
12           family, multifamily, or manufactured homes that are  
13           occupied by low-income persons, either directly or  
14           through affiliates, chapters, or other partners (using  
15           the most recent year for which data are available);

16           “(2) the number of dwelling units occupied by  
17           low-income persons that the applicant has built, ren-  
18           ovated, repaired, weatherized, or made more energy  
19           efficient in the 5 years preceding the date of the ap-  
20           plication;

21           “(3) the qualifications, experience, and past  
22           performance of the applicant, including experience  
23           successfully managing and administering Federal  
24           funds;

1           “(4) the strength of an applicant’s proposal to  
2           achieve one or more of the purposes under sub-  
3           section (a);

4           “(5) the extent to which such applicant will uti-  
5           lize partnerships and regional coordination to  
6           achieve one or more of the purposes under sub-  
7           section (a);

8           “(6) regional and climate zone diversity;

9           “(7) urban, suburban, and rural localities; and

10           “(8) such other factors as the Secretary deter-  
11           mines to be appropriate.

12           “(d) APPLICATIONS.—

13           “(1) ADMINISTRATION.—To be eligible for an  
14           award of financial assistance under this section, an  
15           applicant shall submit to the Secretary an applica-  
16           tion in such manner and containing such informa-  
17           tion as the Secretary may require.

18           “(2) AWARDS.—Subject to the availability of  
19           appropriations, not later than 270 days after the  
20           date of enactment of this section, the Secretary shall  
21           make a first award of financial assistance under this  
22           section.

23           “(e) MAXIMUM AMOUNT AND TERM.—

1           “(1) IN GENERAL.—The total amount of finan-  
2           cial assistance awarded to an entity under this sec-  
3           tion shall not exceed \$2,000,000.

4           “(2) TECHNICAL AND TRAINING ASSISTANCE.—  
5           The total amount of financial assistance awarded to  
6           an entity under this section shall be reduced by the  
7           cost of any technical and training assistance pro-  
8           vided by the Secretary that relates to such financial  
9           assistance.

10          “(3) TERM.—The term of an award of financial  
11          assistance under this section shall not exceed 3  
12          years.

13          “(4) RELATIONSHIP TO FORMULA GRANTS.—An  
14          entity may use financial assistance awarded to such  
15          entity under this section in conjunction with other  
16          financial assistance provided to such entity under  
17          this part.

18          “(f) REQUIREMENTS.—Not later than 90 days after  
19          the date of enactment of this section, the Secretary shall  
20          issue requirements to implement this section, including,  
21          for entities receiving financial assistance under this sec-  
22          tion—

23                 “(1) standards for allowable expenditures;

24                 “(2) a minimum saving-to-investment ratio; and

25                 “(3) standards for—

1 “(A) training programs;

2 “(B) energy audits;

3 “(C) the provision of technical assistance;

4 “(D) monitoring activities carried out  
5 using such financial assistance;

6 “(E) verification of energy and cost sav-  
7 ings;

8 “(F) liability insurance requirements; and

9 “(G) recordkeeping and reporting require-  
10 ments, which shall include reporting to the Of-  
11 fice of Weatherization and Intergovernmental  
12 Programs of the Department of Energy applica-  
13 ble data on each dwelling unit retrofitted or  
14 otherwise assisted pursuant to this section.

15 “(g) COMPLIANCE WITH STATE AND LOCAL LAW.—  
16 Nothing in this section supersedes or otherwise affects any  
17 State or local law, to the extent that the State or local  
18 law contains a requirement that is more stringent than  
19 the applicable requirement of this section.

20 “(h) REVIEW AND EVALUATION.—The Secretary  
21 shall review and evaluate the performance of each entity  
22 that receives an award of financial assistance under this  
23 section (which may include an audit).

1       “(i) ANNUAL REPORT.—The Secretary shall submit  
2 to Congress an annual report that provides a description  
3 of—

4               “(1) actions taken under this section to achieve  
5 the purposes of this section; and

6               “(2) accomplishments as a result of such ac-  
7 tions, including energy and cost savings achieved.

8       “(j) FUNDING.—

9               “(1) AMOUNTS.—

10                   “(A) IN GENERAL.—For each of fiscal  
11 years 2021 through 2025, of the amount made  
12 available under section 422 for such fiscal year  
13 to carry out the weatherization program under  
14 this part (not including any of such amount  
15 made available for Department of Energy head-  
16 quarters training or technical assistance), not  
17 more than—

18                           “(i) 2 percent of such amount (if such  
19 amount is \$225,000,000 or more but less  
20 than \$260,000,000) may be used to carry  
21 out this section;

22                           “(ii) 4 percent of such amount (if  
23 such amount is \$260,000,000 or more but  
24 less than \$300,000,000) may be used to  
25 carry out this section; and



1                   “(iii) 6 percent of such amount (if  
2                   such amount is \$300,000,000 or more)  
3                   may be used to carry out this section.

4                   “(B) MINIMUM.—For each of fiscal years  
5                   2021 through 2025, if the amount made avail-  
6                   able under section 422 (not including any of  
7                   such amount made available for Department of  
8                   Energy headquarters training or technical as-  
9                   sistance) for such fiscal year is less than  
10                  \$225,000,000, no funds shall be made available  
11                  to carry out this section.

12                  “(2) LIMITATION.—For any fiscal year, the  
13                  Secretary may not use more than \$25,000,000 of  
14                  the amount made available under section 422 to  
15                  carry out this section.

16                  “(k) TERMINATION.—The Secretary may not award  
17                  financial assistance under this section after September 30,  
18                  2025.”.

19                  (2) TABLE OF CONTENTS.—The table of con-  
20                  tents for the Energy Conservation and Production  
21                  Act is amended by inserting after the item relating  
22                  to section 414C the following:

“Sec. 414D. Financial assistance for WAP enhancement and innovation.”.

23                  (f) HIRING.—

24                  (1) IN GENERAL.—The Energy Conservation  
25                  and Production Act is amended by inserting after

1 section 414D (as added by subsection (e) of this sec-  
2 tion) the following:

3 **“SEC. 414E. HIRING.**

4 “The Secretary may, as the Secretary determines ap-  
5 propriate, encourage entities receiving funding from the  
6 Federal Government or from a State through a weather-  
7 ization program under section 413 or section 414, to  
8 prioritize the hiring and retention of employees who are  
9 individuals described in section 414D(a)(5).”.

10 (2) TABLE OF CONTENTS.—The table of con-  
11 tents for the Energy Conservation and Production  
12 Act is amended by inserting after the item relating  
13 to section 414D the following:

“Sec. 414E. Hiring.”.

14 (g) INCREASE IN ADMINISTRATIVE FUNDS.—Section  
15 415(a)(1) of the Energy Conservation and Production Act  
16 (42 U.S.C. 6865(a)(1)) is amended by striking “10 per-  
17 cent” and inserting “15 percent”.

18 (h) AMENDING RE-WEATHERIZATION DATE.—Para-  
19 graph (2) of section 415(c) of the Energy Conservation  
20 and Production Act (42 U.S.C. 6865(c)) is amended to  
21 read as follows:

22 “(2) Dwelling units weatherized (including dwelling  
23 units partially weatherized) under this part, or under  
24 other Federal programs (in this paragraph referred to as  
25 ‘previous weatherization’), may not receive further finan-

1 cial assistance for weatherization under this part until the  
2 date that is 15 years after the date such previous weather-  
3 ization was completed. This paragraph does not preclude  
4 dwelling units that have received previous weatherization  
5 from receiving assistance and services (including the provi-  
6 sion of information and education to assist with energy  
7 management and evaluation of the effectiveness of in-  
8 stalled weatherization materials) other than weatheriza-  
9 tion under this part or under other Federal programs, or  
10 from receiving non-Federal assistance for weatheriza-  
11 tion.”.

12 (i) ANNUAL REPORT.—Section 421 of the Energy  
13 Conservation and Production Act (42 U.S.C. 6871) is  
14 amended by inserting “the number of multifamily build-  
15 ings in which individual dwelling units were weatherized  
16 during the previous year, the number of individual dwell-  
17 ing units in multifamily buildings weatherized during the  
18 previous year,” after “the average size of the dwellings  
19 being weatherized,”.

20 **SEC. 1602. REPORT ON WAIVERS.**

21 Not later than 180 days after the date of enactment  
22 of this Act, the Secretary of Energy shall submit to Con-  
23 gress a report on the status of any request made after  
24 September 30, 2010, for a waiver of any requirement  
25 under section 200.313 of title 2, Code of Federal Regula-

1 tions, as such requirement applies with respect to the  
2 weatherization assistance program under part A of title  
3 IV of the Energy Conservation and Production Act (42  
4 U.S.C. 6861 et seq.), including a description of any such  
5 waiver that has been granted and any such request for  
6 a waiver that has been considered but not granted.

7 **SEC. 1603. APPLICATION OF WAGE RATE REQUIREMENTS**  
8 **TO WEATHERIZATION ASSISTANCE PRO-**  
9 **GRAM.**

10 With respect to the Weatherization Assistance Pro-  
11 gram, the requirements of section 12202 shall apply only  
12 to work performed on multifamily buildings.

13 **SEC. 1604. PROHIBITION ON CATEGORY 1 RESPIRATORY**  
14 **SENSITIZERS.**

15 Thermal insulating materials for building elements  
16 including walls, floors, ceilings, attics and roofs insulation,  
17 used for “Low Income Home Energy Assistance” and  
18 “Weatherization Assistance Program” shall not contain  
19 any substance that is a Category 1 respiratory sensitizer  
20 as defined in Appendix A to section 1910.1200 of title 29,  
21 Code of Federal Regulations, (specifically, Appendix A.4,  
22 “Respiratory or Skin Sensitization”), if such substance  
23 was intentionally added or is present at greater than 0.1  
24 percent (1000 ppm) by weight in the product.

1           **Subtitle G—Energy and Water**  
2                           **Research Integration**

3   **SEC. 1701. INTEGRATING ENERGY AND WATER RESEARCH.**

4           (a) IN GENERAL.—The Secretary of Energy shall in-  
5   tegrate water considerations into energy research, develop-  
6   ment, and demonstration programs and projects of the  
7   Department of Energy by—

8           (1) advancing energy and energy efficiency  
9   technologies and practices that meet the objectives  
10   of—

11           (A) minimizing freshwater withdrawal and  
12   consumption;

13           (B) increasing water use efficiency;

14           (C) utilizing nontraditional water sources  
15   with efforts to improve the quality of the water  
16   from those sources;

17           (D) minimizing deleterious impacts on  
18   water bodies, groundwater, and waterways; and

19           (E) minimizing seismic impacts;

20           (2) considering the effects climate variability  
21   may have on water supplies and quality for energy  
22   generation and fuel production; and

23           (3) improving understanding of the energy-  
24   water nexus.

25           (b) STRATEGIC PLAN.—

1           (1) IN GENERAL.—Not later than 12 months  
2 after the date of enactment of this Act, the Sec-  
3 retary shall develop a strategic plan identifying the  
4 research, development, and demonstration needs for  
5 Department programs and projects to carry out sub-  
6 section (a). The strategic plan shall include technical  
7 milestones for achieving and assessing progress to-  
8 ward the objectives of subsection (a)(1).

9           (2) SPECIFIC CONSIDERATIONS.—In developing  
10 the strategic plan, the Secretary shall consider—

11           (A) new advanced cooling technologies for  
12 energy generation and fuel production tech-  
13 nologies;

14           (B) performance improvement of existing  
15 cooling technologies and cost reductions associ-  
16 ated with using those technologies;

17           (C) innovative water reuse, recovery, and  
18 treatment technologies in energy generation and  
19 fuel production, including renewable energy;

20           (D) technology development for carbon  
21 capture and storage systems that utilize effi-  
22 cient water use design strategies;

23           (E) technologies that are life-cycle cost ef-  
24 fective;

1 (F) systems analysis and modeling of  
2 issues relating to the energy-water nexus;

3 (G) technologies to treat and utilize waste-  
4 water and produced waters discharged from oil,  
5 natural gas, coalbed methane, and any other  
6 substance to be used as an energy source;

7 (H) advanced materials for the use of non-  
8 traditional water sources for energy generation  
9 and fuel production;

10 (I) biomass production and utilization and  
11 the impact on hydrologic systems;

12 (J) technologies that reduce impacts on  
13 water from energy resource development;

14 (K) energy efficient technologies for water  
15 distribution, treatment, supply, and collection  
16 systems;

17 (L) technologies for energy generation  
18 from water distribution, treatment, supply, and  
19 collection systems;

20 (M) the flexible operation of water infra-  
21 structure to provide essential grid reliability  
22 services;

23 (N) modular or energy-water microgrid  
24 systems that can provide energy and water re-  
25 sources in remote or disaster recovery areas;

1           (O) recovering energy in the form of  
2           biofuels, bioproducts, and biopower from munic-  
3           ipal and industrial wastewaters, and similar or-  
4           ganic streams; and

5           (P) any other area of the energy-water  
6           nexus that the Secretary considers appropriate.

7           (3) COLLABORATION AND NONDUPLICATION.—  
8           In developing the strategic plan, the Secretary shall  
9           coordinate and avoid duplication—

10           (A) with other Federal agencies operating  
11           related programs, if appropriate; and

12           (B) across programs and projects of the  
13           Department, including with those of the Na-  
14           tional Laboratories.

15           (4) RELEVANT INFORMATION AND REC-  
16           COMMENDATIONS.—In developing the strategic plan,  
17           the Secretary shall consider and incorporate, as ap-  
18           propriate, relevant information and recommenda-  
19           tions, including those of the National Water Avail-  
20           ability and Use Assessment Program under section  
21           9508(d) of the Omnibus Public Land Management  
22           Act of 2009 (42 U.S.C. 10368(d)).

23           (5) ADDITIONAL PARTICIPATION.—In devel-  
24           oping the strategic plan, the Secretary shall consult  
25           and coordinate with a diverse group of representa-



1       tives from research and academic institutions, indus-  
2       try, public utility commissions, and State and local  
3       governments who have expertise in technologies and  
4       practices relating to the energy-water nexus.

5           (6) SUBMISSION TO CONGRESS.—Not later than  
6       12 months after the date of enactment of this Act,  
7       the Secretary shall submit to the Committee on  
8       Science, Space, and Technology of the House of  
9       Representatives and the Committee on Energy and  
10      Natural Resources of the Senate the strategic plan.

11          (7) UPDATING THE STRATEGIC PLAN.—Not  
12      later than 3 years after the date of enactment of  
13      this Act, and at least once every 5 years thereafter,  
14      the Secretary shall—

15           (A) utilize relevant information produced  
16           by Federal Government agencies, academia,  
17           State, local, and tribal governments and indus-  
18           try to update the strategic plan;

19           (B) include in the updated strategic plan a  
20           description of the changes from the previous  
21           strategic plan and the rationale for such  
22           changes;

23           (C) include a review of progress made to-  
24           wards the milestones outlined in the previous  
25           strategic plan; and

1 (D) submit the updated strategic plan to  
2 the Committee on Science, Space, and Tech-  
3 nology of the House of Representatives and the  
4 Committee on Energy and Natural Resources of  
5 the Senate.

6 (c) **ADDITIONAL ACTIVITIES.**—The Secretary may  
7 provide for such additional research, development, and  
8 demonstration activities as appropriate to integrate water  
9 considerations into the research, development, and dem-  
10 onstration activities of the Department as described in  
11 subsection (a).

12 **SEC. 1702. ENERGY-WATER OVERSIGHT AND COORDINA-**  
13 **TION.**

14 (a) **IN GENERAL.**—In carrying out the research, de-  
15 velopment, and demonstration activities outlined in section  
16 1701, the Secretary, in coordination with other relevant  
17 Federal agencies, shall establish an Energy-Water Com-  
18 mittee to promote and enable improved energy and water  
19 resource data collection, reporting, and technological inno-  
20 vation. The Committee shall consist of—

21 (1) representation from each program within  
22 the Department and each Federal agency that con-  
23 ducts research related to the energy-water nexus;  
24 and

1           (2) non-Federal members, including representa-  
2           tives of research and academic institutions, State,  
3           local, and tribal governments, public utility commis-  
4           sions, and industry, who have expertise in tech-  
5           nologies, technological innovations, or practices re-  
6           lating to the energy-water nexus.

7           (b) FUNCTIONS.—The Committee shall, in carrying  
8 out section 1701—

9           (1) make recommendations on the development  
10          and integration of data collection and data commu-  
11          nication standards and protocols, including models  
12          and modeling results, to agencies and entities cur-  
13          rently engaged in collecting the data for the energy-  
14          water nexus;

15          (2) recommend ways to make improvements to  
16          Federal water use data to increase understanding of  
17          trends in energy generation and fuel production, in-  
18          cluding non-cooling water uses;

19          (3) recommend best practices for utilizing infor-  
20          mation from existing monitoring networks to provide  
21          nationally uniform water and energy use and infra-  
22          structure data; and

23          (4) conduct annual technical workshops, includ-  
24          ing at least one regional workshop annually, to fa-  
25          cilitate information exchange among Federal, re-

1 regional, State, local, and tribal governments and pri-  
2 vate sector experts on technologies that encourage  
3 the conservation and efficient use of water and en-  
4 ergy.

5 (c) REPORTS.—Not later than 1 year after the date  
6 of enactment of this Act, and at least once every 2 years  
7 thereafter, the Committee, through the Secretary, shall  
8 transmit to Congress a report on its findings and activities  
9 under this section.

10 (d) APPLICABILITY OF FEDERAL ADVISORY COM-  
11 MITTEE ACT.—Except as otherwise provided in this sec-  
12 tion, the Federal Advisory Committee Act (5 U.S.C. App.)  
13 shall apply to the Committee.

14 **SEC. 1703. RULE OF CONSTRUCTION.**

15 Notwithstanding any other provision of law, nothing  
16 in this part shall be construed to require State, tribal, or  
17 local governments to provide additional data for Federal  
18 purposes, or to take any action that may result in an in-  
19 creased financial burden to such governments by restrict-  
20 ing the use of water by such governments.

21 **SEC. 1704. COORDINATION AND NONDUPLICATION.**

22 To the maximum extent practicable, the Secretary  
23 shall coordinate activities under this part with other pro-  
24 grams of the Department and other Federal research pro-  
25 grams.

1 **SEC. 1705. DEFINITIONS.**

2 In this part:

3 (1) COMMITTEE.—The term “Committee”  
4 means the Energy-Water Committee established  
5 under section 1702(a).

6 (2) DEPARTMENT.—The term “Department”  
7 means the Department of Energy.

8 (3) ENERGY-WATER NEXUS.—The term “en-  
9 ergy-water nexus” means the energy required to pro-  
10 vide reliable water supplies and the water required  
11 to provide reliable energy supplies throughout the  
12 United States.

13 (4) SECRETARY.—The term “Secretary” means  
14 the Secretary of Energy.

15 **Subtitle H—Other Matters**

16 **SEC. 1801. MODIFICATIONS TO THE CEILING FAN ENERGY**  
17 **CONSERVATION STANDARD.**

18 (a) IN GENERAL.—Section 325(ff)(6) of the Energy  
19 Policy and Conservation Act (42 U.S.C. 6295(ff)(6)) is  
20 amended by adding at the end the following:

21 “(C)(i) Large-diameter ceiling fans manufactured on  
22 or after January 21, 2020, shall—

23 “(I) not be required to meet minimum ceiling  
24 fan efficiency in terms of ratio of the total airflow  
25 to the total power consumption as described in the  
26 final rule titled ‘Energy Conservation Program: En-

1       ergy Conservation Standards for Ceiling Fans’ (82  
2       Fed. Reg. 6826 (January 19, 2017)); and

3               “(II) have a CFEI greater than or equal to—

4                       “(aa) 1.00 at high speed; and

5                       “(bb) 1.31 at 40 percent speed or the

6               nearest speed that is not less than 40 percent

7               speed.

8               “(ii) For purposes of this subparagraph, the term

9       ‘CFEI’ means the Fan Energy Index for large-diameter

10       ceiling fans, calculated in accordance with ANSI/AMCA

11       Standard 208–18 titled ‘Calculation of the Fan Energy

12       Index’, with the following modifications:

13               “(I) Using an Airflow Constant ( $Q_0$ ) of 26,500

14       cubic feet per minute.

15               “(II) Using a Pressure Constant ( $P_0$ ) of 0.0027

16       inches water gauge.

17               “(III) Using a Fan Efficiency Constant ( $\eta_0$ ) of

18       42 percent.”.

19       (b) REVISION.—For purposes of section 325(m) of

20       the Energy Policy and Conservation Act (42 U.S.C.

21       6295(m)), the standard established in section

22       325(ff)(6)(C) of such Act (as added by subsection (a) of

23       this section) shall be treated as if such standard was

24       issued on January 19, 2017.

1 **SEC. 1802. SMART ENERGY AND WATER EFFICIENCY PRO-**  
2 **GRAM.**

3 (a) DEFINITIONS.—In this section:

4 (1) ELIGIBLE ENTITY.—The term “eligible enti-  
5 ty” means—

6 (A) a municipality;

7 (B) a water district; and

8 (C) any other entity that provides water,  
9 wastewater, or water reuse services, including a  
10 joint water and power authority.

11 (2) SECRETARY.—The term “Secretary” means  
12 the Secretary of Energy.

13 (3) SMART ENERGY AND WATER EFFICIENCY  
14 PROGRAM.—The term “smart energy and water effi-  
15 ciency program” or “program” means the program  
16 established under subsection (b).

17 (b) SMART ENERGY AND WATER EFFICIENCY PRO-  
18 GRAM.—

19 (1) IN GENERAL.—The Secretary shall establish  
20 and carry out a smart energy and water efficiency  
21 program in accordance with this section.

22 (2) ELIGIBLE PROJECTS.—In carrying out the  
23 smart energy and water efficiency program, the Sec-  
24 retary shall award grants to eligible entities to carry  
25 out projects that implement advanced and innovative  
26 technology-based solutions that will improve the en-

1       ergy or water efficiency of water, wastewater, or  
2       water reuse systems to—

3               (A) help eligible entities make significant  
4               progress in conserving water, conserving energy,  
5               or reducing the operating costs of such systems;

6               (B) support the implementation of innova-  
7               tive processes or the installation of advanced  
8               automated systems that provide real-time data  
9               on energy and water; or

10              (C) improve predictive maintenance of  
11              water, wastewater, or water reuse systems  
12              through the use of Internet-connected tech-  
13              nologies, such as sensors, intelligent gateways,  
14              or security embedded in hardware.

15              (3) PROJECT SELECTION.—

16              (A) IN GENERAL.—The Secretary shall  
17              make competitive, merit-reviewed grants under  
18              the program to not fewer than 3, but not more  
19              than 5, eligible entities.

20              (B) SELECTION CRITERIA.—In selecting an  
21              eligible entity to receive a grant under the pro-  
22              gram, the Secretary shall consider—

23                      (i) energy and cost savings anticipated  
24                      to result from the project;



1 (ii) the innovative nature, commercial  
2 viability, and reliability of the technology  
3 to be used;

4 (iii) the degree to which the project  
5 integrates innovative sensors, software,  
6 hardware, analytics, and management  
7 tools;

8 (iv) the anticipated cost-effectiveness  
9 of the project in terms of energy savings,  
10 water savings or reuse, and infrastructure  
11 costs averted;

12 (v) whether the technology can be de-  
13 ployed in a variety of geographic regions  
14 and the degree to which the technology can  
15 be implemented on a smaller or larger  
16 scale, including whether the technology can  
17 be implemented by other types of eligible  
18 entities; and

19 (vi) whether implementation of the  
20 project will be complete within 5 years.

21 (C) APPLICATIONS.—

22 (i) IN GENERAL.—Subject to clause  
23 (ii), an eligible entity seeking a grant  
24 under the program shall submit to the Sec-  
25 retary an application at such time, in such

1 manner, and containing such information  
2 as the Secretary determines to be nec-  
3 essary.

4 (ii) CONTENTS.—An application under  
5 clause (i) shall, at a minimum, include—

6 (I) a description of the project;

7 (II) a description of the tech-  
8 nology to be used in the project;

9 (III) the anticipated results, in-  
10 cluding energy and water savings, of  
11 the project;

12 (IV) a comprehensive budget for  
13 the project; and

14 (V) the number of households or  
15 customers that are served by the eligi-  
16 ble entity and will benefit from the  
17 project.

18 (4) ADMINISTRATION.—

19 (A) IN GENERAL.—Not later than 300  
20 days after the date of enactment of this Act,  
21 the Secretary shall select grant recipients under  
22 this section.

23 (B) EVALUATIONS.—The Secretary shall  
24 annually for 5 years carry out an evaluation of

1 each project for which a grant is provided  
2 under this section that—

3 (i) evaluates the progress and effects  
4 of the project; and

5 (ii) assesses the degree to which the  
6 project can be replicated in other regions,  
7 systems, and situations.

8 (C) TECHNICAL ASSISTANCE.—On the re-  
9 quest of a grant recipient, the Secretary shall  
10 provide technical assistance to the grant recipi-  
11 ent to carry out the project.

12 (D) BEST PRACTICES.—The Secretary  
13 shall make available to the public—

14 (i) a copy of each evaluation carried  
15 out under subparagraph (B); and

16 (ii) a description of any best practices  
17 identified by the Secretary as a result of  
18 those evaluations.

19 (E) REPORT TO CONGRESS.—Not later  
20 than the date on which the Secretary completes  
21 the last evaluation required under subparagraph  
22 (B), the Secretary shall submit to Congress a  
23 report containing the results of each evaluation  
24 carried out under such subparagraph.

1 (c) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated \$15,000,000 to carry out  
3 this section, to remain available until expended.

4 **SEC. 1803. ENERGY EFFICIENCY AND CONSERVATION**  
5 **BLOCK GRANT PROGRAM.**

6 (a) PURPOSE.—Section 542(b)(1) of the Energy  
7 Independence and Security Act of 2007 (42 U.S.C.  
8 17152(b)(1)) is amended—

9 (1) in subparagraph (A), by striking “; and”  
10 and inserting a semicolon;

11 (2) in subparagraph (B), by striking the semi-  
12 colon and inserting “; and”; and

13 (3) by adding at the end the following:

14 “(C) diversifies energy supplies, including  
15 by facilitating and promoting the use of alter-  
16 native fuels;”.

17 (b) USE OF FUNDS.—Section 544(9) of the Energy  
18 Independence and Security Act of 2007 (42 U.S.C.  
19 17154(9)) is amended to read as follows:

20 “(9) deployment of energy distribution tech-  
21 nologies that significantly increase energy efficiency  
22 or expand access to alternative fuels, including—

23 “(A) distributed resources;

24 “(B) district heating and cooling systems;

25 and

1                   “(C) infrastructure for delivering alter-  
2                   native fuels;”.

3           (c) COMPETITIVE GRANTS.—Section 546(c)(2) of the  
4 Energy Independence and Security Act of 2007 (42  
5 U.S.C. 17156(c)(2)) is amended by inserting “, including  
6 projects to expand the use of alternative fuels” before the  
7 period at the end.

8           (d) FUNDING.—Section 548(a) of the Energy Inde-  
9 pendence and Security Act of 2007 (42 U.S.C. 17158(a))  
10 is amended to read as follows:

11           “(a) AUTHORIZATION OF APPROPRIATIONS.—

12                   “(1) GRANTS.—There is authorized to be ap-  
13 propriated to the Secretary for the provision of  
14 grants under the program \$3,500,000,000 for each  
15 of fiscal years 2021 through 2025.

16                   “(2) ADMINISTRATIVE COSTS.—There is au-  
17 thorized to be appropriated to the Secretary for ad-  
18 ministrative expenses of the program \$35,000,000  
19 for each of fiscal years 2021 through 2025.”.

20           (e) TECHNICAL AMENDMENTS.—Section 543 of the  
21 Energy Independence and Security Act of 2007 (42  
22 U.S.C. 17153) is amended—

23                   (1) in subsection (c), by striking “subsection  
24                   (a)(2)” and inserting “subsection (a)(3)”; and

1           (2) in subsection (d), by striking “subsection  
2           (a)(3)” and inserting “subsection (a)(4)”.

3 **SEC. 1804. ENERGY EFFICIENT PUBLIC BUILDINGS.**

4           (a) GRANTS.—Section 125(a) of the Energy Policy  
5 Act of 2005 (42 U.S.C. 15822(a)) is amended—

6           (1) in paragraph (1)—

7                   (A) by inserting “Standard 90.1 of the  
8                   American Society of Heating, Refrigerating,  
9                   and Air-Conditioning Engineers,” after “the  
10                   International Energy Conservation Code,”; and

11                   (B) by striking “; or” and inserting a  
12                   semicolon;

13           (2) in paragraph (2), by striking the period at  
14           the end and inserting “; or”; and

15           (3) by adding at the end the following:

16                   “(3) through benchmarking programs to enable  
17                   use of building performance data to evaluate the  
18                   performance of energy efficiency investments over  
19                   time.”.

20           (b) ASSURANCE OF IMPROVEMENT.—Section 125 of  
21 the Energy Policy Act of 2005 (42 U.S.C. 15822) is  
22 amended by redesignating subsections (b) and (c) as sub-  
23 sections (c) and (d), respectively, and inserting after sub-  
24 section (a) the following:

25                   “(b) ASSURANCE OF IMPROVEMENT.—

1           “(1) VERIFICATION.—A State agency receiving  
2 a grant for activities described in paragraph (1) or  
3 (2) of subsection (a) shall ensure, as a condition of  
4 eligibility for assistance pursuant to such grant, that  
5 a unit of local government receiving such assistance  
6 obtain third-party verification of energy efficiency  
7 improvements in each public building with respect to  
8 which such assistance is used.

9           “(2) GUIDANCE.—The Secretary may provide  
10 guidance to State agencies to comply with paragraph  
11 (1). In developing such guidance, the Secretary shall  
12 consider available third-party verification tools for  
13 high-performing buildings and available third-party  
14 verification tools for energy efficiency retrofits.”.

15           (c) ADMINISTRATION.—Section 125(c) of the Energy  
16 Policy Act of 2005, as so redesignated, is amended—

17           (1) in the matter preceding paragraph (1), by  
18 striking “State energy offices receiving grants” and  
19 inserting “A State agency receiving a grant”;

20           (2) in paragraph (1), by striking “; and” and  
21 inserting a semicolon;

22           (3) in paragraph (2), by striking the period at  
23 the end and inserting “; and”; and

24           (4) by adding at the end the following:

1           “(3) ensure that all laborers and mechanics em-  
2           ployed by contractors and subcontractors in the per-  
3           formance of construction, alteration, or repair work  
4           financed in whole or in part with assistance received  
5           pursuant to this section shall be paid wages at rates  
6           not less than those prevailing on projects of a simi-  
7           lar character in the locality, as determined by the  
8           Secretary of Labor in accordance with subchapter  
9           IV of chapter 31 of title 40, United States Code  
10          (and with respect to such labor standards, the Sec-  
11          retary of Labor shall have the authority and func-  
12          tions set forth in Reorganization Plan Numbered 14  
13          of 1950 (64 Stat. 1267; 5 U.S.C. App.) and section  
14          3145 of title 40, United States Code).”.

15          (d) AUTHORIZATION OF APPROPRIATIONS.—Section  
16          125(d) of the Energy Policy Act of 2005, as so redesign-  
17          nated, is amended by striking “\$30,000,000 for each of  
18          fiscal years 2006 through 2010” and inserting  
19          “\$100,000,000 for each of fiscal years 2021 through  
20          2025”.

21          **SEC. 1805. SMART BUILDINGS.**

22          (a) DEFINITIONS.—In this section:

23                  (1) FRONTLINE COMMUNITY.—The term  
24                  “frontline community” means a community with sig-  
25                  nificant representation of communities of color, low-



1 income communities, or Tribal and indigenous com-  
2 munities, that experiences, or is at risk of experi-  
3 encing, higher or more adverse human health or en-  
4 vironmental effects.

5 (2) SECRETARY.—The term “Secretary” means  
6 the Secretary of Energy.

7 (3) SMART BUILDING.—The term “smart build-  
8 ing” means a building, or collection of buildings,  
9 with an energy system that—

10 (A) is flexible and automated in its energy  
11 demand and usage in response to changes asso-  
12 ciated with the environment, occupant behav-  
13 iors, building conditions, and other events;

14 (B) has monitoring, diagnostics, control,  
15 and communication connectivity that enables  
16 analysis and control of energy consumption and  
17 generation;

18 (C) has a systems-based approach to inte-  
19 grating the overall building operations for con-  
20 trol of energy demand, generation, and storage;

21 (D) has the ability to share information  
22 with utilities or other third-party entities, as  
23 appropriate in order to coordinate building en-  
24 ergy assets to support energy system reliability  
25 and resilience;

1 (E) supports the health and safety of occu-  
2 pants; or

3 (F) incorporates cybersecurity protections.

4 (b) FEDERAL SMART BUILDING PROGRAM.—

5 (1) ESTABLISHMENT.—Not later than 1 year  
6 after the date of enactment of this Act, the Sec-  
7 retary shall, in consultation with the Administrator  
8 of General Services, establish a program to be  
9 known as the “Federal Smart Building Program”—

10 (A) to implement smart building tech-  
11 nology; and

12 (B) to demonstrate the costs and benefits  
13 of smart buildings.

14 (2) SELECTION.—

15 (A) IN GENERAL.—The Secretary shall co-  
16 ordinate the selection of not fewer than 1 build-  
17 ing from among each of several key Federal  
18 agencies, as described in paragraph (4), to com-  
19 pose an appropriately diverse set of smart  
20 buildings based on size, type, and geographic lo-  
21 cation.

22 (B) INCLUSION OF COMMERCIALY OPER-  
23 ATED BUILDINGS.—In making selections under  
24 subparagraph (A), the Secretary may include

1 buildings that are owned by the Federal Gov-  
2 ernment but are commercially operated.

3 (3) TARGETS.—Not later than 18 months after  
4 the date of enactment of this Act, the Secretary  
5 shall establish targets for the number of smart  
6 buildings to be commissioned and evaluated by key  
7 Federal agencies by 3 years and 6 years after the  
8 date of enactment of this Act.

9 (4) FEDERAL AGENCY DESCRIBED.—The key  
10 Federal agencies referred to paragraph (2)(A) shall  
11 include buildings operated by—

- 12 (A) the Department of the Army;
- 13 (B) the Department of the Navy;
- 14 (C) the Department of the Air Force;
- 15 (D) the Department of Energy;
- 16 (E) the Department of the Interior;
- 17 (F) the Department of Veterans Affairs;

18 and

- 19 (G) the General Services Administration.

20 (5) REQUIREMENT.—In implementing the pro-  
21 gram established under this subsection, the Sec-  
22 retary shall leverage existing financing mechanisms,  
23 including energy savings performance contracts, util-  
24 ity energy service contracts, and annual appropria-  
25 tions.

1           (6) EVALUATION.—Using the guidelines of the  
2 Federal Energy Management Program relating to  
3 whole-building evaluation, measurement, and  
4 verification, the Secretary shall evaluate the costs  
5 and benefits of the buildings selected under para-  
6 graph (2), including an identification of—

7           (A) which advanced building tech-  
8 nologies—

9           (i) are most cost-effective; and

10          (ii) show the most promise for—

11           (I) increasing building energy  
12 savings;

13           (II) increasing service perform-  
14 ance to building occupants;

15           (III) reducing environmental im-  
16 pacts; and

17           (IV) establishing cybersecurity;

18          and

19          (B) any other information the Secretary  
20 determines to be appropriate.

21          (7) AWARDS.—The Secretary may expand  
22 awards made under the Federal Energy Manage-  
23 ment Program and the Better Building Challenge to  
24 recognize specific agency achievements in accel-  
25 erating the adoption of smart building technologies.

1 (c) SURVEY OF PRIVATE SECTOR SMART BUILD-  
2 INGS.—

3 (1) SURVEY.—The Secretary shall conduct a  
4 survey of privately owned smart buildings through-  
5 out the United States, including commercial build-  
6 ings, laboratory facilities, hospitals, multifamily resi-  
7 dential buildings, and buildings owned by nonprofit  
8 organizations and institutions of higher education.

9 (2) SELECTION.—From among the smart build-  
10 ings surveyed under paragraph (1), the Secretary  
11 shall select not fewer than 1 building each from an  
12 appropriate range of building sizes, types, and geo-  
13 graphic locations.

14 (3) EVALUATION.—Using the guidelines of the  
15 Federal Energy Management Program relating to  
16 whole-building evaluation, measurement, and  
17 verification, the Secretary shall evaluate the costs  
18 and benefits of the buildings selected under para-  
19 graph (2), including an identification of—

20 (A) which advanced building technologies  
21 and systems—

22 (i) are most cost-effective; and

23 (ii) show the most promise for—

24 (I) increasing building energy  
25 savings;

- 1 (II) increasing service perform-  
2 ance to building occupants;  
3 (III) reducing environmental im-  
4 pacts; and  
5 (IV) establishing cybersecurity;  
6 and  
7 (B) any other information the Secretary  
8 determines to be appropriate.

9 (d) LEVERAGING EXISTING PROGRAMS.—

10 (1) BETTER BUILDINGS PROGRAM.—

11 (A) BETTER BUILDINGS CHALLENGE.—

12 The Secretary shall carry out a program to pro-  
13 vide technical assistance for entities to set and  
14 achieve goals to improve energy efficiency, re-  
15 duce greenhouse gas emissions and emissions of  
16 other pollutants, and reduce embodied carbon  
17 in commercial and residential buildings through  
18 the commercial application of relevant tools and  
19 technologies. In carrying out this program, the  
20 Secretary shall—

- 21 (i) identify opportunities for opti-  
22 mizing energy efficiency, demand manage-  
23 ment, and increasing emissions reductions  
24 in buildings to achieve net-zero energy or

1 energy-generating buildings, including  
2 through electrification;

3 (ii) promote the commercial applica-  
4 tion of emerging concepts and technologies  
5 in buildings;

6 (iii) share best practices from success-  
7 ful projects; and

8 (iv) ensure a diversity of entities re-  
9 ceive technical assistance, including low-in-  
10 come and rural communities.

11 (B) BETTER BUILDINGS ACCELERATOR.—

12 In carrying out the program under subpara-  
13 graph (A), the Secretary shall develop smart  
14 building accelerators that will demonstrate in-  
15 novative policies and approaches to accelerate  
16 the transition to smart buildings in the public,  
17 institutional, laboratory, industrial, commercial,  
18 and residential sectors, including in rural, low-  
19 income, and multi-family housing.

20 (C) BUILDING AMERICA PROGRAM.—The  
21 Secretary shall carry out a research, develop-  
22 ment, and demonstration program on tools,  
23 technologies, and techniques to reduce energy  
24 use and emissions in new and existing residen-

1           tial buildings, in partnership with industry enti-  
2           ties.

3           (2) RESEARCH AND DEVELOPMENT.—

4                   (A) IN GENERAL.—Not later than 180  
5           days after the date of enactment of this Act,  
6           the Secretary shall establish a program of re-  
7           search, development, demonstration, and com-  
8           mercial application to develop cost-effective  
9           tools, technologies, and practices that reduce  
10          greenhouse gas emissions or other pollutants  
11          from, increase the energy efficiency of, and in-  
12          crease beneficial electrification of new and exist-  
13          ing commercial and residential buildings, in-  
14          cluding retrofits and electrification of existing  
15          buildings, rural housing, low-income housing,  
16          multi-family housing, and manufactured hous-  
17          ing.

18                   (B) ENERGY EQUITY.—The Secretary shall  
19          carry out research to identify barriers to and  
20          strategies for expanding the use of low-emis-  
21          sions and energy-efficient building technologies  
22          and appliances in the buildings where members  
23          of frontline communities live and work. Re-  
24          search topics covered under this subparagraph  
25          may include—



1 (i) barriers to the use of technologies  
2 developed under this subsection in rural,  
3 low-income, and multi-family housing;

4 (ii) causes of and solutions for inequi-  
5 table energy costs in residential buildings  
6 based on race or class; and

7 (iii) solutions that enable energy-effi-  
8 cient homes while keeping housing afford-  
9 able for low-income communities.

10 (C) NON-TECHNICAL BARRIERS.—The Sec-  
11 retary shall support research and analysis to  
12 identify non-technical barriers, and methods to  
13 address such barriers, to enable greater use of  
14 tools and technologies developed under this sub-  
15 section in new and existing commercial and res-  
16 idential buildings, including rural housing, low-  
17 income housing, and multi-family housing.

18 (D) ADVANCED BUILDING CONSTRUCTION,  
19 DESIGN, AND RETROFITS.—As part of the pro-  
20 gram established under subparagraph (A), the  
21 Secretary shall support research and develop-  
22 ment on technologies and methodologies to en-  
23 able advanced building design, construction  
24 techniques, and retrofits. In supporting re-

1 search and development under subparagraph  
2 (A), the Secretary shall—

3 (i) include considerations of a full  
4 lifecycle analysis during building design,  
5 manufacturing, and construction, including  
6 environmental considerations, embodied en-  
7 ergy and embodied carbon in building ma-  
8 terials, transportation of materials, and  
9 implications for final disposal and recy-  
10 cling;

11 (ii) incorporate principles of resilient  
12 building design and construction through  
13 the consideration of regional differences  
14 in—

15 (I) climate, season, temperature,  
16 and precipitation in consultation with  
17 the National Oceanic and Atmospheric  
18 Administration; and

19 (II) fuel mix and energy produc-  
20 tion, including through the develop-  
21 ment of vulnerability assessments and  
22 analysis of building resilience for pro-  
23 posed building designs, building sites,  
24 or existing buildings;

1           (iii) support research and development  
2           on the use of various potential energy  
3           sources and distributed generation to sup-  
4           ply cooling, heating, and power for build-  
5           ings, including integrated and adaptive  
6           control solutions that address traditional  
7           building energy management and emerging  
8           technologies, such as batteries, thermal  
9           storage, and combined heat and power,  
10          compatible with all sizes of buildings;

11          (iv) support the development and inte-  
12          gration of technologies that enable low-  
13          emissions and energy-efficient or advanced  
14          buildings, such as heating, ventilation, air-  
15          conditioning, and refrigeration systems and  
16          other appliances that are cost-competitive  
17          over the life of the product as compared to  
18          conventional technologies and that incor-  
19          porate considerations of retrofitting and  
20          ease of installation, using a whole-systems  
21          and whole-buildings approach;

22          (v) support the development and inte-  
23          gration of cost-effective next-generation  
24          window and building envelope technologies

1 that incorporate considerations of retro-  
2 fitting and ease of installation;

3 (vi) support development of alter-  
4 native working fluids and refrigerants for  
5 use in buildings equipment to reduce their  
6 impact on climate change; and

7 (vii) research methods to enhance  
8 comfort and health of individual occupants  
9 in buildings that also result in improved  
10 energy efficiency and emissions reductions,  
11 including indoor air pollution.

12 (E) GRID-INTERACTIVE BUILDINGS.—As  
13 part of the program established under subpara-  
14 graph (A), the Secretary shall support research  
15 and development to enable components of com-  
16 mercial and residential buildings to serve as dy-  
17 namic energy loads and energy resources to en-  
18 able smart building designs. In particular, the  
19 Secretary shall focus on the development of—

20 (i) advanced building energy manage-  
21 ment systems through the integration of  
22 sensors and advanced control technologies  
23 and systems that allow whole-building opti-  
24 mization and integration with other energy  
25 systems, including photovoltaics, electric

1 vehicles, and energy storage technologies  
2 such as thermal storage;

3 (ii) cost-effective sensors that enable  
4 monitoring of building conditions and en-  
5 ergy load, including, as appropriate, re-  
6 porting energy use and forecasting energy  
7 needs;

8 (iii) improved analysis of data on the  
9 energy use of devices connected to build-  
10 ings, including miscellaneous electric loads;

11 (iv) advanced control technologies and  
12 systems that enable flexible operation of  
13 building components and that are capable  
14 of coordinating and executing energy con-  
15 trol commands in response to signals from  
16 the electric grid;

17 (v) flexible building components capa-  
18 ble of reporting and modulating energy use  
19 in response to control commands, as ap-  
20 propriate;

21 (vi) data analysis and communication  
22 protocols to further systems integration,  
23 interoperability, and automation;

1 (vii) building energy storage capabili-  
2 ties to modulate peak and off-peak energy  
3 demand;

4 (viii) distributed energy resources at  
5 the community- and building-level through  
6 localized electric grids;

7 (ix) technologies to reduce energy use  
8 and emissions in connected communities  
9 and neighborhoods located in a variety of  
10 climates, including by enabling transactive  
11 energy concepts; and

12 (x) cybersecurity practices that pro-  
13 tect privacy and personally identifiable in-  
14 formation.

15 (F) MODELING AND DATA ANALYSIS.—As  
16 part of the program established under subpara-  
17 graph (A), the Secretary shall support the de-  
18 velopment of building models, including for the  
19 design and operation of buildings, and the anal-  
20 ysis of relevant data to enable smart buildings.  
21 In particular, the Secretary shall focus on the  
22 development of—

23 (i) advanced modeling capabilities that  
24 include modeling of grid interactivity, resil-  
25 ience, and relevant behavioral, community-

1 scale, and urban-scale activities in order  
2 to—

3 (I) provide system-level analysis  
4 of new technologies, including distrib-  
5 uted generation and storage;

6 (II) evaluate system benefits such  
7 as emissions reductions, community  
8 resilience, distribution grid reliability,  
9 and service to underserved commu-  
10 nities;

11 (III) provide data, derived from  
12 both simulation and demonstration  
13 projects established under subpara-  
14 graph (G), to inform decision support  
15 and new business models; and

16 (ii) automated methods to generate  
17 models of proposed or existing buildings;

18 (iii) methods to address barriers, in-  
19 cluding non-technical barriers, to commer-  
20 cial application of building models for  
21 building operation;

22 (iv) methods to analyze data collected  
23 by technologies in smart buildings and col-  
24 lections of buildings;

1 (v) artificial intelligence and machine  
2 learning approaches to building energy  
3 management; and

4 (vi) advanced data collection and mon-  
5 itoring methods for utilities at the building  
6 level and component level.

7 (G) DEMONSTRATION PROGRAM.—The  
8 Secretary shall establish a competitive grant  
9 program for the demonstration of advanced  
10 building technologies and systems developed  
11 under the program established under subpara-  
12 graph (A) that—

13 (i) focuses on a range of new and ex-  
14 isting building types, including low-income  
15 housing, rural housing and agricultural  
16 buildings, multi-family residential build-  
17 ings, manufactured housing, and small and  
18 medium-sized commercial buildings; and

19 (ii) includes community-scale dem-  
20 onstration projects.

21 (H) TESTING AND VALIDATION.—In car-  
22 rying out the program under subparagraph (A),  
23 the Secretary shall—

24 (i) support testing and validation ac-  
25 tivities to improve the commercial applica-



1           tion of relevant tools, technologies, and  
2           methods, including the use of testbeds to  
3           determine cost savings and performance in  
4           realistic scenarios; and

5                 (ii) support analysis, testing, and vali-  
6           dation to accurately determine energy sav-  
7           ings, emissions reductions, cost-savings,  
8           and other potential impacts of the highest-  
9           performing appliances that are commer-  
10          cially available.

11           (I) PARTNERSHIPS.—In carrying out the  
12          activities authorized in this subsection, the Sec-  
13          retary shall work with utilities, State and local  
14          energy offices, building owners, technology de-  
15          velopers, contractors, building developers, and  
16          other relevant entities to guide the focus areas  
17          of the activities of the program carried out  
18          under subparagraph (A) and to encourage the  
19          commercial application of these technologies by  
20          building owners, operators, developers, occu-  
21          pants, contractors, or other relevant entities.

22           (J) COORDINATION.—In carrying out this  
23          subsection, the Secretary shall coordinate across  
24          all relevant program offices at the Department  
25          of Energy, including the Office of Electricity,

1 the Advanced Manufacturing Office, the Vehicle  
2 Technologies Office, the Geothermal Tech-  
3 nologies Office, and the Office of Cybersecurity,  
4 Energy Security, and Emergency Response.

5 (e) REPORT.—Not later than 2 years after the date  
6 of enactment of this Act, and every 2 years thereafter until  
7 a total of 3 reports have been made, the Secretary shall  
8 submit to the Committee on Energy and Natural Re-  
9 sources of the Senate and the Committee on Energy and  
10 Commerce and the Committee on Science, Space, and  
11 Technology of the House of Representatives a report on—

12 (1) the establishment of the Federal Smart  
13 Building Program and the evaluation of Federal  
14 smart buildings under subsection (b);

15 (2) the survey and evaluation of private sector  
16 smart buildings under subsection (c); and

17 (3) any recommendations of the Secretary to  
18 further accelerate the transition to smart buildings.

19 **SEC. 1806. WATER HEATERS.**

20 (a) DEFINITION OF WATER HEATER.—Section 321  
21 of the Energy Policy and Conservation Act (42 U.S.C.  
22 6291) is amended by striking paragraph (27) and insert-  
23 ing the following:

24 “(27) WATER HEATER.—

1           “(A) IN GENERAL.—The term ‘water heat-  
2 er’ means a product that utilizes oil, gas, or  
3 electricity to heat potable water for use outside  
4 the heater on demand, including—

5           “(i) storage type units that heat and  
6 store water at a thermostatically controlled  
7 temperature, including—

8           “(I) gas storage water heaters  
9 with an input of 75,000 Btu per hour  
10 or less, including heat pump type  
11 units that meet the current and volt-  
12 age limits under clause (iii);

13           “(II) oil storage water heaters  
14 with an input of 105,000 Btu per  
15 hour or less; and

16           “(III) electric storage water heat-  
17 ers with an input of 12 kilowatts or  
18 less, including heat pump type units  
19 that meet the current and voltage lim-  
20 its under clause (iii);

21           “(ii)(I) instantaneous type units that  
22 heat water but contain not more than 1  
23 gallon of water per 4,000 Btu per hour of  
24 input; and

25           “(II) in the case of—

1                   “(aa) gas instantaneous  
2 water heaters, have an input of  
3 200,000 Btu per hour or less and  
4 are designed and marketed to  
5 provide outlet hot water at a  
6 thermostatically controlled tem-  
7 perature of less than 180 degrees  
8 Fahrenheit;

9                   “(bb) oil instantaneous  
10 water heaters, have an input of  
11 210,000 Btu per hour or less;  
12 and

13                   “(cc) electric instantaneous  
14 water heaters, have an input of  
15 12 kilowatts or less;

16                   “(iii) heat pump type units (including  
17 add-on heat pumps, integrated heat pumps  
18 with storage, split-system heat pumps that  
19 consist of a separate heat pump and stor-  
20 age tank that are designed and marketed  
21 to operate together, and all ancillary equip-  
22 ment, such as fans, storage tanks, pumps,  
23 electric resistance heating elements, or  
24 controls necessary for the device to per-  
25 form its function) that—

1           “(I) have a maximum current  
2 rating of 24 amperes at a voltage not  
3 greater than 250 volts; and

4           “(II) are designed to transfer  
5 thermal energy from 1 temperature  
6 level to a different temperature level  
7 for the purpose of heating water;

8           “(iv) solar thermal-assisted electric  
9 storage units; and

10           “(v) solar thermal-assisted fossil fuel  
11 storage units.

12           “(B) EXCLUSIONS.—Unless otherwise de-  
13 termined by the Secretary under section  
14 325(e)(7)(B), the term ‘water heater’ does not  
15 include—

16           “(i) electric storage type units de-  
17 scribed in subparagraph (A)(i)(III) that—

18           “(I) are designed and marketed  
19 exclusively for commercial building  
20 applications; and

21           “(II)(aa) are designed, con-  
22 structed, inspected, tested, and  
23 stamped in accordance with Section  
24 IV, Part HLW, or Section X of the  
25 Boiler and Pressure Vessel Code pro-

1 mulgated by the American Society of  
2 Mechanical Engineers;

3 “(bb) exclusively use 3-phase  
4 electricity, are designed and mar-  
5 keted to provide outlet hot water  
6 at a thermostatically controlled  
7 temperature of 180 degrees  
8 Fahrenheit or greater, and oper-  
9 ate only at rated voltages of not  
10 less than 208 volts; or

11 “(cc) exclusively use single-  
12 phase electricity, are designed  
13 and marketed to provide outlet  
14 hot water at a thermostatically  
15 controlled temperature of 180 de-  
16 grees Fahrenheit or greater, and  
17 operate only at a rated voltage of  
18 277 volts; or

19 “(ii) gas storage type units described  
20 in subparagraph (A)(i)(I) that—

21 “(I) are designed and marketed  
22 exclusively for commercial building  
23 applications; and

24 “(II) are designed, constructed,  
25 inspected, tested, and stamped in ac-

1 cordance with Section IV, Part HLW,  
2 of the Boiler and Pressure Vessel  
3 Code promulgated by the American  
4 Society of Mechanical Engineers.

5 “(C) MULTI-INPUT ELECTRIC STORAGE  
6 WATER HEATER.—The term ‘multi-input elec-  
7 tric storage water heater’ means a product  
8 that—

9 “(i) is not a heat pump type unit de-  
10 scribed in subparagraph (A)(iii); and

11 “(ii) is designed, marketed, or shipped  
12 from the manufacturer with a capability of  
13 operating or being configured to operate at  
14 inputs greater than, equal to, or below 12  
15 kilowatts.

16 “(D) SOLAR THERMAL-ASSISTED ELECTRIC  
17 STORAGE UNIT.—The term ‘solar thermal-as-  
18 sisted electric storage unit’ means a unit that—

19 “(i) has an input of 12 kilowatts or  
20 less;

21 “(ii) has at least 2 dedicated ports in  
22 addition to the ports used for introduction  
23 and delivery of potable water for the sup-  
24 ply and return of water or a heat transfer  
25 fluid heated externally by solar panels;

1           “(iii) does not have electric resistance  
2           heating elements located in the lower half  
3           of the storage tank;

4           “(iv) has the temperature sensing de-  
5           vice that controls the auxiliary electric heat  
6           source located in the upper half of the  
7           storage tank; and

8           “(v) has a ratio of less than 0.70 for  
9           the proportion that the certified first hour  
10          rating bears to the nominal volume of the  
11          storage tank.”.

12          (b) STANDARDS FOR WATER HEATERS.—Section  
13          325(e) of the Energy Policy and Conservation Act (42  
14          U.S.C. 6295(e)) is amended by adding at the end the fol-  
15          lowing:

16                 “(7) EXEMPTED WATER HEATERS.—

17                         “(A) DEFINITION OF EXEMPTED WATER  
18                         HEATER.—In this paragraph, the term ‘exempt-  
19                         ed water heater’ means a water heater de-  
20                         scribed in section 321(27)(B).

21                         “(B) MONITORING OF SHIPMENTS.—

22                                 “(i) SUBMISSION OF DATA.—Not later  
23                                 than 90 days after the date of enactment  
24                                 of this paragraph, and not later than May  
25                                 1 of each year thereafter, the Secretary



1 shall require each manufacturer of water  
2 heaters to report to the Secretary the  
3 quantity of exempted water heaters, in  
4 each category of exempted water heaters,  
5 that the manufacturer shipped in the pre-  
6 ceding calendar year.

7 “(ii) CONFIDENTIALITY REQUIRE-  
8 MENTS.—The Secretary shall treat ship-  
9 ment data reported by manufacturers  
10 under clause (i) as confidential business in-  
11 formation subject to appropriate confiden-  
12 tial data safeguards.

13 “(iii) PUBLICATION.—

14 “(I) BASELINE SHIPMENT  
15 DATA.—Not later than 120 days after  
16 the date of enactment of this para-  
17 graph, the Secretary shall publish an  
18 analysis of the data collected under  
19 clause (i) for public comment, subject  
20 to applicable confidentiality safe-  
21 guards, which shall serve as the base-  
22 line data for the analysis described in  
23 subclause (II)(bb).

24 “(II) PERCENTAGE GROWTH  
25 FROM BASELINE.—Not later than

1 June 1 of each year after the year in  
2 which the Secretary publishes data  
3 under subclause (I), the Secretary  
4 shall publish—

5 “(aa) an analysis of the data  
6 collected under clause (i) for pub-  
7 lic comment, subject to applicable  
8 confidentiality safeguards;

9 “(bb) the percentage growth  
10 in the number of shipments with-  
11 in each category of exempted  
12 water heater relative to the base-  
13 line data described in subclause  
14 (I); and

15 “(cc) the determination of  
16 the Secretary as to whether the  
17 number of shipments for any cat-  
18 egory of exempted water heater  
19 have increased by more than 25  
20 percent compared to the baseline  
21 data for that category.

22 “(C) INCLUSION OF EXEMPTED WATER  
23 HEATERS.—

24 “(i) IN GENERAL.—The Secretary  
25 shall, by regulation, revise the definition of

1 water heater under section 321(27) to in-  
2 clude an exempted water heater under sub-  
3 paragraph (A) of that section if the Sec-  
4 retary makes an affirmative determination  
5 under subparagraph (B)(iii)(II)(cc) for  
6 that category of exempted water heater.

7 “(ii) ENERGY CONSERVATION STAND-  
8 ARDS.—Any category of exempted water  
9 heater included in the definition of water  
10 heater under clause (i) shall be required to  
11 meet the energy conservation standards  
12 applicable to an electric or gas storage type  
13 water heater under this part.

14 “(iii) EFFECTIVE DATE.—For any  
15 category of exempted water heater, the  
16 Secretary shall carry out clause (i), and re-  
17 quire compliance under clause (ii), not  
18 later than 1 year after the date on which  
19 the Secretary makes the affirmative deter-  
20 mination described in clause (i) for that  
21 category.

22 “(8) STANDARDS FOR MULTI-INPUT ELECTRIC  
23 STORAGE WATER HEATERS.—A multi-input electric  
24 storage water heater shall be subject to the test pro-

1 cedures, energy conservation standards, labeling (if  
2 applicable), and certification requirements—

3 “(A) for electric storage water heaters  
4 under this part; and

5 “(B) for storage water heaters under part  
6 C.

7 “(9) TECHNOLOGY-NEUTRAL ELECTRIC STOR-  
8 AGE WATER HEATER STANDARDS.—Notwithstanding  
9 any other provision of this Act, the Secretary may  
10 not create separate product classes for heat pump  
11 water heaters and other electric storage water heat-  
12 ers.”.

13 (c) DEFINITION OF COMMERCIAL WATER HEATER.—  
14 Section 340 of the Energy Policy and Conservation Act  
15 (42 U.S.C. 6311) is amended by striking paragraph (12)  
16 and inserting the following:

17 “(12)(A) STORAGE WATER HEATER.—

18 “(i) IN GENERAL.—The term ‘storage  
19 water heater’ means a water heater that—

20 “(I) heats and stores water with-  
21 in an appliance at a thermostatically  
22 controlled temperature for delivery on  
23 demand; and

24 “(II) is not a water heater de-  
25 scribed in section 321(27)(A).

1                   “(ii) EXCLUSION.—The term ‘storage  
2                   water heater’ does not include a unit with  
3                   an input rating of 4,000 Btu per hour or  
4                   more per gallon of stored water.

5                   “(B) INSTANTANEOUS WATER HEATER.—  
6                   The term ‘instantaneous water heater’ means a  
7                   water heater that—

8                   “(i) has an input rating of at least  
9                   4,000 Btu per hour per gallon of stored  
10                  water; and

11                  “(ii) is not a water heater described in  
12                  section 321(27)(A).

13                  “(C) UNFIRED HOT WATER STORAGE  
14                  TANK.—The term ‘unfired hot water storage  
15                  tank’ means a tank used to store water that is  
16                  heated externally.”.

17                  (d) LABELING REQUIREMENTS.—Section 344 of the  
18                  Energy Policy and Conservation Act (42 U.S.C. 6315) is  
19                  amended by adding at the end the following:

20                  “(1) LABELS FOR CERTAIN COMMERCIAL WATER  
21                  HEATERS.—

22                  “(1) IN GENERAL.—Notwithstanding any other  
23                  provision of this section, water heaters described in  
24                  section 321(27)(B) shall be required to bear a per-  
25                  manent label, applied at the point of manufacture,

1 that, subject to paragraph (3), satisfies the require-  
2 ments described in paragraph (2).

3 “(2) REQUIREMENTS.—A label required under  
4 paragraph (1) shall—

5 “(A) be made of material not adversely af-  
6 fected by water;

7 “(B) be attached by means of nonwater-  
8 soluble adhesive; and

9 “(C) bear the following notice printed in  
10 16.5 point Arial Narrow Bold font: ‘IMPOR-  
11 TANT INFORMATION: Exclusively intended  
12 for commercial installations. This model is not  
13 certified by the U.S. Department of Energy as  
14 a residential water heater. This model does not  
15 have a certified First Hour or UEF rating.’.

16 “(3) REVISION UPON PETITION.—On receipt of  
17 a petition by an interested party, the Secretary may  
18 conduct a rulemaking to revise the scope and re-  
19 quirements of the label required under paragraph  
20 (1).”.

21 (e) EFFECTIVE DATE.—This section and the amend-  
22 ments made by this section shall take effect 180 days after  
23 the date of enactment of this Act.

1 **SEC. 1807. REBATE PROGRAM FOR ENERGY EFFICIENT**  
2 **ELECTROTECHNOLOGIES.**

3 (a) DEFINITIONS.—In this section:

4 (1) ENERGY EFFICIENT  
5 ELECTROTECHNOLOGY.—The term “energy efficient  
6 electrotechnology” means—

7 (A) any electric technology that, when used  
8 instead of a fossil fuel-fired technology in an in-  
9 dustrial process results in—

10 (i) energy efficiency, or production ef-  
11 ficiency, gains; or

12 (ii) environmental benefits; or

13 (B) any electric technology that, when used  
14 instead of a fossil fuel-fired technology in an in-  
15 dustrial application results in—

16 (i) improvements in on-site logistics or  
17 material handling; and

18 (ii) energy efficiency gains and envi-  
19 ronmental benefits.

20 (2) QUALIFIED ENTITY.—The term “qualified  
21 entity” means an industrial or manufacturing facil-  
22 ity, commercial building, or a utility or energy serv-  
23 ice company.

24 (3) SECRETARY.—The term “Secretary” means  
25 the Secretary of Energy.

1 (b) ESTABLISHMENT.—Not later than 90 days after  
2 the date of enactment of this Act, the Secretary shall es-  
3 tablish a program to provide rebates in accordance with  
4 this section.

5 (c) REBATES.—The Secretary may provide a rebate  
6 under the program established under subsection (b) to the  
7 owner or operator of a qualified entity for expenditures  
8 made by the owner or operator of the qualified entity for  
9 an energy efficient electrotechnology that is used to re-  
10 place a fossil fuel-fired technology.

11 (d) REQUIREMENTS.—To be eligible to receive a re-  
12 bate under this section, the owner or operator of a quali-  
13 fied entity shall submit to the Secretary an application  
14 demonstrating—

15 (1) that the owner or operator of the qualified  
16 entity purchased an energy efficient  
17 electrotechnology;

18 (2) the energy efficiency gains, production effi-  
19 ciency gains, and environmental benefits, as applica-  
20 ble, resulting from use of the energy efficient  
21 electrotechnology—

22 (A) as measured by a qualified professional  
23 or verified by the energy efficient  
24 electrotechnology manufacturer, as applicable;  
25 or



1 (B) as determined by the Secretary;

2 (3) that the fossil fuel-fired technology replaced  
3 by the energy efficient electrotechnology has been  
4 permanently decommissioned and scrapped; and

5 (4) that all laborers and mechanics who were  
6 involved in the installation or maintenance, or con-  
7 struction or renovation to support such installation  
8 or maintenance, of the energy efficient  
9 electrotechnology, or the decommissioning and scrap-  
10 ping of the fossil fuel-fired technology replaced by  
11 the energy efficient electrotechnology, and who were  
12 employed by the owner or operator of the qualified  
13 entity, or contractors or subcontractors at any tier  
14 thereof, were paid wages at rates not less than those  
15 prevailing on projects of a character similar in the  
16 locality as determined by the Secretary of Labor in  
17 accordance with subchapter IV of chapter 31 of title  
18 40, United States Code (commonly referred to as  
19 the “Davis-Bacon Act”).

20 (e) LIMITATION.—The Secretary may not provide a  
21 rebate under the program established under subsection (b)  
22 to an owner or operator of a qualified entity for expendi-  
23 tures made by the owner or operator of the qualified entity  
24 for an energy efficient electrotechnology that is used to  
25 replace a fossil fuel-fired technology if the Secretary deter-

1 mines that such expenditures were necessary for the owner  
2 or operator to comply with Federal or State law.

3 (f) AUTHORIZED AMOUNT OF REBATE.—The amount  
4 of a rebate provided under this section shall be not less  
5 than 30 percent, and not more than 50 percent, of the  
6 overall cost of the energy efficient electrotechnology, in-  
7 cluding installation costs.

8 (g) AUTHORIZATION OF APPROPRIATIONS.—There is  
9 authorized to be appropriated to carry out this section  
10 \$100,000,000 for each of fiscal years 2021 through 2025.

11 **SEC. 1808. REMOVING BARRIERS TO EFFICIENCY.**

12 (a) IN GENERAL.—Section 327 of the Energy Policy  
13 and Conservation Act (42 U.S.C. 6297) is amended by  
14 adding at the end the following:

15 “(h) SUSPENSION OF PREEMPTION.—This section  
16 shall not apply to a covered product during any period  
17 that—

18 “(1) begins on the date that is 8 years after the  
19 date on which the energy conservation standard was  
20 established under section 325 for the covered prod-  
21 uct; and

22 “(2) ends on the effective date of an energy  
23 conservation standard established after the date de-  
24 scribed in paragraph (1) under section 325 for the  
25 covered product, that is equivalent to, or more strin-

1       gent than, the standard described in such para-  
2       graph.

3       “(i) NO PREEMPTION ABSENT A FEDERAL STAND-  
4       ARD.—

5               “(1) APPLICATION.—Notwithstanding any other  
6       provision of this part, this section does not apply to  
7       any State regulation insofar as the State regulation  
8       applies to any product not subject to an energy con-  
9       servation standard established under section 325.

10              “(2) COMPLIANCE PERIOD.—Any State regula-  
11       tion prescribed or enacted for a covered product be-  
12       fore the date on which an energy conservation stand-  
13       ard is established under section 325 for the covered  
14       product shall not be preempted until the effective  
15       date of an equivalent or more stringent energy con-  
16       servation standard under section 325 for the covered  
17       product.”.

18       (b) ASHRAE PRODUCTS.—Section 345(b)(2) of the  
19       Energy Policy and Conservation Act (42 U.S.C.  
20       6316(b)(2)) is amended by adding at the end the fol-  
21       lowing:

22              “(E) Notwithstanding subparagraph (A), a standard  
23       prescribed or established under section 342(a) shall not  
24       supersede any State or local regulation concerning the en-  
25       ergy efficiency or energy use of a product for which a

1 standard is prescribed or established pursuant to such sec-  
2 tion during any period that—

3 “(i) begins on the date that is 8 years after the  
4 date on which such standard was prescribed or es-  
5 tablished; and

6 “(ii) ends on the effective date of a standard  
7 prescribed or established after the date described in  
8 clause (i) under section 342(a) for the product, that  
9 is equivalent to, or more stringent than, the stand-  
10 ard described in such clause.”.

11 **SEC. 1809. HOME WILDFIRE RISK REDUCTION REBATE PRO-**  
12 **GRAM.**

13 (a) IN GENERAL.—The Secretary of Energy shall es-  
14 tablish a program, to be known as the “Home Wildfire  
15 Risk Reduction Rebate Program”, to provide rebates to  
16 homeowners to defray the costs of retrofitting an existing  
17 home to be wildfire-resistant.

18 (b) AMOUNT OF REBATE.—In carrying out the Home  
19 Wildfire Risk Reduction Rebate Program, the Secretary  
20 shall provide a homeowner a rebate of up to—

21 (1) \$10,000 for the retrofitting of roof features,  
22 including the roof covering, vents, soffit and fascia,  
23 and gutters, to be wildfire-resistant;

1           (2) \$20,000 for the retrofitting of exterior wall  
2 features, including sheathing and siding, doors, and  
3 windows, to be wildfire-resistant;

4           (3) \$5,000 for the retrofitting of a deck, includ-  
5 ing the decking, framing, and fascia, to be wildfire-  
6 resistant; and

7           (4) \$1,500 for the retrofitting of near-home  
8 landscaping, including mulch and landscape fabric in  
9 a 5-foot zone immediately around the home and  
10 under all attached decks, to be wildfire-resistant.

11       (c) INCLUSION.—For purposes of this section, the  
12 cost of a retrofit shall include all costs associated with the  
13 retrofit, including the purchase and installation of wild-  
14 fire-resistant products and components.

15       (d) LIMITATION.—The amount of the rebate under  
16 this section shall not exceed 50 percent of the cost of the  
17 retrofit.

18       (e) PROCESS.—

19           (1) FORMS; REBATE PROCESSING SYSTEM.—  
20 Not later than 90 days after the date of enactment  
21 of this Act, the Secretary, in consultation with the  
22 Secretary of the Treasury, shall—

23               (A) develop and make available rebate  
24 forms required to receive a rebate under this  
25 section;

1 (B) establish a Federal rebate processing  
2 system which shall serve as a database and in-  
3 formation technology system that will allow  
4 homeowners to submit required rebate forms;  
5 and

6 (C) establish a website that provides infor-  
7 mation on rebates provided under this section,  
8 including how to determine whether particular  
9 measures qualify for a rebate under this section  
10 and how to receive such a rebate.

11 (2) SUBMISSION OF FORMS.—In order to re-  
12 ceive a rebate under this section, a homeowner shall  
13 submit the required rebate forms, and any other in-  
14 formation the Secretary determines appropriate, to  
15 the Federal rebate processing system established  
16 under paragraph (1).

17 (f) MODERATE-INCOME HOUSEHOLDS.—

18 (1) CERTIFICATIONS.—The Secretary shall es-  
19 tablish procedures for certifying that the household  
20 of a homeowner is moderate-income for purposes of  
21 this section.

22 (2) LIMITATION FOR MODERATE INCOME  
23 HOUSEHOLDS.—Notwithstanding subsection (d), for  
24 households of homeowners that are certified pursu-  
25 ant to the procedures established under paragraph

1 (1) as moderate-income, the amount of the rebate  
2 under this section shall not exceed 80 percent of the  
3 cost of the retrofit.

4 (3) OUTREACH.—The Secretary shall establish  
5 procedures to—

6 (A) provide information to households of  
7 homeowners that are certified pursuant to the  
8 procedures established under paragraph (1) as  
9 moderate-income regarding other programs and  
10 resources relating to assistance for upgrades of  
11 homes, including the weatherization assistance  
12 program implemented under part A of title IV  
13 of the Energy Conservation and Production Act  
14 (42 U.S.C. 6861 et seq.); and

15 (B) refer such households, as applicable, to  
16 such other programs and resources.

17 (g) DEFINITION.—In this section, the term “wildfire-  
18 resistant” means meeting or exceeding the specifications  
19 of the International Code Council’s 2018 International  
20 Wildland-Urban Interface Code (IWUIC).

21 (h) AUTHORIZATION OF APPROPRIATIONS.—There is  
22 authorized to be appropriated to carry out this section  
23 \$500,000,000 for each of fiscal years 2021 through 2025.

1 **TITLE II—RENEWABLE ENERGY**

2 **Subtitle A—Energy Storage**

3 **PART 1—CONSIDERATION OF ENERGY STORAGE**

4 **SYSTEMS**

5 **SEC. 2101. CONSIDERATION OF ENERGY STORAGE SYS-**  
6 **TEMS.**

7 (a) IN GENERAL.—Section 111(d) of the Public Util-  
8 ity Regulatory Policies Act of 1978 (16 U.S.C. 2621(d))  
9 is amended by adding at the end the following:

10 “(20) CONSIDERATION OF ENERGY STORAGE  
11 SYSTEMS.—Each State shall consider requiring that,  
12 as part of a supply side resource planning process,  
13 an electric utility of the State demonstrate to the  
14 State that the electric utility considered an invest-  
15 ment in energy storage systems based on appro-  
16 priate factors, including—

17 “(A) total costs and normalized life cycle  
18 costs;

19 “(B) cost effectiveness;

20 “(C) improved reliability;

21 “(D) security; and

22 “(E) system performance and efficiency.”.

23 (b) TIME LIMITATIONS.—Section 112(b) of the Pub-  
24 lic Utility Regulatory Policies Act of 1978 (16 U.S.C.  
25 2622(b)) is amended by adding at the end the following:



1           “(7)(A) Not later than 1 year after the date of  
2           enactment of this paragraph, each State regulatory  
3           authority (with respect to each electric utility for  
4           which the State regulatory authority has ratemaking  
5           authority) and each nonregulated electric utility  
6           shall commence the consideration referred to in sec-  
7           tion 111, or set a hearing date for consideration,  
8           with respect to the standard established by para-  
9           graph (20) of section 111(d).

10           “(B) Not later than 2 years after the date of  
11           enactment of this paragraph, each State regulatory  
12           authority (with respect to each electric utility for  
13           which the State regulatory authority has ratemaking  
14           authority), and each nonregulated electric utility,  
15           shall complete the consideration, and shall make the  
16           determination, referred to in section 111 with re-  
17           spect to the standard established by paragraph (20)  
18           of section 111(d).”.

19           (c) FAILURE TO COMPLY.—Section 112(c) of the  
20           Public Utility Regulatory Policies Act of 1978 (16 U.S.C.  
21           2622(c)) is amended by adding at the end the following:  
22           “In the case of the standard established by paragraph (20)  
23           of section 111(d), the reference contained in this sub-  
24           section to the date of enactment of this Act shall be

1 deemed to be a reference to the date of enactment of such  
2 paragraph (20).”.

3 (d) PRIOR STATE ACTIONS.—Section 112 of the Pub-  
4 lic Utility Regulatory Policies Act of 1978 (16 U.S.C.  
5 2622) is amended by adding at the end the following:

6 “(g) PRIOR STATE ACTIONS.—Subsections (b) and  
7 (c) of this section shall not apply to the standard estab-  
8 lished by paragraph (20) of section 111(d) in the case of  
9 any electric utility in a State if, before the enactment of  
10 this subsection—

11 “(1) the State has implemented for such utility  
12 the standard concerned (or a comparable standard);

13 “(2) the State regulatory authority for such  
14 State or relevant nonregulated electric utility has  
15 conducted a proceeding to consider implementation  
16 of the standard concerned (or a comparable stand-  
17 ard) for such utility; or

18 “(3) the State legislature has voted on the im-  
19 plementation of such standard (or a comparable  
20 standard) for such utility.”.

21 (e) PRIOR AND PENDING PROCEEDINGS.—Section  
22 124 of the Public Utility Regulatory Policies Act of 1978  
23 (16 U.S.C. 2634) is amended by adding at the end the  
24 following: “In the case of the standard established by  
25 paragraph (20) of section 111(d), the reference contained

1 in this section to the date of the enactment of this Act  
2 shall be deemed to be a reference to the date of enactment  
3 of such paragraph (20).”.

4 **SEC. 2102. COORDINATION OF PROGRAMS.**

5 To the maximum extent practicable, the Secretary of  
6 Energy shall ensure that the funding and administration  
7 of the different offices within the Grid Modernization Ini-  
8 tiative of the Department of Energy and other programs  
9 conducting energy storage research are coordinated and  
10 streamlined.

11 **PART 2—ENERGY STORAGE AND MICROGRID**  
12 **PROJECTS**

13 **SEC. 2121. DEFINITIONS.**

14 (a) DEFINITIONS.—In this part:

15 (1) ELIGIBLE ENTITY.—The term “eligible enti-  
16 ty” means—

17 (A) a rural electric cooperative; or

18 (B) a nonprofit organization working with  
19 at least 6 rural electric cooperatives.

20 (2) ENERGY STORAGE.—The term “energy  
21 storage” means the use of equipment or facilities re-  
22 lating to the electric grid that are capable of absorb-  
23 ing and converting energy, as applicable, storing the  
24 energy for a period of time, and dispatching the en-  
25 ergy, that—

1           (A) use mechanical, electrochemical, bio-  
2           chemical, or thermal processes, to convert and  
3           store energy that was generated at an earlier  
4           time for use at a later time;

5           (B) use mechanical, electrochemical, bio-  
6           chemical, or thermal processes to convert and  
7           store energy generated from mechanical proc-  
8           esses that would otherwise be wasted for deliv-  
9           ery at a later time; or

10          (C) convert and store energy in an electric,  
11          thermal, or gaseous state for consumption at a  
12          later time in a manner that avoids the need to  
13          use electricity or other fuel sources at that later  
14          time, as is offered by grid-enabled water heat-  
15          ers, building heaters or coolers, electric vehicles,  
16          mini-pumped hydroelectric facilities, electrolysis  
17          processes that make hydrogen for transpor-  
18          tation or industrial needs, or any other load  
19          shaping mechanism that includes energy stor-  
20          age.

21          (3) ISLAND.—The term “island mode” means a  
22          mode in which a distributed generator or energy  
23          storage device continues to power a location in the  
24          absence of electric power from the primary source.

1           (4) MICROGRID.—The term “microgrid” means  
2           an interconnected system of loads and distributed  
3           energy resources, including generators and energy  
4           storage devices, within clearly defined electrical  
5           boundaries that—

6                   (A) acts as a single controllable entity with  
7                   respect to the electric grid; and

8                   (B) can connect to, and disconnect from,  
9                   the electric grid to operate in both grid-con-  
10                  nected mode and island mode.

11           (5) RENEWABLE ENERGY SOURCE.—The term  
12           “renewable energy source” has the meaning given  
13           the term in section 609(a) of the Public Utility Reg-  
14           ulatory Policies Act of 1978 (7 U.S.C. 918c(a)).

15           (6) RURAL ELECTRIC COOPERATIVE.—The term  
16           “rural electric cooperative” means an electric coop-  
17           erative (as defined in section 3 of the Federal Power  
18           Act (16 U.S.C. 796)) that sells electric energy to  
19           persons in rural areas.

20           (7) SECRETARY.—The term “Secretary” means  
21           the Secretary of Energy.

1 **SEC. 2122. ENERGY STORAGE AND MICROGRID ASSISTANCE**  
2 **PROGRAM.**

3 (a) IN GENERAL.—Not later than 180 days after the  
4 date of enactment of this Act, the Secretary shall establish  
5 a program under which the Secretary shall—

6 (1) provide grants to eligible entities under sub-  
7 section (c);

8 (2) provide technical assistance to eligible enti-  
9 ties under subsection (d); and

10 (3) disseminate information to eligible entities  
11 on—

12 (A) the activities described in subsections  
13 (c)(1) and (d); and

14 (B) potential and existing energy storage  
15 and microgrid projects.

16 (b) COOPERATIVE AGREEMENT.—The Secretary may  
17 enter into a cooperative agreement with an eligible entity  
18 to carry out subsection (a).

19 (c) GRANTS.—

20 (1) IN GENERAL.—The Secretary shall award  
21 grants to eligible entities for identifying, evaluating,  
22 designing, and demonstrating energy storage and  
23 microgrid projects that utilize energy from renewable  
24 energy sources.

25 (2) APPLICATION.—To be eligible to receive a  
26 grant under paragraph (1), an eligible entity shall

1 submit to the Secretary an application at such time,  
2 in such manner, and containing such information as  
3 the Secretary may require.

4 (3) USE OF GRANT.—An eligible entity that re-  
5 ceives a grant under paragraph (1)—

6 (A) shall use the grant—

7 (i) to conduct feasibility studies to as-  
8 sess the potential for implementation or  
9 improvement of energy storage or  
10 microgrid projects;

11 (ii) to analyze and implement strate-  
12 gies to overcome barriers to energy storage  
13 or microgrid project implementation, in-  
14 cluding financial, contracting, siting, and  
15 permitting barriers;

16 (iii) to conduct detailed engineering of  
17 energy storage or microgrid projects;

18 (iv) to perform a cost-benefit analysis  
19 with respect to an energy storage or  
20 microgrid project;

21 (v) to plan for both the short- and  
22 long-term inclusion of energy storage or  
23 microgrid projects into the future develop-  
24 ment plans of the eligible entity; or

1 (vi) to purchase and install necessary  
2 equipment, materials, and supplies for  
3 demonstration of emerging technologies;  
4 and

5 (B) may use the grant to obtain technical  
6 assistance from experts in carrying out the ac-  
7 tivities described in subparagraph (A).

8 (4) CONDITION.—As a condition of receiving a  
9 grant under paragraph (1), an eligible entity shall—

10 (A) implement a public awareness cam-  
11 paign, in coordination with the Secretary, about  
12 the project implemented under the grant in the  
13 community in which the eligible entity is lo-  
14 cated, which campaign shall include providing  
15 projected environmental benefits achieved under  
16 the project, where to find more information  
17 about the program established under this sec-  
18 tion, and any other information the Secretary  
19 determines necessary;

20 (B) submit to the Secretary, and make  
21 available to the public, a report that de-  
22 scribes—

23 (i) any energy cost savings and envi-  
24 ronmental benefits achieved under the  
25 project; and



1 (ii) the results of the project, includ-  
2 ing quantitative assessments to the extent  
3 practicable, associated with each activity  
4 described in paragraph (3)(A); and

5 (C) create and disseminate tools and re-  
6 sources that will benefit other rural electric co-  
7 operatives, which may include cost calculators,  
8 guidebooks, handbooks, templates, and training  
9 courses.

10 (5) COST-SHARE.—Activities under this sub-  
11 section shall be subject to the cost-sharing require-  
12 ments of section 988 of the Energy Policy Act of  
13 2005 (42 U.S.C. 16352).

14 (d) TECHNICAL ASSISTANCE.—

15 (1) IN GENERAL.—In carrying out the program  
16 established under subsection (a), the Secretary shall  
17 provide eligible entities with technical assistance re-  
18 lating to—

19 (A) identifying opportunities for energy  
20 storage and microgrid projects;

21 (B) understanding the technical and eco-  
22 nomic characteristics of energy storage or  
23 microgrid projects;

24 (C) understanding financing alternatives;

25 (D) permitting and siting issues;

1 (E) obtaining case studies of similar and  
2 successful energy storage or microgrid projects;

3 (F) reviewing and obtaining computer soft-  
4 ware for assessment, design, and operation and  
5 maintenance of energy storage or microgrid sys-  
6 tems; and

7 (G) understanding and utilizing the reli-  
8 ability and resiliency benefits of energy storage  
9 and microgrid projects.

10 (2) EXTERNAL CONTRACTS.—In carrying out  
11 paragraph (1), the Secretary may enter into con-  
12 tracts with third-party experts, including engineer-  
13 ing, finance, and insurance experts, to provide tech-  
14 nical assistance to eligible entities relating to the ac-  
15 tivities described in such paragraph, or other rel-  
16 evant activities, as determined by the Secretary.

17 **SEC. 2123. AUTHORIZATION OF APPROPRIATIONS.**

18 (a) IN GENERAL.—There is authorized to be appro-  
19 priated to carry out this part \$5,000,000 for each of fiscal  
20 years 2021 through 2025.

21 (b) ADMINISTRATIVE COSTS.—Not more than 5 per-  
22 cent of the amount appropriated under subsection (a) for  
23 each fiscal year shall be used for administrative expenses.

## Subtitle B—Dam Safety

### SEC. 2201. HYDROELECTRIC PRODUCTION INCENTIVES AND EFFICIENCY IMPROVEMENTS.

(a) HYDROELECTRIC PRODUCTION INCENTIVES.—  
Section 242 of the Energy Policy Act of 2005 (42 U.S.C.  
15881) is amended—

(1) in subsection (b), by striking paragraph (1)  
and inserting the following:

“(1) QUALIFIED HYDROELECTRIC FACILITY.—  
The term ‘qualified hydroelectric facility’ means a  
turbine or other generating device owned or solely  
operated by a non-Federal entity—

“(A) that generates hydroelectric energy  
for sale; and

“(B)(i) that is added to an existing dam or  
conduit; or

“(ii)(I) that has a generating capacity of  
not more than 10 megawatts;

“(II) for which the non-Federal entity has  
received a construction authorization from the  
Federal Energy Regulatory Commission, if ap-  
plicable; and

“(III) that is constructed in a region in  
which there is inadequate electric service, as de-  
termined by the Secretary.”;

1           (2) in subsection (c), by striking “10” and in-  
2           serting “22”;

3           (3) in subsection (e)(2), by striking “section  
4           29(d)(2)(B)” and inserting “section 45K(d)(2)(B)”;

5           (4) in subsection (f), by striking “20” and in-  
6           serting “32”; and

7           (5) in subsection (g), by striking “each of the  
8           fiscal years 2006 through 2015” and inserting “each  
9           of fiscal years 2019 through 2036”.

10          (b) **HYDROELECTRIC EFFICIENCY IMPROVEMENT.**—  
11          Section 243(c) of the Energy Policy Act of 2005 (42  
12          U.S.C. 15882(c)) is amended by striking “each of the fis-  
13          cal years 2006 through 2015” and inserting “each of fis-  
14          cal years 2019 through 2036”.

15          **SEC. 2202. FERC BRIEFING ON EDENVILLE DAM AND SAN-**  
16                               **FORD DAM FAILURES.**

17               Not later than 90 days after the date on which the  
18          Forensic Investigation Team submits to the Federal En-  
19          ergy Regulatory Commission the reports on the root  
20          causes, and any other contributing causes, of the Edenville  
21          Dam and Sanford Dam failures, the Federal Energy Reg-  
22          ulatory Commission shall conduct a briefing for, and sub-  
23          mit a report summarizing such briefing to, the Committee  
24          on Energy and Commerce of the House of Representatives  
25          that includes—

1           (1) an explanation of the findings of the Forensic Investigation Team reports on the root causes, 2  
3           and any other contributing causes, of the Edenville Dam and Sanford Dam failures;

5           (2) a determination of whether the dam safety procedures of the Federal Energy Regulatory Commission should be revised in light of the lessons 6  
7           learned from such reports;

9           (3) a determination of whether additional safety inspections of dams should be required after large 10  
11          storms;

12          (4) a determination of whether the safety requirements and testing protocols for dams adequately account for the projected effects of climate 13  
14          change and atmospheric rivers on dams; and

16          (5) a determination of whether additional actions should be taken to ensure the safety of dams 17  
18          that operate without an emergency spillway.

19 **SEC. 2203. DAM SAFETY CONDITIONS.**

20          Section 10 of the Federal Power Act (16 U.S.C. 803) 21  
22          is amended by adding at the end the following:

23          “(k) That the dam and other project works meet the Commission’s dam safety requirements and that the licensee shall continue to manage, operate, and maintain 24  
25          the dam and other project works in a manner that ensures

1 dam safety and public safety under the operating condi-  
2 tions of the license.”.

3 **SEC. 2204. DAM SAFETY REQUIREMENTS.**

4 Section 15 of the Federal Power Act (16 U.S.C. 808)  
5 is amended by adding at the end the following:

6 “(g) The Commission may issue a new license under  
7 this section only if the Commission determines that the  
8 dam and other project works covered by the license meet  
9 the Commission’s dam safety requirements and that the  
10 licensee can continue to manage, operate, and maintain  
11 the dam and other project works in a manner that ensures  
12 dam safety and public safety under the operating condi-  
13 tions of the new license.”.

14 **SEC. 2205. VIABILITY PROCEDURES.**

15 The Federal Energy Regulatory Commission shall es-  
16 tablish procedures to assess the financial viability of an  
17 applicant for a license under the Federal Power Act to  
18 meet applicable dam safety requirements and to operate  
19 the dam and project works under the license.

20 **SEC. 2206. FERC DAM SAFETY TECHNICAL CONFERENCE**  
21 **WITH STATES.**

22 (a) TECHNICAL CONFERENCE.—Not later than April  
23 1, 2021, the Federal Energy Regulatory Commission, act-  
24 ing through the Office of Energy Projects, shall hold a

1 technical conference with the States to discuss and provide  
2 information on—

- 3 (1) dam maintenance and repair;
- 4 (2) Risk Informed Decision Making (RIDM);
- 5 (3) climate and hydrological regional changes  
6 that may affect the structural integrity of dams; and
- 7 (4) high hazard dams.

8 (b) AUTHORIZATION OF APPROPRIATIONS.—There is  
9 authorized to be appropriated to carry out this section  
10 \$1,000,000 for fiscal year 2021.

11 (c) STATE DEFINED.—In this section, the term  
12 “State” has the meaning given such term in section 3 of  
13 the Federal Power Act (16 U.S.C. 796).

14 **SEC. 2207. REQUIRED DAM SAFETY COMMUNICATIONS BE-**  
15 **TWEEN FERC AND STATES.**

16 (a) IN GENERAL.—The Commission, acting through  
17 the Office of Energy Projects, shall notify a State within  
18 which a project is located when—

19 (1) the Commission issues a finding, following  
20 a dam safety inspection, that requires the licensee  
21 for such project to take actions to repair the dam  
22 and other project works that are the subject of such  
23 finding;

24 (2) after a period of 5 years starting on the  
25 date a finding under paragraph (1) is issued, the li-

1       censee has failed to take actions to repair the dam  
2       and other project works, as required by such finding;  
3       and

4               (3) the Commission initiates a non-compliance  
5       proceeding or otherwise takes steps to revoke a li-  
6       cense issued under section 4 of the Federal Power  
7       Act (16 U.S.C. 797) due to the failure of a licensee  
8       to take actions to repair a dam and other project  
9       works.

10       (b) NOTICE UPON REVOCATION, SURRENDER, OR IM-  
11       PLIED SURRENDER OF A LICENSE.—If the Commission  
12       issues an order to revoke a license or approve the sur-  
13       render or implied surrender of a license under the Federal  
14       Power Act (16 U.S.C. 792 et seq.), the Commission shall  
15       provide to the State within which the project that relates  
16       to such license is located—

17               (1) all records pertaining to the structure and  
18       operation of the applicable dam and other project  
19       works, including, as applicable, any dam safety in-  
20       spection reports by independent consultants, speci-  
21       fications for required repairs or maintenance of such  
22       dam and other project works that have not been  
23       completed, and estimates of the costs for such re-  
24       pairs or maintenance;



1           (2) all records documenting the history of main-  
2           tenance or repair work for the applicable dam and  
3           other project works;

4           (3) information on the age of the dam and  
5           other project works and the hazard classification of  
6           the dam and other project works;

7           (4) the most recent assessment of the condition  
8           of the dam and other project works by the Commis-  
9           sion;

10          (5) as applicable, the most recent hydrologic in-  
11          formation used to determine the potential maximum  
12          flood for the dam and other project works; and

13          (6) the results of the most recent risk assess-  
14          ment completed on the dam and other project works.

15          (c) DEFINITION.—In this section:

16           (1) COMMISSION.—The term “Commission”  
17           means the Federal Energy Regulatory Commission.

18           (2) LICENSEE.—The term “licensee” has the  
19           meaning given such term in section 3 of the Federal  
20           Power Act (16 U.S.C. 796).

21           (3) PROJECT.—The term “project” has the  
22           meaning given such term in section 3 of the Federal  
23           Power Act (16 U.S.C. 796).

1 **SEC. 2208. KLAMATH HYDROELECTRIC SETTLEMENT**  
2 **AGREEMENT TRIBAL FAIRNESS.**

3 (a) DEFINITIONS.—In this section:

4 (1) FACILITY.—The term “facility” means 1 or  
5 more of the following hydropower facilities (includ-  
6 ing appurtenant works licensed to PacifiCorp) within  
7 the jurisdictional boundary of the Klamath Hydro-  
8 electric Project, FERC Project No. 2082 (as appli-  
9 cable):

10 (A) Iron Gate Dam.

11 (B) Copco No. 1 Dam.

12 (C) Copco No. 2 Dam.

13 (D) J.C. Boyle Dam.

14 (2) COMMISSION.—The term “Commission”  
15 means the Federal Energy Regulatory Commission.

16 (3) HARMED INDIAN TRIBES.—The term  
17 “harmed Indian Tribes” means—

18 (A) the Klamath Tribes; and

19 (B) such other Indian Tribes that are lo-  
20 cated downstream of the Klamath Hydroelectric  
21 Project.

22 (4) INDIAN TRIBE.—The term “Indian Tribe”  
23 has the meaning given the term “Indian tribe” in  
24 section 4 of the Indian Self-Determination and Edu-  
25 cation Assistance Act (25 U.S.C. 5304).

1           (5) LICENSEE.—The term “licensee” means the  
2           owner and licensee of the facility (as of the date of  
3           enactment of this Act).

4           (b) IN GENERAL.—In light of the specific facts and  
5           circumstances of the Klamath Hydroelectric Settlement  
6           Agreement that anticipated dam removal to commence in  
7           2020, and to mitigate the historic and ongoing damages  
8           caused by the facility to aquatic and Tribal trust re-  
9           sources, the Commission shall not issue any annual license  
10          for the facility under section 15(a)(1) of the Federal  
11          Power Act (16 U.S.C. 808(a)(1)) unless the Commission  
12          has provided harmed Indian Tribes and the States of Cali-  
13          fornia and Oregon the opportunity to recommend terms  
14          and conditions under section 4(e), section 10, and section  
15          18 of the Federal Power Act (16 U.S.C. 797(e), 803, and  
16          811), including any conditions providing for fishways or  
17          fish recovery.

18          (c) STUDIES.—Upon approval of an annual license  
19          pursuant to subsection (b), the Commission shall require  
20          the licensee to provide to the Commission the following:

21                 (1) A study describing the impacts of the facil-  
22                 ity during the previous year on instream flows, water  
23                 use, water temperature, and water quality.

24                 (2) A study describing the impacts of the facil-  
25                 ity during the previous year on fish and wildlife re-

1 sources, including river fisheries, reservoir fisheries,  
2 anadromous fish, and any marine species listed as a  
3 threatened species or endangered species under the  
4 Endangered Species Act of 1973 (16 U.S.C. 1531 et  
5 seq.) including Southern Resident killer whales  
6 (*Orcinus orca*).

7 (3) A study describing the impacts of the facil-  
8 ity during the previous year on sediment transport.

9 (4) A study forecasting the impacts of climate  
10 change to power generation at the facility.

11 (5) A certification from the California Depart-  
12 ment of Water Resources, Division of Safety of  
13 Dams, following one or more comprehensive studies  
14 of the stability and safety of the facility that are  
15 funded by the licensee, that each element of the fa-  
16 cility meets all current Federal and State seismic,  
17 stability, and safety standards and that there will be  
18 no significant risk of dam failure during the term of  
19 the license.

20 (6) A report, to be made publicly available by  
21 the Commission, on the financial status of the facil-  
22 ity, including—

23 (A) an analysis comparing the cost of  
24 power generated at the facility to revenue at-

1           tributable to the facility during the preceding  
2           year;

3           (B) a projection of the cost of power gen-  
4           erated at the facility and the revenue attrib-  
5           utable to the facility during the 5-year period  
6           beginning on the date of the license;

7           (C) an explanation of whether the financial  
8           terms of the Klamath Hydroelectric Settlement  
9           Agreement, as amended, have been met; and

10          (D) a detailed description of the annual  
11          costs associated with the facility that are passed  
12          through to the ratepayers of the licensee.

13          (d) EXCEPTION.—The requirements of this section  
14          shall not apply to any entity filing a surrender application  
15          as specified in the Commission’s order relating to the facil-  
16          ity dated July 16, 2020 (172 FERC 61,062).

17          (e) LEGAL CLAIMS.—Nothing in this section shall be  
18          construed to adversely affect any legal claims of harmed  
19          Indian Tribes, including claims for violations of any Exec-  
20          utive Order pertaining to one or more Indian Tribes, any  
21          treaty between the United States and one or more Indian  
22          Tribes, or for damages caused by the facility under the  
23          Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)  
24          or the Marine Mammal Protection Act of 1972 (16 U.S.C.

1 1361 et seq.). Such claims shall not be limited by any stat-  
2 ute of limitations.

### 3 **Subtitle C—Distributed Renewable** 4 **Energy**

#### 5 **SEC. 2301. DEFINITIONS.**

6 In this subtitle:

7 (1) **AUTHORITY HAVING JURISDICTION.**—The  
8 term “authority having jurisdiction” means any  
9 State, county, local, or Tribal office or official with  
10 jurisdiction—

11 (A) to issue permits;

12 (B) to conduct inspections to enforce the  
13 requirements of a relevant code or standard; or

14 (C) to approve the installation of, or the  
15 equipment and materials used in the installa-  
16 tion of, qualifying distributed energy systems.

17 (2) **DISTRIBUTED ENERGY SYSTEM IN-**  
18 **STALLER.**—The term “distributed energy system in-  
19 staller” means an entity or individual—

20 (A) with knowledge and skills relating to—

21 (i) the construction and operation of  
22 the equipment used in qualifying distrib-  
23 uted energy systems; and

24 (ii) the installation of qualifying dis-  
25 tributed energy systems; and

1           (B) that has employed safety training to  
2 recognize and avoid the hazards involved in con-  
3 structing, operating, and installing qualifying  
4 distributed energy systems.

5           (3) QUALIFYING DISTRIBUTED ENERGY SYS-  
6 TEM.—The term “qualifying distributed energy sys-  
7 tem” means any equipment or materials installed in,  
8 on, or near a residential, commercial, or industrial  
9 building to support onsite or local energy use, in-  
10 cluding—

11           (A) to generate electricity from distributed  
12 renewable energy sources, including from—

13                   (i) solar photovoltaic modules or simi-  
14 lar solar energy technologies;

15                   (ii) wind power systems; and

16                   (iii) hydrogen electrolysis and fuel cell  
17 systems;

18           (B) to store and discharge electricity from  
19 batteries with a capacity of at least 2 kilowatt  
20 hours;

21           (C) to charge a plug-in electric drive vehi-  
22 cle at a power rate of at least 2 kilowatts;

23           (D) to refuel a fuel cell electric vehicle; or

1           (E) to generate electricity from fuel cell  
2           systems with a capacity of at least 2 kilowatt  
3           hours.

4           (4) SECRETARY.—The term “Secretary” means  
5           the Secretary of Energy.

6 **SEC. 2302. ESTABLISHMENT OF PROGRAM TO FACILITATE**  
7           **VOLUNTARY STREAMLINED PROCESS FOR**  
8           **LOCAL PERMITTING OF QUALIFYING DIS-**  
9           **TRIBUTED ENERGY SYSTEMS.**

10          (a) IN GENERAL.—Not later than 180 days after the  
11          date of enactment of this Act, the Secretary, in consulta-  
12          tion with trade associations and other entities representing  
13          distributed energy system installers and organizations rep-  
14          resenting State, local, and Tribal governments engaged in  
15          permitting, shall establish and carry out a program to es-  
16          tablish a voluntary streamlined permitting process for  
17          local permitting and inspection of qualifying distributed  
18          energy systems, in concert with relevant national con-  
19          sensus-based codes and specifications and standards ref-  
20          erenced therein.

21          (b) ACTIVITIES OF THE PROGRAM.—In carrying out  
22          the program established under subsection (a), the Sec-  
23          retary shall—

24                  (1) facilitate the development and maintenance  
25                  of a streamlined permitting process that includes a



1 national online permitting platform for expediting,  
2 standardizing, and streamlining permitting, that au-  
3 thorities having jurisdiction may use to receive, re-  
4 view, and approve permit applications relating to  
5 qualifying distributed energy systems;

6 (2) establish a model expedited permit-to-build  
7 protocol for qualifying distributed energy systems;

8 (3) provide technical assistance to authorities  
9 having jurisdiction on using and adopting—

10 (A) the streamlined permitting process de-  
11 scribed in paragraph (1); and

12 (B) the model expedited permit-to-build  
13 protocol described in paragraph (2);

14 (4) develop and maintain a voluntary national  
15 inspection protocol integrated with the national on-  
16 line permitting system described in paragraphs (1)  
17 and (2) and related tools to expedite, standardize,  
18 and streamline the inspection of qualifying distrib-  
19 uted energy systems, including—

20 (A) by investigating the potential for using  
21 remote inspections; and

22 (B) by investigating the potential for sam-  
23 ple-based inspection for distributed energy sys-  
24 tem installers with a demonstrated track record  
25 of high-quality work; and

1           (5) take any other action to expedite, stand-  
2           ardize, streamline, or improve the process for per-  
3           mitting, inspecting, or interconnecting qualifying  
4           distributed energy systems.

5           (c) SUPPORT SERVICES.—The Secretary shall—

6           (1) provide technical assistance to authorities  
7           having jurisdiction, any administrator of a national  
8           online permitting platform, government software  
9           providers, and any other entity determined appro-  
10          priate by the Secretary in carrying out the activities  
11          described in subsection (b); and

12          (2) provide such financial assistance as the Sec-  
13          retary determines appropriate from any funds appro-  
14          priated to carry out this subtitle.

15 **SEC. 2303. DISTRIBUTED ENERGY OPPORTUNITY COMMU-**  
16 **NITIES.**

17          (a) IN GENERAL.—The Secretary shall recognize and  
18          certify certain communities as “Distributed Energy Op-  
19          portunity Communities”.

20          (b) QUALIFICATIONS.—The Secretary may certify a  
21          State, local community, or Tribe as a “Distributed Energy  
22          Opportunity Community” if that State, local community,  
23          or Tribe has adopted and implemented the model expe-  
24          dited permit-to-build protocol established under the pro-  
25          gram established under section 2302.

1 (c) PROCESS.—The Secretary may confer a certifi-  
2 cation under subsection (a) through existing programs of  
3 the Department of Energy.

4 (d) GRANTS.—The Secretary may award competitive  
5 grants, using funds appropriated to the Secretary to carry  
6 out this subtitle, to encourage communities to adopt the  
7 model expedited permit-to-build protocol and the stand-  
8 ardized inspection process established under the program  
9 established under section 2302.

10 **SEC. 2304. AUTHORIZATION OF APPROPRIATIONS.**

11 There is authorized to be appropriated to the Sec-  
12 retary to carry out this subtitle \$20,000,000 for each of  
13 fiscal years 2021 through 2025.

14 **Subtitle D—Low-Income Solar**

15 **SEC. 2401. GRANT PROGRAM FOR SOLAR INSTALLATIONS**

16 **LOCATED IN, OR THAT SERVE, LOW-INCOME**  
17 **AND UNDERSERVED AREAS.**

18 (a) DEFINITIONS.—In this section:

19 (1) BENEFICIARY.—The term “beneficiary”  
20 means a low-income household or a low-income  
21 household in an underserved area.

22 (2) COMMUNITY SOLAR FACILITY.—The term  
23 “community solar facility” means a solar generating  
24 facility that—

1 (A) through a voluntary program, has mul-  
2 tiple subscribers that receive financial benefits  
3 that are directly attributable to the facility;

4 (B) has a nameplate rating of 5 megawatts  
5 AC or less; and

6 (C) is located in the utility distribution  
7 service territory of subscribers.

8 (3) COMMUNITY SOLAR SUBSCRIPTION.—The  
9 term “community solar subscription” means a share  
10 in the capacity, or a proportional interest in the elec-  
11 tricity generation, of a community solar facility.

12 (4) COVERED FACILITY.—The term “covered  
13 facility” means—

14 (A) a community solar facility—

15 (i) that is located in an underserved  
16 area; or

17 (ii) at least 50 percent of the capacity  
18 of which is reserved for low-income house-  
19 holds;

20 (B) a solar generating facility located at a  
21 residence of a low-income household; or

22 (C) a solar generating facility located at a  
23 multi-family affordable housing complex.

24 (5) COVERED STATE.—The term “covered  
25 State” means a State with processes in place to en-

1       sure that covered facilities deliver financial benefits  
2       to low-income households.

3               (6) ELIGIBLE ENTITY.—The term “eligible enti-  
4       ty” means—

5               (A) a nonprofit organization that provides  
6       services to low-income households or multi-fam-  
7       ily affordable housing complexes;

8               (B) a developer, owner, or operator of a  
9       community solar facility that reserves a portion  
10      of the capacity of the facility for subscribers  
11      who are members of low-income households or  
12      for low-income households that otherwise finan-  
13      cially benefit from the facility;

14              (C) a covered State, or political subdivision  
15      thereof;

16              (D) an Indian Tribe or a tribally owned  
17      electric utility;

18              (E) a Native Hawaiian community-based  
19      organization;

20              (F) any other national or regional entity  
21      that has experience developing or installing  
22      solar generating facilities for low-income house-  
23      holds that maximize financial benefits to those  
24      households; and

1           (G) an electric cooperative or municipal  
2           electric utility (as such terms are defined in sec-  
3           tion 3 of the Federal Power Act).

4           (7) ELIGIBLE INSTALLATION PROJECT.—The  
5           term “eligible installation project” means a project  
6           to install a covered facility in a covered State.

7           (8) ELIGIBLE PLANNING PROJECT.—The term  
8           “eligible planning project” means a project to carry  
9           out pre-installation activities for the development of  
10          a covered facility in a covered State.

11          (9) ELIGIBLE PROJECT.—The term “eligible  
12          project” means—

13                 (A) an eligible planning project; or

14                 (B) an eligible installation project.

15          (10) FEASIBILITY STUDY.—The term “feasi-  
16          bility study” means any activity to determine the  
17          feasibility of a specific solar generating facility, in-  
18          cluding a customer interest assessment and a siting  
19          assessment, as determined by the Secretary.

20          (11) INDIAN TRIBE.—The term “Indian Tribe”  
21          means any Indian Tribe, band, nation, or other or-  
22          ganized group or community, including any Alaska  
23          Native village, Regional Corporation, or Village Cor-  
24          poration (as defined in, or established pursuant to,  
25          the Alaska Native Claims Settlement Act (43 U.S.C.

1 1601 et seq.), that is recognized as eligible for the  
2 special programs and services provided by the  
3 United States to Indians because of their status as  
4 Indians.

5 (12) INTERCONNECTION SERVICE.—The term  
6 “interconnection service” has the meaning given  
7 such term in section 111(d)(15) of the Public Utility  
8 Regulatory Policies Act of 1978 (16 U.S.C.  
9 2621(d)(15)).

10 (13) LOW-INCOME HOUSEHOLD.—The term  
11 “low-income household” means that income in rela-  
12 tion to family size which—

13 (A) is at or below 200 percent of the pov-  
14 erty level determined in accordance with criteria  
15 established by the Director of the Office of  
16 Management and Budget, except that the Sec-  
17 retary may establish a higher level if the Sec-  
18 retary determines that such a higher level is  
19 necessary to carry out the purposes of this sec-  
20 tion;

21 (B) is the basis on which cash assistance  
22 payments have been paid during the preceding  
23 12-month period under titles IV and XVI of the  
24 Social Security Act (42 U.S.C. 601 et seq.,

1           1381 et seq.) or applicable State or local law;  
2           or

3           (C) if a State elects, is the basis for eligi-  
4           bility for assistance under the Low-Income  
5           Home Energy Assistance Act of 1981 (42  
6           U.S.C. 8621 et seq.), provided that such basis  
7           is at least 200 percent of the poverty level de-  
8           termined in accordance with criteria established  
9           by the Director of the Office of Management  
10          and Budget.

11          (14) MULTI-FAMILY AFFORDABLE HOUSING  
12          COMPLEX.—The term “multi-family affordable hous-  
13          ing complex” means any federally subsidized afford-  
14          able housing complex in which at least 50 percent of  
15          the units are reserved for low-income households.

16          (15) NATIVE HAWAIIAN COMMUNITY-BASED OR-  
17          GANIZATION.—The term “Native Hawaiian commu-  
18          nity-based organization” means any organization  
19          that is composed primarily of Native Hawaiians  
20          from a specific community and that assists in the  
21          social, cultural, and educational development of Na-  
22          tive Hawaiians in that community.

23          (16) PROGRAM.—The term “program” means  
24          the program established under subsection (b).



1           (17) SECRETARY.—The term “Secretary”  
2 means the Secretary of Energy.

3           (18) SOLAR GENERATING FACILITY.—The term  
4 “solar generating facility” means—

5           (A) a generator that creates electricity  
6 from light photons; and

7           (B) the accompanying hardware enabling  
8 that electricity to flow—

9           (i) onto the electric grid;

10           (ii) into a facility or structure; or

11           (iii) into an energy storage device.

12           (19) STATE.—The term “State” means each of  
13 the 50 States, the District of Columbia, Guam, the  
14 Commonwealth of Puerto Rico, the Northern Mar-  
15 iana Islands, the Virgin Islands, and American  
16 Samoa.

17           (20) SUBSCRIBER.—The term “subscriber”  
18 means a person who—

19           (A) owns a community solar subscription,  
20 or an equivalent unit or share of the capacity  
21 or generation of a community solar facility; or

22           (B) financially benefits from a community  
23 solar facility, even if the person does not own  
24 a community solar subscription for the facility.

1           (21) UNDERSERVED AREA.—The term “under-  
2       served area” means—

3           (A) a geographical area with low or no  
4       photovoltaic solar deployment, as determined by  
5       the Secretary;

6           (B) a geographical area that has low or no  
7       access to electricity, as determined by the Sec-  
8       retary;

9           (C) a geographical area with an average  
10      annual residential retail electricity price that  
11      exceeds the national average annual residential  
12      retail electricity price (as reported by the En-  
13      ergy Information Agency) by 50 percent or  
14      more; or

15          (D) trust land, as defined in section 3765  
16      of title 38, United States Code.

17       (b) ESTABLISHMENT.—The Secretary shall establish  
18   a program to provide financial assistance to eligible enti-  
19   ties to—

20          (1) carry out planning projects that are nec-  
21      essary to establish the feasibility, obtain required  
22      permits, identify beneficiaries, or secure subscribers  
23      to install a covered facility; or

24          (2) install a covered facility for beneficiaries in  
25      accordance with this section.

1 (c) APPLICATIONS.—

2 (1) IN GENERAL.—To be eligible to receive as-  
3 sistance under the program, an eligible entity shall  
4 submit to the Secretary an application at such time,  
5 in such manner, and containing such information as  
6 the Secretary may require.

7 (2) INCLUSION FOR INSTALLATION ASSIST-  
8 ANCE.—

9 (A) REQUIREMENTS.—For an eligible enti-  
10 ty to receive assistance for a project to install  
11 a covered facility, the Secretary shall require  
12 the eligible entity to include—

13 (i) information in the application that  
14 is sufficient to demonstrate that the eligi-  
15 ble entity has obtained, or has the capacity  
16 to obtain, necessary permits, subscribers,  
17 access to an installation site, and any other  
18 items or agreements necessary to comply  
19 with an agreement under subsection (g)(1)  
20 and to complete the installation of the ap-  
21 plicable covered facility;

22 (ii) a description of the mechanism  
23 through which financial benefits will be  
24 distributed to beneficiaries or subscribers;  
25 and

1                   (iii) an estimate of the anticipated fi-  
2                   nancial benefit for beneficiaries or sub-  
3                   scribers.

4                   (B) CONSIDERATION OF PLANNING  
5                   PROJECTS.—The Secretary shall consider the  
6                   successful completion of an eligible planning  
7                   project pursuant to subsection (b)(1) by the eli-  
8                   gible entity to be sufficient to demonstrate the  
9                   ability of the eligible entity to meet the require-  
10                  ments of subparagraph (A)(i).

11               (d) SELECTION.—

12                   (1) IN GENERAL.—In selecting eligible projects  
13                   to receive assistance under the program, the Sec-  
14                   retary shall—

15                   (A) prioritize—

16                   (i) eligible installation projects that  
17                   will result in the most financial benefit for  
18                   subscribers, as determined by the Sec-  
19                   retary;

20                   (ii) eligible installation projects that  
21                   will result in development of covered facili-  
22                   ties in underserved areas; and

23                   (iii) eligible projects that include ap-  
24                   prenticeship, job training, or community

1 participation as part of their application;  
2 and

3 (B) ensure that such assistance is provided  
4 in a manner that results in eligible projects  
5 being carried out on a geographically diverse  
6 basis within and among covered States.

7 (2) DETERMINATION OF FINANCIAL BEN-  
8 EFIT.—In determining the amount of financial ben-  
9 efit for low-income households of an eligible installa-  
10 tion project, the Secretary shall ensure that all cal-  
11 culations for estimated household energy savings are  
12 based solely on electricity offsets from the applicable  
13 covered facility and use formulas established by the  
14 State or local government with jurisdiction over the  
15 applicable covered facility for verifiable household  
16 energy savings estimates that accrue to low-income  
17 households.

18 (e) ASSISTANCE.—

19 (1) FORM.—The Secretary may provide assist-  
20 ance under the program in the form of a grant  
21 (which may be in the form of a rebate) or a low-in-  
22 terest loan.

23 (2) MULTIPLE PROJECTS FOR SAME FACIL-  
24 ITY.—

1           (A) IN GENERAL.—An eligible entity may  
2           apply for assistance under the program for an  
3           eligible planning project and an eligible installa-  
4           tion project for the same covered facility.

5           (B) SEPARATE SELECTIONS.—Selection by  
6           the Secretary for assistance under the program  
7           of an eligible planning project does not require  
8           the Secretary to select for assistance under the  
9           program an eligible installation project for the  
10          same covered facility.

11         (f) USE OF ASSISTANCE.—

12           (1) ELIGIBLE PLANNING PROJECTS.—An eligi-  
13          ble entity receiving assistance for an eligible plan-  
14          ning project under the program may use such assist-  
15          ance to pay the costs of pre-installation activities as-  
16          sociated with an applicable covered facility, includ-  
17          ing—

18                 (A) feasibility studies;

19                 (B) permitting;

20                 (C) site assessment;

21                 (D) on-site job training, or other commu-  
22          nity-based activities directly associated with the  
23          eligible planning project; or

24                 (E) such other costs determined by the  
25          Secretary to be appropriate.

1           (2) ELIGIBLE INSTALLATION PROJECTS.—An  
2 eligible entity receiving assistance for an eligible in-  
3 stallation project under the program may use such  
4 assistance to pay the costs of—

5           (A) installation of a covered facility, in-  
6 cluding costs associated with materials, permit-  
7 ting, labor, or site preparation;

8           (B) storage technology sited at a covered  
9 facility;

10          (C) interconnection service expenses;

11          (D) on-site job training, or other commu-  
12 nity-based activities directly associated with the  
13 eligible installation project;

14          (E) offsetting the cost of a subscription for  
15 a covered facility described in subparagraph (A)  
16 of subsection (a)(4) for subscribers that are  
17 members of a low income household; or

18          (F) such other costs determined by the  
19 Secretary to be appropriate.

20 (g) ADMINISTRATION.—

21          (1) AGREEMENTS.—

22           (A) IN GENERAL.—As a condition of re-  
23 ceiving assistance under the program, an eligi-  
24 ble entity shall enter into an agreement with  
25 the Secretary.

1 (B) REQUIREMENTS.—An agreement en-  
2 tered into under this paragraph—

3 (i) shall require the eligible entity to  
4 maintain such records and adopt such ad-  
5 ministrative practices as the Secretary may  
6 require to ensure compliance with the re-  
7 quirements of this section and the agree-  
8 ment;

9 (ii) with respect to an eligible installa-  
10 tion project shall require that any solar  
11 generating facility installed using assist-  
12 ance provided pursuant to the agreement  
13 comply with local building and safety codes  
14 and standards; and

15 (iii) shall contain such other terms as  
16 the Secretary may require to ensure com-  
17 pliance with the requirements of this sec-  
18 tion.

19 (C) TERM.—An agreement under this  
20 paragraph shall be for a term that begins on  
21 the date on which the agreement is entered into  
22 and ends on the date that is 2 years after the  
23 date on which the eligible entity receives assist-  
24 ance pursuant to the agreement, which term  
25 may be extended once for a period of not more



1 than 1 year if the eligible entity demonstrates  
2 to the satisfaction of the Secretary that such an  
3 extension is necessary to complete the activities  
4 required by the agreement.

5 (2) USE OF FUNDS.—Of the funds made avail-  
6 able to provide assistance to eligible installation  
7 projects under this section over the period of fiscal  
8 years 2021 through 2025, the Secretary shall use—

9 (A) not less than 50 percent to provide as-  
10 sistance for eligible installation projects with re-  
11 spect to which low-income households make up  
12 at least 50 percent of the subscribers to the  
13 project; and

14 (B) not more than 50 percent to provide  
15 assistance for eligible installation projects with  
16 respect to which low-income households make  
17 up at least 25 percent of the subscribers to the  
18 project.

19 (3) REGULATIONS.—Not later than 120 days  
20 after the date of enactment of this Act, the Sec-  
21 retary shall publish in the Federal Register regula-  
22 tions to carry out this section, which shall take ef-  
23 fect on the date of publication.

24 (h) AUTHORIZATION OF APPROPRIATIONS.—

1           (1) IN GENERAL.—There is authorized to be  
2       appropriated to the Secretary to carry out this sec-  
3       tion \$250,000,000 for each of fiscal years 2021  
4       through 2025, to remain available until expended.

5           (2) AMOUNTS FOR PLANNING PROJECTS.—Of  
6       the amounts appropriated pursuant to this section  
7       over the period of fiscal years 2021 through 2025,  
8       the Secretary shall use not more than 15 percent of  
9       funds to provide assistance to eligible planning  
10      projects.

11          (i) RELATIONSHIP TO OTHER ASSISTANCE.—The  
12      Secretary shall, to the extent practicable, encourage eligi-  
13      ble entities that receive assistance under this section to  
14      leverage such funds by seeking additional funding through  
15      federally or locally subsidized weatherization and energy  
16      efficiency programs.

17      **SEC. 2402. ESTABLISHMENT OF COMMUNITY SOLAR PRO-**  
18   **GRAMS.**

19          (a) IN GENERAL.—Section 111(d) of the Public Util-  
20      ity Regulatory Policies Act of 1978 (16 U.S.C. 2621(d))  
21      is amended by adding at the end the following:

22                           “(21) COMMUNITY SOLAR PROGRAMS.—Each  
23      electric utility shall offer a community solar program  
24      that provides all ratepayers, including low-income  
25      ratepayers, equitable and demonstrable access to

1 such community solar program. For the purposes of  
2 this paragraph, the term ‘community solar program’  
3 means a service provided to any electric consumer  
4 that the electric utility serves through which the  
5 value of electricity generated by a community solar  
6 facility may be used to offset charges billed to the  
7 electric consumer by the electric utility. A ‘commu-  
8 nity solar facility’ is—

9 “(A) a solar photovoltaic system that allo-  
10 cates electricity to multiple electric consumers  
11 of an electric utility;

12 “(B) connected to a local distribution of  
13 the electric utility;

14 “(C) located either on or off the property  
15 of the electric consumers; and

16 “(D) may be owned by an electric utility,  
17 an electric consumer, or a third party.”.

18 (b) COMPLIANCE.—

19 (1) TIME LIMITATIONS.—Section 112(b) of the  
20 Public Utility Regulatory Policies Act of 1978 (16  
21 U.S.C. 2622(b)) is amended by adding at the end  
22 the following:

23 “(8)(A) Not later than 1 year after the date of  
24 enactment of this paragraph, each State regulatory  
25 authority (with respect to each electric utility for

1 which the State has ratemaking authority) and each  
2 nonregulated electric utility shall commence consid-  
3 eration under section 111, or set a hearing date for  
4 consideration, with respect to the standard estab-  
5 lished by paragraph (21) of section 111(d).

6 “(B) Not later than 2 years after the date of  
7 enactment of this paragraph, each State regulatory  
8 authority (with respect to each electric utility for  
9 which the State has ratemaking authority), and each  
10 nonregulated electric utility shall complete the con-  
11 sideration and make the determination under section  
12 111 with respect to the standard established by  
13 paragraph (21) of section 111(d).”.

14 (2) FAILURE TO COMPLY.—

15 (A) IN GENERAL.—Section 112(c) of the  
16 Public Utility Regulatory Policies Act of 1978  
17 (16 U.S.C. 2622(c)) is amended—

18 (i) by striking “such paragraph (14)”  
19 and all that follows through “paragraphs  
20 (16)” and inserting “such paragraph (14).  
21 In the case of the standard established by  
22 paragraph (15) of section 111(d), the ref-  
23 erence contained in this subsection to the  
24 date of enactment of this Act shall be  
25 deemed to be a reference to the date of en-

1 actment of that paragraph (15). In the  
2 case of the standards established by para-  
3 graphs (16)”; and

4 (ii) by adding at the end the fol-  
5 lowing: “In the case of the standard estab-  
6 lished by paragraph (21) of section 111(d),  
7 the reference contained in this subsection  
8 to the date of enactment of this Act shall  
9 be deemed to be a reference to the date of  
10 enactment of that paragraph (21).”.

11 (B) TECHNICAL CORRECTION.—

12 (i) IN GENERAL.—Section 1254(b) of  
13 the Energy Policy Act of 2005 (Public  
14 Law 109–58; 119 Stat. 971) is amended—

15 (I) by striking paragraph (2);

16 and

17 (II) by redesignating paragraph  
18 (3) as paragraph (2).

19 (ii) TREATMENT.—The amendment  
20 made by paragraph (2) of section 1254(b)  
21 of the Energy Policy Act of 2005 (Public  
22 Law 109–58; 119 Stat. 971) (as in effect  
23 on the day before the date of enactment of  
24 this Act) is void, and section 112(d) of the  
25 Public Utility Regulatory Policies Act of

1           1978 (16 U.S.C. 2622(d)) shall be in ef-  
2           fect as if those amendments had not been  
3           enacted.

4           (3) PRIOR STATE ACTIONS.—

5           (A) IN GENERAL.—Section 112 of the  
6           Public Utility Regulatory Policies Act of 1978  
7           (16 U.S.C. 2622) is amended by adding at the  
8           end the following:

9           “(h) PRIOR STATE ACTIONS.—Subsections (b) and  
10          (c) shall not apply to the standard established by para-  
11          graph (21) of section 111(d) in the case of any electric  
12          utility in a State if, before the date of enactment of this  
13          subsection—

14                 “(1) the State has implemented for the electric  
15          utility the standard (or a comparable standard);

16                 “(2) the State regulatory authority for the  
17          State or the relevant nonregulated electric utility has  
18          conducted a proceeding to consider implementation  
19          of the standard (or a comparable standard) for the  
20          electric utility; or

21                 “(3) the State legislature has voted on the im-  
22          plementation of the standard (or a comparable  
23          standard) for the electric utility.”.

24           (B) CROSS-REFERENCE.—Section 124 of  
25          the Public Utility Regulatory Policies Act of

1           1978 (16 U.S.C. 2634) is amended by adding  
2           at the end the following: “In the case of the  
3           standard established by paragraph (21) of sec-  
4           tion 111(d), the reference contained in this sub-  
5           section to the date of enactment of this Act  
6           shall be deemed to be a reference to the date  
7           of enactment of that paragraph (21).”.

8                           **Subtitle E—Research and**  
9                           **Development**

10                   **PART 1—SOLAR ENERGY RESEARCH AND**  
11                   **DEVELOPMENT**

12   **SEC. 2501. DEFINITIONS.**

13           In this part:

14                   (1) The term “eligible entity” means any of the  
15           following entities:

16                           (A) An institution of higher education.

17                           (B) A National Laboratory.

18                           (C) A Federal research agency.

19                           (D) A State research agency.

20                           (E) A nonprofit research organization.

21                           (F) An industrial entity or a multi-institu-  
22           tional consortium thereof.

23                   (2) The term “institution of higher edu-  
24           cation”—

1 (A) has the meaning given such term in  
2 section 101 of the Higher Education Act of  
3 1965 (20 U.S.C. 1001); and

4 (B) includes a minority-serving institution.

5 (3) The term “minority-serving institution” has  
6 the meaning given the term “eligible institution” in  
7 section 371(a) of the Higher Education Act of 1965  
8 (20 U.S.C. 1067q(a)).

9 (4) The term “National Laboratory” has the  
10 meaning given such term in section 2(3) of the En-  
11 ergy Policy Act of 2005 (42 U.S.C. 15801(3)).

12 (5) The term “photovoltaic device” includes  
13 photovoltaic cells and the electronic and electrical  
14 components of such devices.

15 (6) The term “Secretary” means the Secretary  
16 of Energy.

17 **SEC. 2502. SOLAR ENERGY RESEARCH AND DEVELOPMENT.**

18 (a) IN GENERAL.—The Secretary shall carry out a  
19 solar energy program to conduct research, development,  
20 demonstration, and commercial application of solar energy  
21 technologies. In carrying out such program, the Secretary  
22 shall, in accordance with subsection (b), award grants and  
23 enter into contracts and cooperative agreements under  
24 this section, and sections 2503, 2504, and 2505 for each  
25 of the following purposes:



1           (1) To improve the energy efficiency, siting, re-  
2           liability, resilience, security, capacity, and environ-  
3           mental performance of solar energy generation.

4           (2) To optimize the design and adaptability of  
5           solar energy systems to the broadest practical range  
6           of geographic and atmospheric conditions.

7           (3) To reduce the cost of manufacturing, instal-  
8           lation, operation, maintenance, and decommissioning  
9           of solar energy systems.

10          (4) To create and improve conversion of solar  
11          energy to useful forms.

12          (b) GRANTS, CONTRACTS, AND COOPERATIVE  
13          AGREEMENTS.—

14           (1) GRANTS.—In carrying out the program es-  
15           tablished under subsection (a), the Secretary shall  
16           award grants on a competitive, merit-reviewed basis  
17           to eligible entities for projects that the Secretary de-  
18           termines would best achieve the goals of the pro-  
19           gram.

20           (2) CONTRACTS AND COOPERATIVE AGREE-  
21           MENTS.—In carrying out the program established  
22           under subsection (a), the Secretary may enter into  
23           contracts and cooperative agreements with eligible  
24           entities and Federal agencies for projects that the

1 Secretary determines would further the purposes of  
2 the program.

3 (3) APPLICATION.—An entity seeking a grant  
4 or a contract or agreement under this part shall sub-  
5 mit to the Secretary an application at such time, in  
6 such manner, and containing such information as  
7 the Secretary may require.

8 (4) SPECIAL CONSIDERATION.—With respect to  
9 applications under paragraph (3), the Secretary  
10 shall give special consideration to applications from  
11 minority-serving institutions or a multi-institutional  
12 consortium which includes a minority-serving institu-  
13 tion.

14 (c) SOLAR ENERGY RESEARCH SUBJECT AREAS.—  
15 The program established under subsection (a) shall focus  
16 on the research, development, demonstration, and com-  
17 mercial application of each of the following subject areas:

18 (1) Photovoltaic devices and related electronic  
19 components, including converters, sensors, energy  
20 monitors, communication and control equipment,  
21 and protocols.

22 (2) Concentrated solar power, including solar  
23 thermal and concentrating solar photovoltaic tech-  
24 nologies.

25 (3) Low cost, high-quality solar energy systems.

1           (4) Low cost, thin-film solar technologies, in-  
2           cluding the use of perovskite and cadmium telluride  
3           materials in solar cells.

4           (5) Solar heating and cooling systems, including  
5           distributed solar-powered air conditioning.

6           (6) Solar technology products that can be easily  
7           integrated into new buildings, existing buildings, ag-  
8           ricultural and aquatic environments, and other infra-  
9           structure.

10          (7) Solar technology that is resilient to extreme  
11          weather events.

12          (8) Solar technology products integrated into  
13          transportation applications in coordination with vehi-  
14          cle technologies research and development activities  
15          supported by the Department of Energy.

16          (9) Storage technologies to address the tran-  
17          sience and intermittency of solar energy resources,  
18          including batteries, supercapacitors, and thermal  
19          storage.

20          (10) Microgrids using solar technology.

21          (11) Solar technologies enabling safe grid oper-  
22          ating conditions, such as fast-disconnect during an  
23          emergency.

24          (12) Distributed solar energy technologies, such  
25          as rooftop solar panels.

1           (13) Technologies and designs that enable a  
2 broad range of scales for solar power production.

3           (14) Advanced solar manufacturing technologies  
4 and best practices, including—

5                 (A) materials and processes;

6                 (B) development of industry standards;

7                 (C) design and integration practices; and

8                 (D) optimized packaging methods and new  
9 device designs.

10          (15) Advanced analytic and computing capabili-  
11 ties for better modeling and simulations of solar en-  
12 ergy systems.

13          (16) Electrical grid integration, including—

14                 (A) integration of solar technologies into  
15 smart grid, transmission, and distribution;

16                 (B) coordination of solar with other dis-  
17 tributed and large-scale energy resources;

18                 (C) electrical power smoothing;

19                 (D) microgrid integration;

20                 (E) community solar;

21                 (F) solar resource forecasting;

22                 (G) regional and national electric system  
23 balancing and long distance transmission op-  
24 tions, including direct current and super-

1           conducting transmission and long-term storage  
2           options;

3           (H) ways to address system operations  
4           over minutes, hours, days, weeks, and seasons  
5           with respect to the full range of project scales;  
6           and

7           (I) electric grid security, including cyber  
8           and physical security.

9           (17) Non-hardware and information-based ad-  
10          vances in solar energy system siting, design, installa-  
11          tion, operation, maintenance, and decommissioning.

12          (18) Solar energy technology as a part of strat-  
13          egies commonly referred to as “behind-the-meter  
14          strategies”, including with respect to electricity gen-  
15          eration, load, energy efficiency, controls, storage,  
16          and electric vehicles.

17          (19) Methods to reduce the total volume of  
18          water used in the manufacture, construction, oper-  
19          ation, and maintenance of solar energy technologies.

20          (20) Siting of solar energy on previously dis-  
21          turbed lands, including landfills, former mines, and  
22          other areas requiring environmental management.

23          (21) Durable, low-cost solar-powered sensors,  
24          equipment, and machinery for off-grid use, with spe-  
25          cial consideration for agricultural applications, such

1 as solar powered smart agricultural monitoring and  
2 irrigation systems.

3 (22) Other subject areas determined by the Sec-  
4 retary.

5 (d) TECHNICAL ASSISTANCE AND WORKFORCE DE-  
6 VELOPMENT.—In carrying out the program established  
7 under subsection (a), the Secretary shall also conduct, for  
8 purposes of supporting technical, non-hardware, and infor-  
9 mation-based advances in solar energy systems develop-  
10 ment and operations, including activities expanding access  
11 to solar energy for low-income and disadvantaged individ-  
12 uals and communities—

13 (1) technical assistance and analysis activities  
14 with eligible entities; and

15 (2) workforce development and training activi-  
16 ties, including—

17 (A) activities that support the dissemina-  
18 tion of standards and best practices for ena-  
19 bling solar power production; and

20 (B) through the use of proven techniques  
21 to expand the number of individuals from  
22 underrepresented groups pursuing and attain-  
23 ing skills relevant to solar energy.

24 (e) PROGRAM TARGETS.—The program established  
25 under subsection (a) shall address near-term (up to 2

1 years), mid-term (up to 7 years), and long-term (up to  
2 15 years) challenges to the advancement of solar energy  
3 systems.

4 (f) SUSTAINABLE CHEMISTRY.—Each entity receiv-  
5 ing a grant, contract, or cooperative agreement under this  
6 section shall endeavor, in carrying out activities under  
7 such grant, contract, or cooperative agreement, to incor-  
8 porate, where appropriate, sustainable and green chem-  
9 istry and engineering principles, practices, and methodolo-  
10 gies.

11 (g) WILDLIFE IMPACT MITIGATION.—In carrying out  
12 the program established under subsection (a), the Sec-  
13 retary shall support wildlife impact mitigation technologies  
14 and strategies, including the use of distributed solar tech-  
15 nologies, to avoid, minimize, and offset the potential nega-  
16 tive impacts of solar energy systems on wildlife, including  
17 bird species, habitat, and local flora and fauna.

18 (h) STEWARDSHIP OF NATIONAL LABORATORY RE-  
19 SOURCES.—In awarding grants and entering into con-  
20 tracts and cooperative agreements under this part, the  
21 Secretary shall steward relevant capabilities and programs  
22 of the National Laboratories.

23 (i) CONFORMING REPEALS.—The following provi-  
24 sions of law are hereby repealed:

1           (1) The Solar Energy Research, Development,  
2           and Demonstration Act of 1974 (42 U.S.C. 5551 et  
3           seq.), except for section 10.

4           (2) The Solar Photovoltaic Energy Research,  
5           Development, and Demonstration Act of 1978 (42  
6           U.S.C. 5581 et seq.).

7           (3) Paragraphs (2) and (3) of section 4(a) of  
8           the Renewable Energy and Energy Efficiency Tech-  
9           nology Competitiveness Act of 1989 (42 U.S.C.  
10          12003(a)).

11          (4) Subparagraph (A) of section 931(a)(2) of  
12          the Energy Policy Act of 2005 (42 U.S.C.  
13          16231(a)(2)).

14          (5) Sections 606 and 607 of the Energy Inde-  
15          pendence and Security Act of 2007 (42 U.S.C.  
16          17174 and 17175).

17          (j) CONFORMING AMENDMENT.—The table of con-  
18          tents in section 1 of the Energy Independence and Secu-  
19          rity Act of 2007 is amended by striking the items relating  
20          to sections 606 and 607.

21          **SEC. 2503. SOLAR ENERGY DEMONSTRATION PROJECTS.**

22          (a) IN GENERAL.—In carrying out the program es-  
23          tablished under section 2502(a), the Secretary shall award  
24          grants on a competitive, merit-reviewed basis to eligible



1 entities for demonstration projects to advance the develop-  
2 ment of solar energy technologies and systems production.

3 (b) PRIORITY.—In awarding grants under subsection  
4 (a), the Secretary shall give priority to projects that—

5 (1) are located in geographically diverse regions  
6 of the United States;

7 (2) can be replicated in a variety of regions and  
8 climates;

9 (3) demonstrate technologies that address  
10 intermittency, variability, storage challenges, behind-  
11 the-meter operations, and independent operational  
12 capability;

13 (4) coordinate solar technologies with other dis-  
14 tributed and large-scale energy resources;

15 (5) facilitate identification of optimum ap-  
16 proaches among competing solar energy tech-  
17 nologies;

18 (6) include business commercialization plans  
19 that have the potential for production of solar en-  
20 ergy equipment at high volumes;

21 (7) support the development of advanced manu-  
22 facturing technologies that have the potential to im-  
23 prove United States competitiveness in the inter-  
24 national solar energy manufacturing sector;

1           (8) provide the greatest potential to reduce en-  
2           ergy costs, as well as promote accessibility and com-  
3           munity implementation of demonstrated tech-  
4           nologies, for consumers;

5           (9) increase disclosure and transparency of in-  
6           formation to all market participants to help in mak-  
7           ing optimal decisions;

8           (10) promote overall electric infrastructure reli-  
9           ability, security, and resilience should grid functions  
10          be disrupted or damaged;

11          (11) promote solar energy in low-income com-  
12          munities and those disproportionately burdened by  
13          environmental pollution; and

14          (12) satisfy any other criteria that the Sec-  
15          retary determines appropriate.

16          (c) USE OF FUNDS.—Grants under this section may  
17          be used, to the extent that funding is not otherwise avail-  
18          able through other Federal programs or power purchase  
19          agreements, for—

20                 (1) any necessary site engineering study;

21                 (2) an economic assessment of site-specific con-  
22                 ditions;

23                 (3) appropriate feasibility studies to determine  
24                 whether the demonstration can be replicated;

1 (4) installation of equipment, service, and sup-  
2 port;

3 (5) operation for at least the minimum amount  
4 of time required to fully assess the project's results  
5 and objectives, as determined by a peer-reviewed  
6 process; and

7 (6) validation of technical, economic, and envi-  
8 ronmental assumptions and documentation of les-  
9 sons learned.

10 (d) SOLICITATION.—Not later than 90 days after the  
11 date of enactment of this Act and biennially thereafter,  
12 the Secretary shall conduct a national solicitation for ap-  
13 plications for grants under this section.

14 **SEC. 2504. NEXT GENERATION SOLAR ENERGY MANUFAC-**  
15 **TURING INITIATIVE.**

16 (a) IN GENERAL.—In carrying out the program es-  
17 tablished under section 2502(a), the Secretary shall con-  
18 duct research, development, demonstration, and commer-  
19 cial application projects, in accordance with section  
20 2502(b), to advance new solar energy manufacturing tech-  
21 nologies and techniques, including those that manufacture  
22 solar cells, hardware, and enabling devices.

23 (b) STRATEGIC VISION REPORT.—

24 (1) IN GENERAL.—Not later than September 1,  
25 2021, the Secretary shall submit to the Committee

1 on Science, Space, and Technology of the House of  
2 Representatives, the Committee on Energy and Nat-  
3 ural Resources of the Senate, and any other commit-  
4 tees of Congress deemed appropriate by the Sec-  
5 retary a report on the results of a study that exam-  
6 ines the viable market opportunities available for  
7 solar energy technology manufacturing in the United  
8 States, including solar cells, hardware, and enabling  
9 technologies.

10 (2) REPORT REQUIREMENTS.—The report  
11 under paragraph (1) shall include—

12 (A) a description of—

13 (i) the ability to competitively manu-  
14 facture solar technology in the United  
15 States, including the manufacture of—

16 (I) new and advanced materials,  
17 such as cells made with new, cost-ef-  
18 fective, high efficiency materials;

19 (II) solar module equipment and  
20 enabling technologies, including smart  
21 inverters, sensors, and tracking equip-  
22 ment;

23 (III) innovative solar module de-  
24 signs and applications, including those  
25 that can directly integrate with new

1 and existing buildings and other infra-  
2 structure; and

3 (IV) other research areas as de-  
4 termined by the Secretary; and

5 (ii) opportunities and barriers within  
6 the United States and international solar  
7 energy technology supply chains;

8 (B) policy recommendations for enhancing  
9 solar energy technology manufacturing in the  
10 United States; and

11 (C) an aggressive 10-year target and plan,  
12 beginning in 2022, to enhance the competitive-  
13 ness of solar energy technology manufacturing  
14 in the United States.

15 (c) PROGRAM IMPLEMENTATION.—In carrying out  
16 the research, development, demonstration, and commercial  
17 application activities under this section, to the extent prac-  
18 ticable, the Secretary shall follow the recommendations in-  
19 cluded in the report under subsection (b) and award  
20 grants and enter into contracts and cooperative agree-  
21 ments for solar energy manufacturing projects that—

22 (1) reduce capital expenditures or provide  
23 lower-cost manufacturing options;

24 (2) eliminate manufacturing process steps;

25 (3) reduce energy, water, and material inputs;

1           (4) establish alternative supply chains for mate-  
2           rials and components; and

3           (5) take advantage of rapid prototyping, small  
4           batch manufacturing, and roll-to-roll processing.

5           (d) PROGRAM EVALUATION.—Beginning not later  
6 than 3 years after the completion of the report under sub-  
7 section (b), and every 4 years thereafter, the Secretary  
8 shall provide, and make available to the public and the  
9 relevant authorizing and appropriations committees of  
10 Congress, an independent review of the program author-  
11 ized under this section to evaluate its progress toward  
12 meeting the policy recommendations and targets deter-  
13 mined in the report.

14 **SEC. 2505. PHOTOVOLTAIC DEVICE RECYCLING RESEARCH**  
15 **AND DEVELOPMENT.**

16           (a) IN GENERAL.—In carrying out the program es-  
17 tablished under section 2502(a), the Secretary shall con-  
18 duct research, development, demonstration, and commer-  
19 cial application projects, in accordance with section  
20 2502(b), to advance innovative and practical approaches  
21 to increase reuse and recycling of photovoltaic devices.

22           (b) PURPOSE.—The Secretary shall award grants  
23 and enter into contracts and cooperative agreements under  
24 subsection (a) for projects that address—

1           (1) technology to increase the efficiency of photo-  
2           voltaic device recycling and maximize the recovery  
3           of valuable raw materials for use in new products  
4           while minimizing the life-cycle environmental im-  
5           pacts such as greenhouse gas emissions and water  
6           usage;

7           (2) expanded uses for materials from recycled  
8           photovoltaic devices;

9           (3) development and demonstration of environ-  
10          mentally responsible alternatives to the use of haz-  
11          ardous materials in photovoltaic devices and the pro-  
12          duction of such devices;

13          (4) development of methods to separate and re-  
14          move hazardous materials from photovoltaic devices  
15          and to recycle or dispose of those materials in a safe  
16          and low-cost manner;

17          (5) product design and construction to facilitate  
18          disassembly and recycling of photovoltaic devices;

19          (6) tools and methods to aid in assessing the  
20          environmental impacts of the production of photo-  
21          voltaic devices and photovoltaic device recycling and  
22          disposal;

23          (7) product design and construction and other  
24          tools and techniques to extend the life cycle of photo-

1        tovoltaic devices, including methods to promote their  
2        safe reuse; and

3           (8) strategies to increase consumer acceptance  
4        and practice of recycling of photovoltaic devices.

5        (c) APPLICATIONS.—An eligible entity seeking a  
6        grant, contract, or cooperative agreement under this sec-  
7        tion shall submit to the Secretary an application that in-  
8        cludes a description of—

9           (1) the project that will be undertaken and the  
10        contributions of each participating entity; and

11          (2) the applicability of the project to increasing  
12        reuse and recycling of photovoltaic devices with the  
13        least environmental impacts as measured by life-  
14        cycle analyses, and the potential for incorporating  
15        the research results into industry practice.

16        (d) DISSEMINATION OF RESULTS.—The Secretary  
17        shall publish the results of projects supported under this  
18        section through—

19          (1) development of best practices or training  
20        materials for use in the photovoltaics manufacturing,  
21        design, installation, refurbishing, disposal, or recy-  
22        cling industries;

23          (2) dissemination at industry conferences;



1           (3) coordination with information dissemination  
2 programs relating to recycling of electronic devices  
3 in general;

4           (4) demonstration projects; and

5           (5) educational materials for the public pro-  
6 duced in conjunction with State, Tribal, and local  
7 governments or nonprofit organizations on the prob-  
8 lems and solutions related to reuse and recycling of  
9 photovoltaic devices.

10       (e) PHOTOVOLTAIC MATERIALS PHYSICAL PROP-  
11 erty DATABASE.—

12           (1) IN GENERAL.—Not later than September 1,  
13 2022, the Secretary shall establish a comprehensive  
14 physical property database of materials for use in  
15 photovoltaic devices. Such database shall include—

16           (A) identification of materials used in pho-  
17 tovoltaic devices;

18           (B) a list of commercially available  
19 amounts of these materials and their country of  
20 origin;

21           (C) amounts of these materials projected  
22 to be available through mining or recycling of  
23 photovoltaic and other electronic devices; and

24           (D) a list of other significant uses for each  
25 of these materials.

1           (2) PRIORITIES.—Not later than September 1,  
2           2021, the Secretary, working with private industry,  
3           shall develop a plan to establish priorities and re-  
4           quirements for the database under this subsection,  
5           including the protection of proprietary information,  
6           trade secrets, and other confidential business infor-  
7           mation.

8           (3) COORDINATION.—The Secretary shall co-  
9           ordinate with the Director of the National Institute  
10          of Standards and Technology, the Administrator of  
11          the Environmental Protection Agency, and the Ad-  
12          ministrator of the Department of Interior to facili-  
13          tate the incorporation of the database under this  
14          subsection with any existing database for materials  
15          involved in electronic manufacturing and recycling.

16 **SEC. 2506. AUTHORIZATION OF APPROPRIATIONS.**

17          There are authorized to be appropriated to the Sec-  
18          retary to carry out this part—

19               (1) \$441,000,000 for fiscal year 2021;

20               (2) \$463,050,000 for fiscal year 2022;

21               (3) \$486,202,500 for fiscal year 2023;

22               (4) \$510,512,625 for fiscal year 2024; and

23               (5) \$536,038,257 for fiscal year 2025.

1           **PART 2—WIND ENERGY RESEARCH AND**  
2   **DEVELOPMENT**

3   **SEC. 2521. DEFINITIONS.**

4           In this section:

5                 (1) The term “eligible entity” means any of the  
6           following entities:

7                         (A) An institution of higher education.

8                         (B) A National Laboratory.

9                         (C) A Federal research agency.

10                        (D) A State research agency.

11                        (E) A nonprofit research organization.

12                        (F) An industrial entity or a multi-institu-  
13           tional consortium thereof.

14                 (2) The term “energy critical material” means  
15           any of a class of non-fuel materials that have a high  
16           risk of a supply disruption and are critical to one or  
17           more existing or new, energy-related technologies  
18           such that a substantial supply disruption of such  
19           material would significantly inhibit large-scale de-  
20           ployment of technologies that produce, transmit,  
21           store, or conserve energy.

22                 (3) The term “institution of higher education”  
23           has the meaning given such term in section 101 of  
24           the Higher Education Act of 1965 (20 U.S.C.  
25           1001).

1           (4) The term “National Laboratory” has the  
2 meaning given such term in section 2(3) of the En-  
3 ergy Policy Act of 2005 (42 U.S.C. 15801(3)).

4           (5) The term “supersized turbine” means a 12  
5 megawatt or greater wind turbine, typically with a  
6 tower height greater than 140 meters and blades  
7 greater than 75 meters.

8 **SEC. 2522. WIND ENERGY RESEARCH AND DEVELOPMENT.**

9           (a) IN GENERAL.—The Secretary of Energy (in this  
10 part, referred to as the “Secretary”) shall carry out a pro-  
11 gram to conduct research, development, demonstration,  
12 and commercial application of wind energy technologies.  
13 In carrying out such program and in accordance with sub-  
14 section (b), the Secretary shall award grants and enter  
15 into contracts and cooperative agreements under this sec-  
16 tion and sections 2523, 2524, and 2525 for each of the  
17 following purposes:

18           (1) To improve the energy efficiency, reliability,  
19 resilience, security, and capacity of wind energy gen-  
20 eration.

21           (2) To optimize the design and control of wind  
22 energy systems for the broadest practical range of  
23 geographic and atmospheric conditions.

24           (3) To reduce the cost and risk of siting, per-  
25 mitting, construction, operation, maintenance, and

1 decommissioning of wind energy systems, including  
2 strategies and technologies to reduce environmental  
3 and community impacts, including research and de-  
4 velopment that reduces impacts on existing ocean  
5 uses and increases coordination between offshore  
6 wind and existing users, including the commercial  
7 fishing industry, improve grid integration, and re-  
8 duce regulatory barriers.

9 (4) To improve materials, engineering, and  
10 manufacturing processes for turbines, including  
11 supersized turbines.

12 (5) To optimize wind plant performance and in-  
13 tegration within hybrid energy systems to enhance  
14 cost efficiency and electric grid stability and resil-  
15 ience.

16 (b) GRANTS, CONTRACTS, AND COOPERATIVE  
17 AGREEMENTS.—

18 (1) GRANTS.—In carrying out the program, the  
19 Secretary shall award grants on a competitive,  
20 merit-reviewed basis to eligible entities for projects  
21 that the Secretary determines would best achieve the  
22 goals of the program.

23 (2) CONTRACTS AND COOPERATIVE AGREE-  
24 MENTS.—In carrying out the program, the Secretary  
25 may enter into contracts and cooperative agreements

1 with eligible entities and Federal agencies for  
2 projects that the Secretary determines would further  
3 the purposes of the program.

4 (3) APPLICATION.—An entity seeking funding  
5 or a contract or agreement under this subsection  
6 shall submit to the Secretary an application at such  
7 time, in such manner, and containing such informa-  
8 tion as the Secretary may require.

9 (c) WIND ENERGY RESEARCH SUBJECT AREAS.—  
10 The program established under subsection (a) shall focus  
11 on the research, development, demonstration, and com-  
12 mercial application of each of the following subject areas:

13 (1) Wind power plant siting, performance, and  
14 operations including—

15 (A) wind flows and turbine-to-turbine  
16 interactions;

17 (B) energy conversion potential;

18 (C) turbine and wind plant control para-  
19 digms;

20 (D) turbine and wind plant security;

21 (E) turbine components;

22 (F) integrated hybrid plant systems;

23 (G) wind energy siting and its effects on  
24 wildlife and habitat; and

1 (H) siting of wind energy on previously  
2 disturbed lands, including landfills, former  
3 mines, and other areas requiring environmental  
4 management.

5 (2) New materials and designs related to  
6 blades, rotors, towers and drivetrains including—

7 (A) higher tip speed rotor designs;

8 (B) low noise rotor designs;

9 (C) advanced drivetrain and generator con-  
10 cepts;

11 (D) modular construction and onsite or  
12 near-site manufacturing and assembly tech-  
13 niques;

14 (E) sustainable and recyclable materials  
15 and manufacturing systems;

16 (F) supersized turbine design and installa-  
17 tion approaches;

18 (G) lightweight materials; and

19 (H) materials and designs that reduce the  
20 need for and use of energy critical materials.

21 (3) Offshore wind-specific projects including—

22 (A) fixed and floating substructure con-  
23 cepts, including technologies and strategies to  
24 minimize potential acoustic disturbances to ma-  
25 rine species;

1 (B) projects to assess and mitigate the im-  
2 pacts of hurricane wind flow, freshwater ice,  
3 and other United States-specific conditions;

4 (C) innovative operations and maintenance  
5 strategies;

6 (D) analysis of offshore meteorological, ge-  
7 ological, biological, and oceanographic data col-  
8 lection;

9 (E) offshore infrastructure monitoring;  
10 and

11 (F) analysis of corrosion and fatigue for  
12 the purpose of extending the design life of off-  
13 shore wind turbine substructures.

14 (4) Recycling and reuse of wind energy compo-  
15 nents, with special consideration for the recovery  
16 and reuse of energy critical materials, in coordina-  
17 tion with the program under title X of the Clean  
18 Economy Jobs and Innovation Act.

19 (5) Wind power forecasting and atmospheric  
20 measurement systems, including for turbines and  
21 plant systems of varying height.

22 (6) Distributed wind-specific projects, includ-  
23 ing—

24 (A) cost-effective turbine designs, compo-  
25 nents, and manufacturing; and



1 (B) microgrid applications.

2 (7) Advanced transportation mechanisms for  
3 wind turbine components.

4 (8) Transformational technologies for har-  
5 nassing wind energy, including airborne wind energy  
6 concepts.

7 (9) Methods to extend the operational lifetime  
8 of onshore and offshore wind turbines and systems.

9 (10) Storage technologies to address the tran-  
10 sience and intermittency of wind energy resources.

11 (11) Modeling and simulation tools to more effi-  
12 ciently design, site, permit, manufacture, construct,  
13 operate, maintain, and decommission wind energy  
14 systems.

15 (12) Other research areas as determined by the  
16 Secretary.

17 (d) REPORT.—

18 (1) IN GENERAL.—Not later than 180 days  
19 after the date of the enactment of this Act, the Sec-  
20 retary shall submit to the Committee on Science,  
21 Space, and Technology of the House of Representa-  
22 tives and the Committee on Energy and Natural Re-  
23 sources of the Senate a report on the potential for,  
24 and technical viability of, airborne wind energy sys-

1       tems to provide a significant source of energy in the  
2       United States.

3           (2) CONTENTS.—The report under paragraph  
4       (1) shall include a summary of research, develop-  
5       ment, demonstration, and commercial application  
6       needs, including an estimate of Federal funding re-  
7       quirements, to further examine and validate the  
8       technical and economic viability of airborne wind en-  
9       ergy concepts over the 10-year period beginning on  
10      the date of the enactment of this Act.

11      (e) COORDINATION.—To the maximum extent prac-  
12     ticable, the Secretary shall coordinate activities under the  
13     program established under subsection (a) with other rel-  
14     evant programs and capabilities of the Department of En-  
15     ergy and other Federal research programs.

16      (f) CONFORMING REPEALS.—

17           (1) Section 931(a)(2) of the Energy Policy Act  
18       of 2005 (42 U.S.C. 16231(a)(2)) is amended by  
19       striking subparagraph (B) and redesignating sub-  
20       paragraphs (C) through (E) as subparagraphs (A)  
21       through (C).

22           (2) Section 4(a) of the Renewable Energy and  
23       Energy Efficiency Technology Competitiveness Act  
24       of 1989 (42 U.S.C. 12003(a)) is amended by strik-  
25       ing paragraph (1).

1 **SEC. 2523. WIND ENERGY DEMONSTRATION AND VALIDA-**  
2 **TION PROJECTS.**

3 (a) IN GENERAL.—In carrying out the program es-  
4 tablished under section 2522(a), the Secretary shall award  
5 grants on a competitive, merit-reviewed basis to eligible  
6 entities to support activities that demonstrate and validate  
7 new wind energy technologies with the potential to be cost-  
8 competitive for land-based, offshore, and distributed appli-  
9 cations.

10 (b) APPLICATION.—An eligible entity seeking a grant  
11 under this section shall submit an application in such form  
12 and manner as the Secretary may prescribe and that con-  
13 tains—

14 (1) a certification that any demonstration or  
15 validation project carried out using grant funds  
16 are—

17 (A) conducted in collaboration with indus-  
18 try and, as appropriate, with institutions of  
19 higher education and other Federal research  
20 programs; and

21 (B) of sufficient size and geographic diver-  
22 sity to measure wind energy system perform-  
23 ance under the full productive range of wind  
24 conditions in the United States; and

25 (2) such other information as the Secretary  
26 may require.

1           (c) FACILITY FOR HYBRID ENERGY SYSTEM RE-  
2 SEARCH AND DEMONSTRATION PROJECTS.—In carrying  
3 out the program established under subsection (a), the Sec-  
4 retary shall support a facility to conduct research, develop-  
5 ment, demonstration, and commercial application projects  
6 for wind turbines and plants in hybrid energy systems that  
7 incorporate diverse generation sources, loads, and storage  
8 technologies.

9           (d) OFFSHORE RESEARCH FACILITY.—In carrying  
10 out the program established under subsection (a), the Sec-  
11 retary shall establish a facility to conduct research, devel-  
12 opment, demonstration, and commercial application  
13 projects for ocean and atmospheric resource characteriza-  
14 tion relevant to offshore wind energy development in co-  
15 ordination with the ocean and atmospheric science com-  
16 munities. The facility shall be an offshore area used to  
17 evaluate, test, and advance atmospheric, oceanic, biologic,  
18 and geologic monitoring technologies that improve off-  
19 shore wind energy development, including the generation  
20 of benchmark data sets for testing offshore wind energy  
21 technologies and informing how such technologies can be  
22 financed, insured, and regulated.

23           (e) OFFSHORE SUPPORT STRUCTURE TESTING FA-  
24 CILITY.—In carrying out the program established under  
25 subsection (a), the Secretary shall create a facility to con-

1 duct research, development, demonstration, and commer-  
2 cial application projects for large-scale and full-scale off-  
3 shore wind energy support structure components and sys-  
4 tems.

5 **SEC. 2524. WIND ENERGY INCUBATOR FUNDING.**

6 In carrying out the program established under section  
7 2522(a), the Secretary shall support, in accordance with  
8 section 2522(b), incubators advancing innovative tech-  
9 nologies that are not represented in a significant way in—

10 (1) the portfolio of wind energy research activi-  
11 ties carried out by the Department of Energy as of  
12 the date of the enactment of this Act; or

13 (2) technology roadmaps used by the Depart-  
14 ment of Energy as of such date of enactment.

15 **SEC. 2525. MITIGATING REGULATORY AND MARKET BAR-**  
16 **RIERS.**

17 (a) IN GENERAL.—In carrying out the program es-  
18 tablished under section 2522(a), the Secretary shall re-  
19 search, develop, test, and evaluate, in accordance with sec-  
20 tion 2522(b), ways to reduce regulatory and market bar-  
21 riers to the widespread adoption of wind power, includ-  
22 ing—

23 (1) grid transmission and integration chal-  
24 lenges; and

1           (2) siting and permitting issues associated with  
2           the potential impacts of wind power systems on wild-  
3           life, radar systems (including for air traffic control,  
4           air defense, and weather detection), local commu-  
5           nities, military operations, and airspace.

6           (b) WILDLIFE IMPACT MITIGATION.—In carrying out  
7           the activities described in subsection (a), the Secretary  
8           shall support the research, development, demonstration,  
9           and commercial application of wildlife impact mitigation  
10          technologies or strategies to avoid, minimize, and offset  
11          the potential impacts of wind energy facilities on—

- 12           (1) bald and golden eagles;
- 13           (2) bat species;
- 14           (3) marine wildlife; and
- 15           (4) other sensitive species and habitats.

16          (c) EDUCATION AND OUTREACH.—In carrying out  
17          the activities described in subsection (a), the Secretary  
18          shall support education and outreach activities, with a  
19          focus on low-income and disadvantaged communities, to  
20          disseminate information and promote public under-  
21          standing of wind technologies and the wind energy work-  
22          force, including through the Collegiate Wind Competition.

23          (d) TECHNICAL ASSISTANCE AND WORKFORCE DE-  
24          VELOPMENT.—In carrying out the program established  
25          under section 2522(a), the Secretary shall also conduct,

1 for purposes of supporting technical, non-hardware, and  
2 information based advances in wind energy systems' devel-  
3 opment and operation, including activities expanding ac-  
4 cess to wind energy for low-income individuals and dis-  
5 advantaged individuals and communities—

6 (1) technical assistance and analysis activities  
7 with eligible entities; and

8 (2) workforce development and training activi-  
9 ties, including—

10 (A) activities that support the dissemina-  
11 tion of standards and best practices for ena-  
12 bling wind power production; and

13 (B) through the use of proven techniques  
14 to expand the number of individuals from  
15 underrepresented groups pursuing and attain-  
16 ing skills relevant to wind energy.

17 **SEC. 2526. AUTHORIZATION OF APPROPRIATIONS.**

18 There are authorized to be appropriated to the Sec-  
19 retary to carry out this part—

20 (1) \$163,800,000 for fiscal year 2021;

21 (2) \$171,990,000 for fiscal year 2022;

22 (3) \$180,589,500 for fiscal year 2023;

23 (4) \$189,618,975 for fiscal year 2024; and

24 (5) \$199,099,923 for fiscal year 2025.

1     **PART 3—ADVANCED GEOTHERMAL RESEARCH**  
2                             **AND DEVELOPMENT**

3     **SEC. 2541. DEFINITIONS.**

4             Section 612 of the Energy Independence and Security  
5 Act of 2007 (42 U.S.C. 17191) is amended—

6                     (1) by amending paragraph (1) to read as fol-  
7 lows:

8                     “(1) ENGINEERED.—When referring to en-  
9 hanced geothermal systems, the term ‘engineered’  
10 means designed to access subsurface heat, including  
11 stimulation and nonstimulation technologies to ad-  
12 dress one or more of the following issues:

13                     “(A) Lack of effective permeability, poros-  
14 ity or open fracture connectivity within the heat  
15 reservoir.

16                     “(B) Insufficient contained geofluid in the  
17 heat reservoir.

18                     “(C) A low average geothermal gradient  
19 which necessitates deeper drilling, or the use of  
20 alternative heat sources or heat generation  
21 processes.”;

22                     (2) by redesignating paragraphs (2) through  
23 (7) as paragraphs (3) through (8), respectively;

24                     (3) by adding after paragraph (1) the following:

25                     “(2) ELIGIBLE ENTITY.—The term ‘eligible en-  
26 tity’ means any of the following entities:



1 “(A) An institution of higher education.

2 “(B) A National laboratory.

3 “(C) A Federal research agency.

4 “(D) A State research agency.

5 “(E) A nonprofit research organization.

6 “(F) An industrial entity.

7 “(G) A consortium of 2 or more entities

8 described in subparagraphs (A) through (F).”;

9 and

10 (4) by adding at the end the following:

11 “(9) INSTITUTION OF HIGHER EDUCATION.—

12 The term ‘institution of higher education’ has the

13 meaning given such term in section 101 of the High-

14 er Education Act of 1965 (20 U.S.C 1001).”.

15 **SEC. 2542. HYDROTHERMAL RESEARCH AND DEVELOP-**

16 **MENT.**

17 Section 613 of the Energy Independence and Security

18 Act of 2007 (42 U.S.C. 17192) is amended to read as

19 follows:

20 **“SEC. 613. HYDROTHERMAL RESEARCH AND DEVELOP-**

21 **MENT.**

22 “(a) IN GENERAL.—The Secretary shall carry out a

23 program of research, development, demonstration, and

24 commercial application for geothermal energy production

25 from hydrothermal systems.

1       “(b) PROGRAMS.—The program authorized in sub-  
2 section (a) shall include the following:

3           “(1) ADVANCED HYDROTHERMAL RESOURCE  
4 TOOLS.—The research and development of advanced  
5 geologic tools to assist in locating hydrothermal re-  
6 sources, and to increase the reliability of site charac-  
7 terization, including the development of new imaging  
8 and sensing technologies and techniques to assist in  
9 prioritization of targets for characterization;

10          “(2) EXPLORATORY DRILLING FOR GEO-  
11 THERMAL RESOURCES.—The demonstration of ad-  
12 vanced technologies and techniques of siting and ex-  
13 ploratory drilling for undiscovered resources in a va-  
14 riety of geologic settings, carried out in collaboration  
15 with industry partners that will assist in the acquisi-  
16 tion of high quality data sets relevant for hydro-  
17 thermal subsurface characterization activities.”.

18 **SEC. 2543. GENERAL GEOTHERMAL SYSTEMS RESEARCH**  
19 **AND DEVELOPMENT.**

20       Section 614 of the Energy Independence and Security  
21 Act of 2007 (42 U.S.C. 17193) is amended to read as  
22 follows:

1 **“SEC. 614. GENERAL GEOTHERMAL SYSTEMS RESEARCH**  
2 **AND DEVELOPMENT.**

3 “(a) SUBSURFACE COMPONENTS AND SYSTEMS.—  
4 The Secretary shall support a program of research, devel-  
5 opment, demonstration, and commercial application of  
6 components and systems capable of withstanding geo-  
7 thermal environments and necessary to develop, produce,  
8 and monitor geothermal reservoirs and produce geo-  
9 thermal energy.

10 “(b) ENVIRONMENTAL IMPACTS.—The Secretary  
11 shall—

12 “(1) support a program of research, develop-  
13 ment, demonstration, and commercial application of  
14 technologies and practices designed to mitigate or  
15 preclude potential adverse environmental impacts of  
16 geothermal energy development, production or use;  
17 and

18 “(2) support a research program to identify po-  
19 tential environmental impacts, including induced  
20 seismicity, and environmental benefits of geothermal  
21 energy development, production, and use, and ensure  
22 that the program described in paragraph (1) ad-  
23 dresses such impacts, including water use and ef-  
24 fects on groundwater and local hydrology;

25 “(3) support a program of research to compare  
26 the potential environmental impacts and environ-

1       mental benefits identified as part of the develop-  
2       ment, production, and use of geothermal energy with  
3       the potential emission reductions of greenhouse  
4       gases gained by geothermal energy development,  
5       production, and use; and

6               “(4) in carrying out this section, the Secretary  
7       shall, to the maximum extent practicable, consult  
8       with relevant federal agencies, including the Envi-  
9       ronmental Protection Agency.

10       “(c) RESERVOIR THERMAL ENERGY STORAGE.—The  
11       Secretary shall support a program of research, develop-  
12       ment, and demonstration of reservoir thermal energy stor-  
13       age, emphasizing cost-effective improvements through  
14       deep direct use engineering, design, and systems research.

15       “(d) OIL AND GAS TECHNOLOGY TRANSFER INITIA-  
16       TIVE.—

17               “(1) IN GENERAL.—The Secretary shall sup-  
18       port an initiative among the Office of Fossil Energy,  
19       the Office of Energy Efficiency and Renewable En-  
20       ergy, and the private sector to research, develop, and  
21       demonstrate relevant advanced technologies and op-  
22       eration techniques used in the oil and gas sector for  
23       use in geothermal energy development.

24               “(2) PRIORITIES.—In carrying out paragraph  
25       (1), the Secretary shall prioritize technologies with

1 the greatest potential to significantly increase the  
2 use and lower the cost of geothermal energy in the  
3 United States, including the cost and speed of geo-  
4 thermal drilling surface technologies, and well con-  
5 struction.

6 “(e) COPRODUCTION OF GEOTHERMAL ENERGY AND  
7 MINERALS PRODUCTION RESEARCH AND DEVELOPMENT  
8 INITIATIVE.—

9 “(1) IN GENERAL.—The Secretary shall carry  
10 out a research and development initiative under  
11 which the Secretary shall award grants to dem-  
12 onstrate the coproduction of critical minerals from  
13 geothermal resources.

14 “(2) REQUIREMENTS.—An award made under  
15 paragraph (1) shall—

16 “(A) improve the cost effectiveness of re-  
17 moving minerals from geothermal brines as part  
18 of the coproduction process;

19 “(B) increase recovery rates of the tar-  
20 geted mineral commodity;

21 “(C) decrease water use and other environ-  
22 mental impacts, as determined by the Sec-  
23 retary; and

24 “(D) demonstrate a path to commercial vi-  
25 ability.

1 “(f) FLEXIBLE OPERATIONS.—The Secretary shall  
2 support a research initiative on flexible operation of geo-  
3 thermal power plants.

4 “(g) HYBRID ENERGY SYSTEMS.—The Secretary  
5 shall identify opportunities for joint research, develop-  
6 ment, and demonstration programs between geothermal  
7 systems and other energy generation or storage systems.”.

8 **SEC. 2544. ENHANCED GEOTHERMAL SYSTEMS RESEARCH**  
9 **AND DEVELOPMENT.**

10 Section 615 of the Energy Independence and Security  
11 Act of 2007 (42 U.S.C. 17194) is amended to read as  
12 follows:

13 **“SEC. 615. ENHANCED GEOTHERMAL SYSTEMS RESEARCH**  
14 **AND DEVELOPMENT.**

15 “(a) IN GENERAL.—The Secretary shall support a  
16 program of research, development, demonstration, and  
17 commercial application for enhanced geothermal systems,  
18 including the programs described in subsection (b).

19 “(b) ENHANCED GEOTHERMAL SYSTEMS TECH-  
20 NOLOGIES.—In collaboration with industry partners, insti-  
21 tutions of higher education, and the national laboratories,  
22 the Secretary shall support a program of research, devel-  
23 opment, demonstration, and commercial application of the  
24 technologies to achieve higher efficiency and lower cost en-  
25 hanced geothermal systems, including—

- 1           “(1) reservoir stimulation;
- 2           “(2) drilled, non-stimulated (e.g. closed-loop)
- 3 reservoir technologies;
- 4           “(3) reservoir characterization, monitoring, and
- 5 modeling and understanding of the surface area and
- 6 volume of fractures;
- 7           “(4) stress and fracture mapping including real
- 8 time monitoring and modeling;
- 9           “(5) tracer development;
- 10          “(6) three and four-dimensional seismic imag-
- 11 ing and tomography;
- 12          “(7) well placement and orientation;
- 13          “(8) long-term reservoir management;
- 14          “(9) drilling technologies, methods, and tools;
- 15          “(10) improved exploration tools;
- 16          “(11) zonal isolation; and
- 17          “(12) understanding induced seismicity risks
- 18 from reservoir engineering and stimulation.

19          “(c) FRONTIER OBSERVATORY FOR RESEARCH IN  
20 GEOTHERMAL ENERGY.—The Secretary shall support the  
21 establishment and construction of up to 3 field research  
22 sites, which shall each be known as a ‘Frontier Observ-  
23 atory for Research in Geothermal Energy’ or ‘FORGE’  
24 site to develop, test, and enhance techniques and tools for  
25 enhanced geothermal energy.

1 “(1) DUTIES.—The Secretary shall—

2 “(A) award grants in support of research  
3 and development projects focused on advanced  
4 monitoring technologies, new technologies and  
5 approaches for implementing multi-zone stimu-  
6 lations, nonstimulation techniques, and dynamic  
7 reservoir modeling that incorporates all avail-  
8 able high-fidelity characterization data; and

9 “(B) seek opportunities to coordinate ef-  
10 forts and share information with domestic and  
11 international partners engaged in research and  
12 development of geothermal systems and related  
13 technology, including coordination between  
14 FORGE sites.

15 “(2) SITE SELECTION.—Of the FORGE sites  
16 referred to in paragraph (1), the Secretary shall—

17 “(A) consider applications through a com-  
18 petitive, merit-reviewed process, from National  
19 Laboratories, multi-institutional collaborations,  
20 institutes of higher education and other appro-  
21 priate entities best suited to provide national  
22 leadership on geothermal related issues and  
23 perform the duties enumerated under this sub-  
24 section; and



1           “(B) prioritize existing field sites and fa-  
2           cilities with capabilities relevant to the duties  
3           enumerated under this subsection.

4           “(3) EXISTING FORGE SITES.—A FORGE site  
5           already in existence on the date of enactment of this  
6           Act may continue to receive support.

7           “(4) FUNDING.—Out of funds authorized to be  
8           appropriated under section 623, there shall be made  
9           available to the Secretary to carry out the FORGE  
10          activities under this paragraph—

11                   “(A) \$45,000,000 for fiscal year 2021;

12                   “(B) \$55,000,000 for fiscal year 2022;

13                   “(C) \$65,000,000 for fiscal year 2023;

14                   “(D) \$70,000,000 for fiscal year 2024;

15                   and

16                   “(E) \$70,000,000 for fiscal year 2025.

17          In carrying out this section, the Secretary shall con-  
18          sider the balance between funds dedicated to con-  
19          struction and operations and research activities to  
20          reflect the state of site development.

21          “(d) ENHANCED GEOTHERMAL SYSTEMS DEM-  
22          ONSTRATIONS.—

23                   “(1) IN GENERAL.—Beginning on the date of  
24                   enactment of this section, the Secretary, in collabo-  
25                   ration with industry partners, institutions of higher

1 education, and the national laboratories, shall sup-  
2 port an initiative for demonstration of enhanced geo-  
3 thermal systems for power production or direct use.

4 “(2) PROJECTS.—

5 “(A) IN GENERAL.—Under the initiative  
6 described in paragraph (1), demonstration  
7 projects shall be carried out in locations that  
8 are commercially viable for enhanced geo-  
9 thermal systems development, while also consid-  
10 ering environmental impacts to the maximum  
11 extent practicable, as determined by the Sec-  
12 retary.

13 “(B) REQUIREMENTS.—Demonstration  
14 projects under subparagraph (A) shall—

15 “(i) collectively demonstrate—

16 “(I) different geologic settings,  
17 such as hot sedimentary aquifers, lay-  
18 ered geologic systems, supercritical  
19 systems, and basement rock systems;  
20 and

21 “(II) a variety of development  
22 techniques, including open hole and  
23 cased hole completions, differing well  
24 orientations, and stimulation and non-  
25 stimulation mechanisms; and

1                   “(ii) to the extent practicable, use ex-  
2                   isting sites where subsurface characteriza-  
3                   tion or geothermal energy integration anal-  
4                   ysis has been conducted.

5                   “(C) EASTERN DEMONSTRATION.—Not  
6                   fewer than 1 of the demonstration projects car-  
7                   ried out under subparagraph (A) shall be lo-  
8                   cated an area east of the Mississippi that is  
9                   suitable for enhanced geothermal demonstration  
10                  for power, heat, or a combination of power and  
11                  heat.”.

12 **SEC. 2545. GEOTHERMAL HEAT PUMPS AND DIRECT USE.**

13                  (a) IN GENERAL.—Title VI of the Energy Independ-  
14                  ence and Security Act of 2007 is amended by inserting  
15                  after section 616 (42 U.S.C. 17195) the following:

16 **“SEC. 616A. GEOTHERMAL HEAT PUMPS AND DIRECT USE**  
17 **RESEARCH AND DEVELOPMENT.**

18                  “(a) PURPOSES.—The purposes of this section are—

19                         “(1) to improve the understanding of related  
20                         earth sciences, components, processes, and systems  
21                         used for geothermal heat pumps and the direct use  
22                         of geothermal energy; and

23                         “(2) to increase the energy efficiency, lower the  
24                         cost, increase the use, and improve and demonstrate

1 the effectiveness of geothermal heat pumps and the  
2 direct use of geothermal energy.

3 “(b) DEFINITIONS.—In this section:

4 “(1) DIRECT USE OF GEOTHERMAL ENERGY.—  
5 The term ‘direct use of geothermal energy’ means  
6 geothermal systems that use water directly or  
7 through a heat exchanger to provide—

8 “(A) heating and cooling to buildings, com-  
9 mercial districts, residential communities, and  
10 large municipal, or industrial projects; or

11 “(B) heat required for industrial processes,  
12 agriculture, aquaculture, and other facilities.

13 “(2) ECONOMICALLY DISTRESSED AREA.—The  
14 term ‘economically distressed area’ means an area  
15 described in section 301(a) of the Public Works and  
16 Economic Development Act of 1965 (42 U.S.C.  
17 3161(a)).

18 “(3) GEOTHERMAL HEAT PUMP.—The term  
19 ‘geothermal heat pump’ means a system that pro-  
20 vides heating and cooling by exchanging heat from  
21 shallow geology, groundwater, or surface water  
22 using—

23 “(A) a closed loop system, which transfers  
24 heat by way of buried or immersed pipes that  
25 contain a mix of water and working fluid; or

1           “(B) an open loop system, which circulates  
2           ground or surface water directly into the build-  
3           ing and returns the water to the same aquifer  
4           or surface water source.

5           “(c) PROGRAM.—

6           “(1) IN GENERAL.—The Secretary shall sup-  
7           port within the Geothermal Technologies Office a  
8           program of research, development, and demonstra-  
9           tion for geothermal heat pumps and the direct use  
10          of geothermal energy.

11          “(2) AREAS.—The program under paragraph  
12          (1) may include research, development, demonstra-  
13          tion, and commercial application of—

14               “(A) geothermal ground loop efficiency im-  
15               provements, cost reductions, and improved in-  
16               stallation and operations methods;

17               “(B) the use of geothermal energy for  
18               building-scale energy storage;

19               “(C) the use of geothermal energy as a  
20               grid management resource or seasonal energy  
21               storage;

22               “(D) geothermal heat pump efficiency im-  
23               provements;

24               “(E) the use of alternative fluids as a heat  
25               exchange medium, such as hot water found in

1 mines and mine shafts, graywater, or other  
2 fluids that may improve the economics of geo-  
3 thermal heat pumps;

4 “(F) heating of districts, neighborhoods,  
5 communities, large commercial or public build-  
6 ings, and industrial and manufacturing facili-  
7 ties;

8 “(G) the use of low temperature ground-  
9 water for direct use; and

10 “(H) system integration of direct use with  
11 geothermal electricity production.

12 “(3) ENVIRONMENTAL IMPACTS.—In carrying  
13 out the program, the Secretary shall identify and  
14 mitigate potential environmental impacts in accord-  
15 ance with section 614(c).

16 “(d) GRANTS.—

17 “(1) IN GENERAL.—The Secretary shall carry  
18 out the program established in subsection (c) by  
19 making grants available to State, local, and Tribal  
20 governments, institutions of higher education, non-  
21 profit entities, National Laboratories, utilities, and  
22 for-profit companies.

23 “(2) PRIORITY.—In making grants under this  
24 subsection, the Secretary may give priority to pro-  
25 posals that apply to large buildings, commercial dis-

1        tricts, and residential communities that are located  
2        in economically distressed areas and areas that the  
3        Secretary determines to have high economic poten-  
4        tial for geothermal district heating based on the re-  
5        port, ‘Geovision: Harnessing the Heat Beneath our  
6        Feet’ published by the Department in 2019, or a  
7        successor report.”.

8        (b) CONFORMING AMENDMENT.—Section 1(b) of the  
9        Energy Independence and Security Act of 2007 (42  
10       U.S.C. 17001 note) is amended in the table of contents  
11       by inserting after the item relating to section 616 the fol-  
12       lowing:

      “616A. Geothermal heat pumps and direct use research and development.”.

13       **SEC. 2546. COST SHARING AND PROPOSAL EVALUATION.**

14       Section 617(b) of the Energy Independence and Se-  
15       curity Act of 2007 (42 U.S.C. 17196) is amended by strik-  
16       ing paragraph (2) and redesignating paragraphs (3) and  
17       (4) as paragraphs (2) and (3), respectively.

18       **SEC. 2547. ADVANCED GEOTHERMAL COMPUTING AND**  
19                                **DATA SCIENCE RESEARCH AND DEVELOP-**  
20                                **MENT.**

21       (a) IN GENERAL.—Section 618 of the Energy Inde-  
22       pendence and Security Act of 2007 (42 U.S.C. 17197) is  
23       amended to read as follows:

1 **“SEC. 618. ADVANCED GEOTHERMAL COMPUTING AND**  
2 **DATA SCIENCE RESEARCH AND DEVELOP-**  
3 **MENT.**

4 “(a) IN GENERAL.—The Secretary shall carry out a  
5 program of research and development of advanced com-  
6 puting and data science tools for geothermal energy.

7 “(b) PROGRAMS.—The program authorized in sub-  
8 section (a) shall include the following:

9 “(1) ADVANCED COMPUTING FOR GEOTHERMAL  
10 SYSTEMS TECHNOLOGIES.—Research, development,  
11 and demonstration of technologies to develop ad-  
12 vanced data, machine learning, artificial intelligence,  
13 and related computing tools to assist in locating geo-  
14 thermal resources, to increase the reliability of site  
15 characterization, to increase the rate and efficiency  
16 of drilling, to improve induced seismicity mitigation,  
17 and to support enhanced geothermal systems tech-  
18 nologies.

19 “(2) GEOTHERMAL SYSTEMS RESERVOIR MOD-  
20 ELING.—Research, development, and demonstration  
21 of models of geothermal reservoir performance and  
22 enhanced geothermal systems reservoir stimulation  
23 technologies and techniques, with an emphasis on  
24 accurately modeling fluid and heat flow, permeability  
25 evolution, geomechanics, geochemistry, seismicity,



1 and operational performance over time, including  
2 collaboration with industry and field validation.

3 “(c) COORDINATION.—In carrying out these pro-  
4 grams, the Secretary shall ensure coordination and con-  
5 sultation with the Department of Energy’s Office of  
6 Science. The Secretary shall ensure, to the maximum ex-  
7 tent practicable, coordination of these activities with the  
8 Department of Energy National Laboratories, institutes  
9 of higher education, and the private sector.”.

10 (b) CONFORMING AMENDMENT.—Section 1(b) of the  
11 Energy Independence and Security Act of 2007 (42  
12 U.S.C. 17001 note) is amended in the table of contents  
13 by amending the item related to section 618 to read as  
14 follows:

“Sec. 618. Advanced geothermal computing and data science research and de-  
velopment.”.

15 **SEC. 2548. GEOTHERMAL WORKFORCE DEVELOPMENT.**

16 (a) IN GENERAL.—Section 619 of the Energy Inde-  
17 pendence and Security Act of 2007 (42 U.S.C. 17198) is  
18 amended to read as follows:

19 **“SEC. 619. GEOTHERMAL WORKFORCE DEVELOPMENT.**

20 “The Secretary shall support the development of a  
21 geothermal energy workforce through a program that—

22 “(1) facilitates collaboration between university  
23 students and researchers at the national labora-  
24 tories; and

1 “(2) prioritizes science in areas relevant to the  
2 mission of the Department through the application  
3 of geothermal energy tools and technologies.”.

4 (b) CONFORMING AMENDMENT.—Section 1(b) of the  
5 Energy Independence and Security Act of 2007 (42  
6 U.S.C. 17001 note) is amended in the table of contents  
7 by amending the item related to section 619 to read as  
8 follows:

“Sec. 619. Geothermal workforce development.”.

9 **SEC. 2549. ORGANIZATION AND ADMINISTRATION OF PRO-**  
10 **GRAMS.**

11 Section 621 of the Energy Independence and Security  
12 Act of 2007 (42 U.S.C. 17200) is amended to read as  
13 follows:

14 **“SEC. 621. ORGANIZATION AND ADMINISTRATION OF PRO-**  
15 **GRAMS.**

16 “(a) EDUCATION AND OUTREACH.—In carrying out  
17 the activities described in this subtitle, the Secretary shall  
18 support education and outreach activities to disseminate  
19 information on geothermal energy technologies and the  
20 geothermal energy workforce, including activities at the  
21 Frontier Observatory for Research in Geothermal Energy  
22 site or sites.

23 “(b) TECHNICAL ASSISTANCE.—In carrying out this  
24 subtitle, the Secretary shall also conduct technical assist-  
25 ance and analysis activities with eligible entities for the

1 purpose of supporting the commercial application of ad-  
2 vances in geothermal energy systems development and op-  
3 erations, which may include activities that support ex-  
4 panding access to advanced geothermal energy tech-  
5 nologies for rural, Tribal, and low-income communities.

6 “(c) REPORT.—Every 5 years after the date of enact-  
7 ment of this section, the Secretary shall report to the  
8 Committee on Science and Technology of the House of  
9 Representatives and the Committee on Energy and Nat-  
10 ural Resources of the Senate on advanced concepts and  
11 technologies to maximize the geothermal resource poten-  
12 tial of the United States.

13 “(d) PROGRESS REPORTS.—Not later than 1 year  
14 after the date of enactment of this section, and every 2  
15 years thereafter, the Secretary shall submit to the Com-  
16 mittee on Science and Technology of the House of Rep-  
17 resentatives and the Committee on Energy and Natural  
18 Resources of the Senate a report on the results of projects  
19 undertaken under this part and other such information  
20 the Secretary considers appropriate.”.

21 **SEC. 2550. REPEALS.**

22 (a) IN GENERAL.—Subtitle B of title VI of the En-  
23 ergy Independence and Security Act of 2007 (42 U.S.C.  
24 17191 et seq.) is amended by striking section 620.

1 (b) CONFORMING AMENDMENT.—Section 1(b) of the  
2 Energy Independence and Security Act of 2007 (42  
3 U.S.C. 17001 note) is amended in the table of contents  
4 by striking the item related to section 620.

5 **SEC. 2551. AUTHORIZATION OF APPROPRIATIONS.**

6 Section 623 of the Energy Independence and Security  
7 Act of 2007 (42 U.S.C. 17202) is amended to read as  
8 follows:

9 **“SEC. 623. AUTHORIZATION OF APPROPRIATIONS.**

10 “There are authorized to be appropriated to the Sec-  
11 retary to carry out the programs under this subtitle—

12 “(1) \$182,062,500 for fiscal year 2021;

13 “(2) \$199,125,000 for fiscal year 2022;

14 “(3) \$216,187,500 for fiscal year 2023;

15 “(4) \$225,750,000 for fiscal year 2024; and

16 “(5) \$227,812,500 for fiscal year 2025.”.

17 **SEC. 2552. INTERNATIONAL GEOTHERMAL ENERGY DEVEL-**  
18 **OPMENT.**

19 Section 624 of the Energy Independence and Security  
20 Act of 2007 (42 U.S.C. 17203) is amended—

21 (1) by amending subsection (a) to read as fol-  
22 lows:

23 “(a) IN GENERAL.—The Secretary of Energy, in co-  
24 ordination with other appropriate Federal and multilateral  
25 agencies (including the United States Agency for Inter-

1 national Development) shall support collaborative efforts  
2 with international partners to promote the research, devel-  
3 opment, and demonstration of geothermal technologies  
4 used to develop hydrothermal and enhanced geothermal  
5 system resources.”; and

6 (2) by striking subsection (e).

7 **SEC. 2553. REAUTHORIZATION OF HIGH COST REGION GEO-**  
8 **THERMAL ENERGY GRANT PROGRAM.**

9 Section 625 of the Energy Independence and Security  
10 Act of 2007 (42 U.S.C. 17204) is amended—

11 (1) in subsection (a)(2), by inserting “ or heat”  
12 after “electrical power”; and

13 (2) by amending subsection (e) to read as fol-  
14 lows:

15 “(e) AUTHORIZATION OF APPROPRIATIONS.—Out of  
16 funds authorized under section 623, there is authorized  
17 to be appropriated to carry out this section \$5,000,000  
18 for each of fiscal years 2021 through 2025.”.

19 **PART 4—WATER POWER RESEARCH AND**  
20 **DEVELOPMENT**

21 **SEC. 2561. WATER POWER RESEARCH AND DEVELOPMENT.**

22 (a) IN GENERAL.—Subtitle C of title VI of the En-  
23 ergy Independence and Security Act of 2007 (42 U.S.C.  
24 17211 et seq.) is amended to read as follows:

1           **“Subtitle C—Water Power**  
2           **Research and Development**

3   **“SEC. 632. DEFINITIONS.**

4           “In this subtitle:

5                 “(1) ELIGIBLE ENTITY.—The term ‘eligible en-  
6           tity’ means any of the following entities:

7                     “(A) An institution of higher education.

8                     “(B) A National Laboratory.

9                     “(C) A Federal research agency.

10                    “(D) A State research agency.

11                    “(E) A nonprofit research organization.

12                    “(F) An industrial entity or a multi-insti-  
13           tutional consortium thereof.

14                 “(2) INSTITUTION OF HIGHER EDUCATION.—

15           The term ‘institution of higher education’ has the  
16           meaning given such term in section 101 of the High-  
17           er Education Act of 1965 (20 U.S.C. 1001).

18                 “(3) MARINE ENERGY.—The term ‘marine en-  
19           ergy’ means energy from—

20                    “(A) waves, tides, and currents in oceans,  
21           estuaries, and tidal areas;

22                    “(B) free flowing water in rivers, lakes,  
23           streams, and man-made channels;

24                    “(C) differentials in salinity and pressure  
25           gradients; and

1           “(D) differentials in water temperature, in-  
2           cluding ocean thermal energy conversion.

3           “(4) NATIONAL LABORATORY.—The term ‘Na-  
4           tional Laboratory’ has the meaning given such term  
5           in section 2(3) of the Energy Policy Act of 2005 (42  
6           U.S.C. 15801(3)).

7           “(5) WATER POWER.—The term ‘water power’  
8           refers to hydropower, including conduit power,  
9           pumped storage, and marine energy technologies.

10          “(6) MICROGRID.—The term ‘microgrid’ has  
11          the meaning given such term in section 641 of the  
12          Energy Independence and Security Act of 2007 (42  
13          U.S.C. 17231).

14       **“SEC. 633. WATER POWER TECHNOLOGY RESEARCH, DE-**  
15                               **VELOPMENT, AND DEMONSTRATION.**

16          “The Secretary shall carry out a program to conduct  
17          research, development, demonstration, and commercial ap-  
18          plication of water power technologies in support of each  
19          of the following purposes:

20               “(1) To promote research, development, dem-  
21               onstration, and commercial application of water  
22               power generation technologies in order to increase  
23               capacity and reduce the cost of those technologies.

1           “(2) To promote research and development to  
2           improve the environmental impact of water power  
3           technologies.

4           “(3) To provide grid reliability and resilience,  
5           including through technologies that facilitate new  
6           market opportunities, such as ancillary services, for  
7           water power.

8           “(4) To promote the development of water  
9           power technologies to improve economic growth and  
10          enhance cross-institutional foundational workforce  
11          development in the water power sector, including in  
12          coastal communities.

13   **“SEC. 634. HYDROPOWER RESEARCH, DEVELOPMENT, AND**  
14                           **DEMONSTRATION.**

15          “The Secretary shall conduct a program of research,  
16          development, demonstration, and commercial application  
17          for technologies that improve the capacity, efficiency, resil-  
18          ience, security, reliability, affordability, and environmental  
19          impact, including potential cumulative environmental im-  
20          pacts, of hydropower systems. In carrying out such pro-  
21          gram, the Secretary shall prioritize activities designed  
22          to—

23                   “(1) develop technology for—

24                           “(A) non-powered dams, including aging  
25                           and potentially hazardous dams;



1 “(B) pumped storage;

2 “(C) constructed waterways;

3 “(D) new stream-reach development;

4 “(E) modular and small dams;

5 “(F) increased operational flexibility; and

6 “(G) enhancement of relevant existing fa-  
7 cilities;

8 “(2) develop new strategies and technologies,  
9 including analytical methods, physical and numerical  
10 tools, and advanced computing, as well as methods  
11 to validate such methods and tools, in order to—

12 “(A) extend the operational lifetime of hy-  
13 dropower systems and their physical structures,  
14 while improving environmental impact, includ-  
15 ing potential cumulative environmental impacts;

16 “(B) assist in device and system design,  
17 installation, operation, and maintenance; and

18 “(C) reduce costs, limit outages, and in-  
19 crease unit and plant efficiencies, including by  
20 examining the impact of changing water and  
21 electricity demand on hydropower generation,  
22 flexibility, and provision of grid services;

23 “(3) study, in conjunction with other relevant  
24 Federal agencies as appropriate, methods to improve  
25 the hydropower licensing process, including by com-

1 piling current and accepted best practices, public  
2 comments, and methodologies to assess the full  
3 range of potential environmental and economic im-  
4 pacts;

5 “(4) identify opportunities for joint research,  
6 development, and demonstration programs between  
7 hydropower systems, which may include—

8 “(A) pumped storage systems and other  
9 renewable energy systems;

10 “(B) small hydro facilities and other en-  
11 ergy storage systems;

12 “(C) other hybrid energy systems;

13 “(D) small hydro facilities and critical in-  
14 frastructure, including water infrastructure;  
15 and

16 “(E) hydro facilities and responsive load  
17 technologies, which may include smart buildings  
18 and city systems;

19 “(5) improve the reliability of hydropower tech-  
20 nologies, including during extreme weather events;

21 “(6) develop methods and technologies to im-  
22 prove environmental impact, including potential cu-  
23 mulative environmental impacts, of hydropower and  
24 pumped storage technologies, including potential im-  
25 pacts on wildlife, such as—

1 “(A) fisheries;

2 “(B) aquatic life and resources;

3 “(C) navigation of waterways; and

4 “(D) upstream and downstream environ-  
5 mental conditions, including sediment move-  
6 ment, water quality, and flow volumes;

7 “(7) identify ways to increase power generation  
8 by—

9 “(A) diversifying plant configuration op-  
10 tions;

11 “(B) improving pump-back efficiencies;

12 “(C) investigating multi-phase systems;

13 “(D) developing, testing, and monitoring  
14 advanced generators with faster cycling times,  
15 variable speeds, and improved efficiencies;

16 “(E) developing, testing, and monitoring  
17 advanced turbines capable of improving environ-  
18 mental impact, including potential cumulative  
19 environmental impacts, including small turbine  
20 designs;

21 “(F) developing standardized powertrain  
22 components;

23 “(G) developing components with advanced  
24 materials and manufacturing processes, includ-  
25 ing additive manufacturing; and

1           “(H) developing analytical tools that en-  
2           able hydropower to provide grid services that,  
3           amongst other services, improve grid integra-  
4           tion of other energy sources;

5           “(8) advance new pumped storage technologies,  
6           including—

7                   “(A) systems with adjustable speed and  
8                   other new pumping and generating equipment  
9                   designs;

10                   “(B) modular systems;

11                   “(C) alternative closed-loop systems, in-  
12                   cluding mines and quarries; and

13                   “(D) other innovative equipment and ma-  
14                   terials as determined by the Secretary;

15           “(9) reduce civil works costs and construction  
16           times for hydropower and pumped storage systems,  
17           including comprehensive data and systems analysis  
18           of hydropower and pumped storage construction  
19           technologies and processes in order to identify areas  
20           for whole-system efficiency gains;

21           “(10) advance efficient and reliable integration  
22           of hydropower and pumped storage systems with the  
23           electric grid by—

24                   “(A) improving methods for operational  
25                   forecasting of renewable energy systems to

1 identify opportunities for hydropower applica-  
2 tions in pumped storage and hybrid energy sys-  
3 tems, including forecasting of seasonal and an-  
4 nual energy storage;

5 “(B) considering aggregating small distrib-  
6 uted hydropower assets; and

7 “(C) identifying barriers to grid scale im-  
8 plementation of hydropower and pumped stor-  
9 age technologies;

10 “(11) improve computational fluid dynamic  
11 modeling methods;

12 “(12) improve flow measurement methods, in-  
13 cluding maintenance of continuous flow measure-  
14 ment equipment;

15 “(13) identify best methods for compiling data  
16 on all hydropower resources and assets, including  
17 identifying potential for increased capacity; and

18 “(14) identify mechanisms to test and validate  
19 performance of hydropower and pumped storage  
20 technologies.

21 **“SEC. 635. MARINE ENERGY RESEARCH, DEVELOPMENT,**  
22 **AND DEMONSTRATION.**

23 “(a) IN GENERAL.—The Secretary, in consultation  
24 with the Department of Defense, Secretary of Commerce  
25 (acting through the Under Secretary of Commerce for

1 Oceans and Atmosphere) and other relevant Federal agen-  
2 cies, shall conduct a program of research, development,  
3 demonstration, and commercial application of marine en-  
4 ergy technology, including activities to—

5           “(1) assist technology development to improve  
6 the components, processes, and systems used for  
7 power generation from marine energy resources at a  
8 variety of scales;

9           “(2) establish and expand critical testing infra-  
10 structure and facilities necessary to—

11                   “(A) demonstrate and prove marine energy  
12 devices at a range of scales in a manner that  
13 is cost-effective and efficient; and

14                   “(B) accelerate the technological readiness  
15 and commercial application of such devices;

16           “(3) address marine energy resource variability  
17 issues, including through the application of energy  
18 storage technologies;

19           “(4) advance efficient and reliable integration  
20 of marine energy with the electric grid, which may  
21 include smart building systems;

22           “(5) identify and study critical short-term and  
23 long-term needs to maintaining a sustainable marine  
24 energy supply chain based in the United States;

1           “(6) increase the reliability, security, and resil-  
2           ience of marine energy technologies;

3           “(7) validate the performance, reliability, main-  
4           tainability, and cost of marine energy device designs  
5           and system components in an operating environ-  
6           ment;

7           “(8) consider the protection of critical infra-  
8           structure, such as adequate separation between ma-  
9           rine energy devices and submarine telecommuni-  
10          cations cables, including through the development of  
11          voluntary, consensus-based standards for such pur-  
12          poses;

13          “(9) identify opportunities for crosscutting re-  
14          search, development, and demonstration programs  
15          between existing energy research programs;

16          “(10) identify and improve, in conjunction with  
17          the Secretary of Commerce, acting through the  
18          Under Secretary of Commerce for Oceans and At-  
19          mosphere, and other relevant Federal agencies as  
20          appropriate, the environmental impact, including po-  
21          tential cumulative environmental impacts, of marine  
22          energy technologies, including—

23                  “(A) potential impacts on fisheries and  
24                  other marine resources; and

1           “(B) developing technologies, including  
2           mechanisms for self-evaluation, and other  
3           means available for improving environmental  
4           impact, including potential cumulative environ-  
5           mental impacts;

6           “(11) identify, in consultation with relevant  
7           Federal agencies, potential navigational impacts of  
8           marine energy technologies and strategies to prevent  
9           possible adverse impacts, in addition to opportunities  
10          for marine energy systems to aid the United States  
11          Coast Guard, such as remote sensing for coastal bor-  
12          der security;

13          “(12) develop numerical and physical tools, in-  
14          cluding models and monitoring technologies, to as-  
15          sist industry in device and system design, installa-  
16          tion, operation, and maintenance, including methods  
17          to validate such tools;

18          “(13) support materials science as it relates to  
19          marine energy technology, such as the development  
20          of corrosive-resistant materials;

21          “(14) improve marine energy resource fore-  
22          casting and general understanding of aquatic system  
23          behavior, including turbulence and extreme condi-  
24          tions;



1           “(15) develop metrics and voluntary, consensus-  
2           based standards, in coordination with the National  
3           Institute of Standards and Technology and appro-  
4           priate standard development organizations, for ma-  
5           rine energy components, systems, and projects, in-  
6           cluding—

7                   “(A) measuring performance of marine en-  
8                   ergy technologies; and

9                   “(B) characterizing environmental condi-  
10                  tions;

11           “(16) enhance integration with hybrid energy  
12           systems, including desalination;

13           “(17) identify opportunities to integrate marine  
14           energy technologies into new and existing infrastruc-  
15           ture; and

16           “(18) to develop technology necessary to sup-  
17           port the use of marine energy—

18                   “(A) for the generation and storage of  
19                   power at sea; and

20                   “(B) for the generation and storage of  
21                   power to promote the resilience of coastal com-  
22                   munities, including in applications relating to—

23                           “(i) desalination;

24                           “(ii) disaster recovery and resilience;

25                           and

1                   “(iii) community microgrids in iso-  
2                   lated power systems.

3           “(b) STUDY OF NON-POWER SECTOR APPLICATIONS  
4 FOR ADVANCED MARINE ENERGY TECHNOLOGIES.—

5                   “(1) IN GENERAL.—The Secretary, in consulta-  
6                   tion with the Secretary of Transportation and the  
7                   Secretary of Commerce, shall conduct a study to ex-  
8                   amine opportunities for research and development in  
9                   advanced marine energy technologies for non-power  
10                  sector applications, including applications with re-  
11                  spect to—

12                   “(A) the maritime transportation sector;

13                   “(B) associated maritime energy infra-  
14                   structure, including infrastructure that serves  
15                   ports, to improve system resilience and disaster  
16                   recovery; and

17                   “(C) enabling scientific missions at sea  
18                   and in extreme environments, including the  
19                   Arctic.

20                  “(2) REPORT.—Not later than 1 year after the  
21                  date of enactment of this Act, the Secretary shall  
22                  submit to the Committee on Energy and Natural  
23                  Resources of the Senate and the Committee on  
24                  Science, Space, and Technology of the House of

1 Representatives a report that describes the results of  
2 the study conducted under paragraph (1).

3 **“SEC. 636. NATIONAL MARINE ENERGY CENTERS.**

4 “(a) IN GENERAL.—The Secretary shall award  
5 grants, each such grant up to \$10,000,000 per year, to  
6 institutions of higher education (or consortia thereof)  
7 for—

8 “(1) the continuation and expansion of the re-  
9 search, development, demonstration, testing, and  
10 commercial application activities at the National Ma-  
11 rine Energy Centers (referred to in this section as  
12 ‘Centers’) established as of January 1, 2020; and

13 “(2) the establishment of new National Marine  
14 Energy Centers.

15 “(b) LOCATION SELECTION.—In selecting institu-  
16 tions of higher education for new Centers, the Secretary  
17 shall consider the following criteria:

18 “(1) Whether the institution hosts an existing  
19 marine energy research and development program.

20 “(2) Whether the institution has proven tech-  
21 nical expertise to support marine energy research.

22 “(3) Whether the institution has access to ma-  
23 rine resources.

1       “(c) PURPOSES.—The Centers shall coordinate  
2 among themselves, the Department, and National Labora-  
3 tories to—

4           “(1) advance research, development, demonstra-  
5 tion, and commercial application of marine energy  
6 technologies in response to industry and commercial  
7 needs;

8           “(2) support in-water testing and demonstra-  
9 tion of marine energy technologies, including facili-  
10 ties capable of testing—

11           “(A) marine energy systems of various  
12 technology readiness levels and scales;

13           “(B) a variety of technologies in multiple  
14 test berths at a single location;

15           “(C) arrays of technology devices; and

16           “(D) interconnectivity to an electrical grid,  
17 including microgrids; and

18           “(3) collect and disseminate information on  
19 best practices in all areas relating to developing and  
20 managing marine energy resources and energy sys-  
21 tems.

22       “(d) COORDINATION.—To the extent practicable, the  
23 Centers shall coordinate their activities with the Secretary  
24 of Commerce, acting through the Undersecretary of Com-

1 merce for Oceans and Atmosphere, and other relevant  
2 Federal agencies.

3 “(e) TERMINATION.—To the extent otherwise author-  
4 ized by law, the Secretary may terminate funding for a  
5 Center described in paragraph (a) if such Center is under-  
6 performing.

7 **“SEC. 637. ORGANIZATION AND ADMINISTRATION OF PRO-**  
8 **GRAMS.**

9 “(a) COORDINATION.—In carrying out this subtitle,  
10 the Secretary shall coordinate activities, and effectively  
11 manage cross-cutting research priorities across programs  
12 of the Department and other relevant Federal agencies,  
13 including the National Laboratories and the National Ma-  
14 rine Energy Centers.

15 “(b) COLLABORATION.—

16 “(1) IN GENERAL.—In carrying out this sub-  
17 title, the Secretary shall collaborate with industry,  
18 National Laboratories, other relevant Federal agen-  
19 cies, institutions of higher education, including Mi-  
20 nority Serving Institutions, National Marine Energy  
21 Centers, Tribal entities, including Alaska Native  
22 Corporations, and international bodies with relevant  
23 scientific and technical expertise.

24 “(2) PARTICIPATION.—To the extent prac-  
25 ticable, the Secretary shall encourage research

1 projects that promote collaboration between entities  
2 specified in paragraph (1) and include entities not  
3 historically associated with National Marine Energy  
4 Centers, such as Minority Serving Institutions.

5 “(3) INTERNATIONAL COLLABORATION.—The  
6 Secretary of Energy, in coordination with other ap-  
7 propriate Federal and multilateral agencies (includ-  
8 ing the United States Agency for International De-  
9 velopment) shall support collaborative efforts with  
10 international partners to promote the research, de-  
11 velopment, and demonstration of water power tech-  
12 nologies used to develop hydropower, pump storage,  
13 and marine energy resources.

14 “(c) DISSEMINATION OF RESULTS AND PUBLIC  
15 AVAILABILITY.—The Secretary shall—

16 “(1) publish the results of projects supported  
17 under this subtitle through Department websites, re-  
18 ports, databases, training materials, and industry  
19 conferences, including information discovered after  
20 the completion of such projects, withholding any in-  
21 dustrial proprietary information; and

22 “(2) share results of such projects with the  
23 public except to the extent that the information is  
24 protected from disclosure under section 552(b) of  
25 title 5, United States Code.

1       “(d) AWARD FREQUENCY.—The Secretary shall so-  
2       licit applications for awards under this subtitle no less fre-  
3       quently than once per fiscal year.

4       “(e) EDUCATION AND OUTREACH.—In carrying out  
5       the activities described in this subtitle, the Secretary shall  
6       support education and outreach activities to disseminate  
7       information and promote public understanding of water  
8       power technologies and the water power workforce, includ-  
9       ing activities at the National Marine Energy Centers.

10       “(f) TECHNICAL ASSISTANCE AND WORKFORCE DE-  
11       VELOPMENT.—In carrying out this subtitle, the Secretary  
12       may also conduct, for purposes of supporting technical,  
13       non-hardware, and information-based advances in water  
14       power systems development and operations—

15               “(1) technical assistance and analysis activities  
16               with eligible entities, including activities that sup-  
17               port expanding access to advanced water power tech-  
18               nologies for rural, Tribal, and low-income commu-  
19               nities; and

20               “(2) workforce development and training activi-  
21               ties, including to support the dissemination of stand-  
22               ards and best practices for enabling water power  
23               production.

24       “(g) STRATEGIC PLAN.—In carrying out the activi-  
25       ties described in this subtitle, the Secretary shall—

1           “(1) not later than one year after the date of  
2           the enactment of the Clean Economy Jobs and Inno-  
3           vation Act, draft a plan, considering input from rel-  
4           evant stakeholders such as industry and academia,  
5           to implement the programs described in this subtitle  
6           and update the plan on an annual basis; and

7           “(2) the plan shall address near-term (up to 2  
8           years), mid-term (up to 7 years), and long-term (up  
9           to 15 years) challenges to the advancement of water  
10          power systems.

11          “(h) REPORT TO CONGRESS.—Not later than 1 year  
12          after the date of the enactment of the Clean Economy  
13          Jobs and Innovation Act, and at least once every 2 years  
14          thereafter, the Secretary shall provide, and make available  
15          to the public and the relevant authorizing and appropria-  
16          tions committees of Congress, a report on the findings of  
17          research conducted and activities carried out pursuant to  
18          this subtitle, including the most current strategic plan  
19          under subsection (g) and the progress made in imple-  
20          menting such plan.

21          **“SEC. 638. APPLICABILITY OF OTHER LAWS.**

22          “Nothing in this subtitle shall be construed as  
23          waiving, modifying, or superseding the applicability of any  
24          requirement under any environmental or other Federal or  
25          State law.



1 **“SEC. 639. AUTHORIZATION OF APPROPRIATIONS.**

2 “There are authorized to be appropriated to the Sec-  
3 retary to carry out this subtitle—

4 “(1) \$229,125,000 for fiscal year 2021, includ-  
5 ing \$168,870,000 for marine energy and  
6 \$60,255,000 for hydropower research, development,  
7 and demonstration activities;

8 “(2) \$236,517,450 for fiscal year 2022, includ-  
9 ing \$174,454,800 for marine energy and  
10 \$62,062,650 for hydropower research, development,  
11 and demonstration activities;

12 “(3) \$244,187,873 for fiscal year 2023, includ-  
13 ing \$180,263,343 for marine energy and  
14 \$63,924,530 for hydropower research, development,  
15 and demonstration activities;

16 “(4) \$252,147,209 for fiscal year 2024, includ-  
17 ing \$186,304,944 for marine energy and  
18 \$65,842,265 for hydropower research, development,  
19 and demonstration activities; and

20 “(5) \$260,406,837 for fiscal year 2025, includ-  
21 ing \$192,589,304 for marine energy and  
22 \$67,817,533 for hydropower research, development,  
23 and demonstration activities.”.

24 (b) CONFORMING TABLE OF CONTENTS AMEND-  
25 MENT.—The table of contents for the Energy Independ-  
26 ence and Security Act of 2007 is amended by striking the

1 items relating to subtitle C of title VI and inserting the  
2 following:

“Subtitle C—Water Power Research and Development

“Sec. 632. Definitions.

“Sec. 633. Water power technology research, development, and demonstration.

“Sec. 634. Hydropower research, development, and demonstration.

“Sec. 635. Marine energy research, development, and demonstration.

“Sec. 636. National Marine Energy Centers.

“Sec. 637. Organization and administration of programs.

“Sec. 638. Applicability of other laws.

“Sec. 639. Authorization of appropriations.”.

3 **SEC. 2562. CONFORMING AMENDMENTS.**

4 (a) ENERGY POLICY ACT OF 2005.—The Energy  
5 Policy Act of 2005 (42 U.S.C. 15801 et seq.) is amend-  
6 ed—

7 (1) in section 201(a), by striking “ocean (in-  
8 cluding tidal, wave, current, and thermal)” and in-  
9 serting “marine”;

10 (2) in section 203(b)(2), by—

11 (A) inserting “marine energy (as defined  
12 in section 632 of the Energy Independence and  
13 Security Act of 2007) or” before “electric en-  
14 ergy”; and

15 (B) by striking “ocean (including tidal,  
16 wave, current, and thermal)”;

17 (3) in section 931(a)(2)(E)(i), by striking  
18 “ocean energy, including wave energy” and inserting  
19 “marine energy (as defined in section 632 of the En-  
20 ergy Independence and Security Act of 2007)”; and

1           (4) in section 1833(a), by striking “ocean en-  
2           ergy resources (including tidal, wave, and thermal  
3           energy)” and inserting “marine energy resources  
4           (within the meaning of section 632 of the Energy  
5           Independence and Security Act of 2007)”.

6           (b) ENERGY POLICY ACT OF 1992.—Section 1212 of  
7 the Energy Policy Act of 1992 (42 U.S.C. 13317) is  
8 amended—

9           (1) in subsection (a)(4)(A)(i), by striking  
10          “ocean (including tidal, wave, current, and ther-  
11          mal)” and inserting “marine energy (as defined in  
12          section 632 of the Energy Independence and Secu-  
13          rity Act of 2007)”;

14          (2) in subsection (b), in the matter preceding  
15          paragraph (1), by striking “ocean (including tidal,  
16          wave, current, and thermal)” and inserting “marine  
17          energy (as defined in section 632 of the Energy  
18          Independence and Security Act of 2007)”;

19          (3) in subsection (e)(1), in the first sentence, by  
20          striking “ocean (including tidal, wave, current, and  
21          thermal)” and inserting “marine energy (as defined  
22          in section 632 of the Energy Independence and Se-  
23          curity Act of 2007)”.

24          (c) RENEWABLE ENERGY AND ENERGY EFFICIENCY  
25 TECHNOLOGY COMPETITIVENESS ACT OF 1989.—The Re-

1 newable Energy and Energy Efficiency Technology Com-  
2 petitiveness Act of 1989 (42 U.S.C. 12001 et seq.) is  
3 amended—

4 (1) in section 4 (42 U.S.C. 12003)—

5 (A) in subsection (a)(5), by striking  
6 “Ocean” and inserting “Marine”; and

7 (B) in subsection (c), in the matter pre-  
8 ceding paragraph (1), by striking “Ocean” and  
9 inserting “Marine”; and

10 (2) in section 9(c) (42 U.S.C. 12006(c)), by  
11 striking “ocean,” and inserting “marine,”.

12 **SEC. 2563. PRODUCED WATER RESEARCH AND DEVELOP-**  
13 **MENT PROGRAM.**

14 (a) ESTABLISHMENT.—As soon as possible after the  
15 date of enactment of this Act, the Secretary of Energy  
16 shall establish a research and development program on  
17 produced water to develop—

18 (1) new technologies and practices to reduce the  
19 environmental impact; and

20 (2) opportunities for reprocessing of produced  
21 water at natural gas or oil development sites.

22 (b) PRIORITIZATION.—The Secretary shall give pri-  
23 ority to projects that develop and bring to market—

24 (1) effective systems for on-site management or  
25 repurposing of produced water; and

1           (2) new technologies or approaches to reduce  
2           the environmental impact of produced water on local  
3           water sources and the environment.

4           (c) CONDUCT OF PROGRAM.—In carrying out the  
5           program described in subsection (a), the Secretary shall  
6           carry out science-based research and development activi-  
7           ties to pursue—

8           (1) improved efficiency, technologies, and tech-  
9           niques for produced water recycling stations; and

10          (2) B. alternative approaches to treating,  
11          reusing, storing, or decontaminating produced water.

12          (d) AUTHORIZATION OF APPROPRIATIONS.—There  
13          are authorized to be appropriated for purposes of this sec-  
14          tion \$10,000,000 for each of fiscal years 2020 through  
15          2025.

16 **SEC. 2564. PRODUCED WATER DEMONSTRATION PROGRAM.**

17          (a) ESTABLISHMENT.—The Secretary of Energy  
18          shall establish a demonstration program for on-site treat-  
19          ment of produced water.

20          (b) REQUIREMENTS.—In developing the demonstra-  
21          tion program under this section, the Secretary shall con-  
22          sult with the heads of other relevant Federal departments  
23          and agencies, including the Department of the Interior  
24          and the Environmental Protection Agency.

1 (c) PRIORITIZATION.—In carrying out this section,  
2 the Secretary should prioritize—

3 (1) first-of-a-kind or new approaches to treating  
4 produced water stationed on site; and

5 (2) technologies that can be used at natural gas  
6 or oil development sites to reduce other environ-  
7 mental harm either through emissions or other envi-  
8 ronmental impact.

9 (d) AUTHORIZATION OF APPROPRIATIONS.—There  
10 are authorized to be appropriated for purposes of this sec-  
11 tion \$10,000,000 for each of fiscal years 2020 through  
12 2025.

13 **PART 5—ENERGY EFFICIENCY AND RENEWABLE**

14 **ENERGY RESEARCH AND DEVELOPMENT**

15 **SEC. 2571. AUTHORIZATION OF APPROPRIATIONS.**

16 There are authorized to be appropriated to the Sec-  
17 retary of Energy or their designee to carry out research,  
18 development, demonstration, and commercial application  
19 activities under the Office of Energy Efficiency and Re-  
20 newable Energy—

21 (1) \$3,228,500,000 for fiscal year 2021;

22 (2) \$3,250,775,500 for fiscal year 2022;

23 (3) \$3,291,488,750 for fiscal year 2023;

24 (4) \$3,334,238,188 for fiscal year 2024; and

25 (5) \$3,379,125,097 for fiscal year 2025.

1                   **Subtitle F—Public Lands**  
2                   **Renewable Energy Development**

3 **SEC. 2601. DEFINITIONS.**

4           In this subtitle:

5                   (1) COVERED LAND.—The term “covered land”  
6           means land that is—

7                           (A) public lands administered by the Sec-  
8                   retary; and

9                           (B) not excluded from the development of  
10           geothermal, solar, or wind energy under—

11                                   (i) a land use plan established under  
12                                   the Federal Land Policy and Management  
13                                   Act of 1976 (43 U.S.C. 1701 et seq.); or

14                                   (ii) other Federal law.

15                   (2) EXCLUSION AREA.—The term “exclusion  
16           area” means covered land that is identified by the  
17           Bureau of Land Management as not suitable for de-  
18           velopment of renewable energy projects.

19                   (3) FEDERAL LAND.—The term “Federal land”  
20           means public lands.

21                   (4) FUND.—The term “Fund” means the Re-  
22           newable Energy Resource Conservation Fund estab-  
23           lished by section 2608(c)(1).

24                   (5) PRIORITY AREA.—The term “priority area”  
25           means covered land identified by the land use plan-

1       ning process of the Bureau of Land Management as  
2       being a preferred location for a renewable energy  
3       project, including a designated leasing area (as de-  
4       fined in section 2801.5(b) of title 43, Code of Fed-  
5       eral Regulations (or a successor regulation)) that is  
6       identified under the rule of the Bureau of Land  
7       Management entitled “Competitive Processes,  
8       Terms, and Conditions for Leasing Public Lands for  
9       Solar and Wind Energy Development and Technical  
10      Changes and Corrections” (81 Fed. Reg. 92122  
11      (December 19, 2016)) (or a successor regulation).

12           (6) PUBLIC LANDS.—The term “public lands”  
13      has the meaning given that term in section 103 of  
14      the Federal Land Policy and Management Act of  
15      1976 (43 U.S.C. 1702).

16           (7) RENEWABLE ENERGY PROJECT.—The term  
17      “renewable energy project” means a project carried  
18      out on covered land that uses wind, solar, or geo-  
19      thermal energy to generate energy.

20           (8) SECRETARY.—The term “Secretary” means  
21      the Secretary of the Interior.

22           (9) VARIANCE AREA.—The term “variance  
23      area” means covered land that is—

24                   (A) not an exclusion area;

25                   (B) not a priority area; and



1 (C) identified by the Secretary as poten-  
2 tially available for renewable energy develop-  
3 ment and could be approved without a plan  
4 amendment, consistent with the principles of  
5 multiple use (as that term is defined in the  
6 Federal Land Policy and Management Act of  
7 1976 (43 U.S.C. 1701 et seq.)).

8 **SEC. 2602. LAND USE PLANNING; SUPPLEMENTS TO PRO-**  
9 **GRAMMATIC ENVIRONMENTAL IMPACT**  
10 **STATEMENTS.**

11 (a) PRIORITY AREAS.—

12 (1) IN GENERAL.—The Secretary, in consulta-  
13 tion with the Secretary of Energy, shall establish  
14 priority areas on covered land for geothermal, solar,  
15 and wind energy projects. Projects located in those  
16 priority areas shall be given the highest priority for  
17 review, and shall be offered the opportunity to par-  
18 ticipate in any regional mitigation plan developed for  
19 the relevant priority areas.

20 (2) DEADLINE.—

21 (A) GEOTHERMAL ENERGY.—For geo-  
22 thermal energy, the Secretary shall establish  
23 priority areas as soon as practicable, but not  
24 later than 5 years, after the date of the enact-  
25 ment of this Act.

1           (B) SOLAR ENERGY.—For solar energy,  
2           solar Designated Leasing Areas, including the  
3           solar energy zones established by the 2012  
4           western solar plan of the Bureau of Land Man-  
5           agement and any subsequent land use plan  
6           amendments, shall be considered to be priority  
7           areas for solar energy projects. The Secretary  
8           shall establish additional solar priority areas as  
9           soon as practicable, but not later than 3 years,  
10          after the date of the enactment of this Act.

11          (C) WIND ENERGY.—For wind energy, the  
12          Secretary shall establish additional wind pri-  
13          ority areas as soon as practicable, but not later  
14          than 3 years, after the date of the enactment  
15          of this Act.

16          (b) VARIANCE AREAS.—To the maximum extent  
17          practicable, variance areas shall be considered for renew-  
18          able energy project development, consistent with the prin-  
19          ciples of multiple use (as defined in the Federal Land Pol-  
20          icy and Management Act of 1976 (43 U.S.C. 1701 et  
21          seq.)).

22          (c) REVIEW AND MODIFICATION.—Not less than once  
23          every 5 years, the Secretary shall—

24                  (1) review the adequacy of land allocations for  
25                  geothermal, solar, and wind energy priority and vari-

1       ance areas for the purpose of encouraging new re-  
2       newable energy development opportunities; and

3               (2) based on the review carried out under para-  
4       graph (1), add, modify, or eliminate priority, vari-  
5       ance, and exclusion areas.

6       (d) COMPLIANCE WITH THE NATIONAL ENVIRON-  
7       MENTAL POLICY ACT.—For purposes of this section, com-  
8       pliance with the National Environmental Policy Act of  
9       1969 (42 U.S.C. 4321 et seq.) shall be accomplished—

10              (1) for geothermal energy, by supplementing  
11       the October 2008 final programmatic environmental  
12       impact statement for geothermal leasing in the  
13       Western United States and incorporating any addi-  
14       tional regional analyses that have been completed by  
15       Federal agencies since the programmatic environ-  
16       mental impact statement was finalized;

17              (2) for solar energy, by supplementing the July  
18       2012 final programmatic environmental impact  
19       statement for solar energy development and incor-  
20       porating any additional regional analyses that have  
21       been completed by Federal agencies since the pro-  
22       grammatic environmental impact statement was fi-  
23       nalized; and

24              (3) for wind energy, by supplementing the July  
25       2005 final programmatic environmental impact

1 statement for wind energy development and incor-  
2 porating any additional regional analyses that have  
3 been completed by Federal agencies since the pro-  
4 grammatic environmental impact statement was fi-  
5 nalized.

6 (e) NO EFFECT ON PROCESSING APPLICATIONS.—

7 Any requirements to prepare a supplement to a pro-  
8 grammatic environmental impact statement under this  
9 section shall not result in any delay in processing a pend-  
10 ing application for a renewable energy project.

11 (f) COORDINATION.—In developing a supplement re-  
12 quired by this section, the Secretary shall coordinate, on  
13 an ongoing basis, with appropriate State, Tribal, and local  
14 governments, transmission infrastructure owners and op-  
15 erators, developers, and other appropriate entities to en-  
16 sure that priority areas identified by the Secretary are—

17 (1) economically viable (including having access  
18 to existing and/or planned transmission lines);

19 (2) likely to avoid or minimize impacts to habi-  
20 tat for animals and plants, recreation, cultural re-  
21 sources, and other uses of covered land; and

22 (3) consistent with section 202 of the Federal  
23 Land Policy and Management Act of 1976 (43  
24 U.S.C. 1712), including subsection (c)(9) of that  
25 section (43 U.S.C. 1712(c)(9)).

1 **SEC. 2603. ENVIRONMENTAL REVIEW ON COVERED LAND.**

2 (a) IN GENERAL.—If the Secretary determines that  
3 a proposed renewable energy project has been sufficiently  
4 analyzed by a programmatic environmental impact state-  
5 ment conducted under section 2602(d), the Secretary shall  
6 not require any additional review under the National Envi-  
7 ronmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).  
8 The Secretary shall publish any such project determina-  
9 tions on a publicly available website.

10 (b) ADDITIONAL ENVIRONMENTAL REVIEW.—If the  
11 Secretary determines that additional environmental review  
12 under the National Environmental Policy Act of 1969 (42  
13 U.S.C. 4321 et seq.) is necessary for a proposed renewable  
14 energy project, the Secretary shall rely on the analysis in  
15 the programmatic environmental impact statement con-  
16 ducted under section 2602(d), to the maximum extent  
17 practicable when analyzing the potential impacts of the  
18 project.

19 (c) RELATIONSHIP TO OTHER LAW.—Nothing in this  
20 section modifies or supersedes any requirement under ap-  
21 plicable law.

22 **SEC. 2604. PROGRAM TO IMPROVE RENEWABLE ENERGY**  
23 **PROJECT PERMIT COORDINATION.**

24 (a) ESTABLISHMENT.—The Secretary shall establish  
25 a national Renewable Energy Coordination Office and  
26 State, district, or field offices with responsibility to estab-

1 lish and implement a program to improve Federal permit  
2 coordination with respect to renewable energy projects on  
3 covered land and other activities deemed necessary by the  
4 Secretary. In carrying out the program, the Secretary may  
5 temporarily assign qualified staff to Renewable Energy  
6 Coordination Offices to expedite the permitting of renew-  
7 able energy projects.

8 (b) MEMORANDUM OF UNDERSTANDING.—

9 (1) IN GENERAL.—Not later than 180 days  
10 after the date of the enactment of this Act, the Sec-  
11 retary shall enter into a memorandum of under-  
12 standing for purposes of this section, including to  
13 specifically expedite the environmental analysis of  
14 applications for projects proposed in a variance area  
15 or a priority area, with the Secretary of Defense.

16 (2) STATE AND TRIBAL PARTICIPATION.—The  
17 Secretary may request the Governor of any inter-  
18 ested State or any Tribal leader of any interested  
19 Indian Tribe (as defined in section 4 of the Indian  
20 Self-Determination and Education Assistance Act  
21 (25 U.S.C. 5304)) to be a signatory to the memo-  
22 randum of understanding under paragraph (1).

23 (c) DESIGNATION OF QUALIFIED STAFF.—

24 (1) IN GENERAL.—Not later than 30 days after  
25 the date on which the memorandum of under-

1 standing under subsection (b) is executed, all Fed-  
2 eral signatories, as appropriate, shall identify for  
3 each of the Bureau of Land Management Renewable  
4 Energy Coordination Offices one or more employees  
5 who have expertise in the regulatory issues relating  
6 to the office in which the employee is employed, in-  
7 cluding, as applicable, particular expertise in—

8 (A) consultation regarding, and prepara-  
9 tion of, biological opinions under section 7 of  
10 the Endangered Species Act of 1973 (16 U.S.C.  
11 1536);

12 (B) permits under section 404 of the Fed-  
13 eral Water Pollution Control Act (33 U.S.C.  
14 1344);

15 (C) regulatory matters under the Clean Air  
16 Act (42 U.S.C. 7401 et seq.);

17 (D) the Federal Land Policy and Manage-  
18 ment Act of 1976 (43 U.S.C. 1701 et seq.);

19 (E) the Migratory Bird Treaty Act (16  
20 U.S.C. 703 et seq.);

21 (F) the preparation of analyses under the  
22 National Environmental Policy Act of 1969 (42  
23 U.S.C. 4321 et seq.);

24 (G) implementation of the requirements of  
25 section 306108 of title 54, United States Code

1 (formerly known as section 106 of the National  
2 Historic Preservation Act);

3 (H) the Bald and Golden Eagle Protection  
4 Act (16 U.S.C. 668 through 668d); and

5 (I) section 100101(a), chapter 1003, and  
6 sections 100751(a), 100752, 100753 and  
7 102101 of title 54 , United States Code (pre-  
8 viously known as the “National Park Service  
9 Organic Act”).

10 (2) DUTIES.—Each employee assigned under  
11 paragraph (1) shall—

12 (A) be responsible for addressing all issues  
13 relating to the jurisdiction of the home office or  
14 agency of the employee; and

15 (B) participate as part of the team of per-  
16 sonnel working on proposed energy projects,  
17 planning, monitoring, inspection, enforcement,  
18 and environmental analyses.

19 (d) ADDITIONAL PERSONNEL.—The Secretary may  
20 assign such additional personnel for the Bureau of Land  
21 Management Renewable Energy Coordination Offices as  
22 are necessary to ensure the effective implementation of  
23 any programs administered by the offices in accordance  
24 with the multiple use mandate of the Federal Land Policy  
25 and Management Act of 1976 (43 U.S.C. 1701 et seq.).



1 (e) CLARIFICATION OF EXISTING AUTHORITY.—

2 Under section 307 of the Federal Land Policy and Man-  
3 agement Act of 1976 (43 U.S.C. 1737), the Bureau of  
4 Land Management may—

5 (1) accept donations for the purposes of public  
6 lands management; and

7 (2) accept donations from renewable energy  
8 companies working on public lands to help cover the  
9 costs of environmental reviews.

10 (f) REPORT TO CONGRESS.—

11 (1) IN GENERAL.—Not later than February 1  
12 of the first fiscal year beginning after the date of the  
13 enactment of this Act, and each February 1 there-  
14 after, the Secretary shall submit to the Committee  
15 on Energy and Natural Resources of the Senate and  
16 the Committee on Natural Resources of the House  
17 of Representatives a report describing the progress  
18 made under the program established under sub-  
19 section (a) during the preceding year.

20 (2) INCLUSIONS.—Each report under this sub-  
21 section shall include—

22 (A) projections for renewable energy pro-  
23 duction and capacity installations; and

24 (B) a description of any problems relating  
25 to leasing, permitting, siting, or production.

1 **SEC. 2605. INCREASING ECONOMIC CERTAINTY.**

2 (a) CONSIDERATIONS.—The Secretary is authorized  
3 to and shall consider acreage rental rates, capacity fees,  
4 and other recurring annual fees in total when evaluating  
5 existing rates paid for the use of Federal land by renew-  
6 able energy projects.

7 (b) INCREASES IN BASE RENTAL RATES.—Once a  
8 base rental rate is established upon the issuance of a  
9 right-of-way authorization, increases in the base rent shall  
10 be limited to the Implicit Price Deflator–Gross Domestic  
11 Product (IPD–GDP) index for the entire term of the  
12 right-of-way authorization.

13 (c) REDUCTIONS IN BASE RENTAL RATES.—The  
14 Secretary is authorized to reduce acreage rental rates and  
15 capacity fees, or both, for existing and new wind and solar  
16 authorizations if the Secretary determines—

17 (1) that the existing rates—

18 (A) exceed fair market value;

19 (B) impose economic hardships;

20 (C) limit commercial interest in a competi-  
21 tive lease sale or right-of-way grant; or

22 (D) are not competitively priced compared  
23 to other available land; or

24 (2) that a reduced rental rate or capacity fee is  
25 necessary to promote the greatest use of wind and  
26 solar energy resources, especially those resources in-

1 side priority areas. Rental rates and capacity fees  
2 for projects that are within the boundaries of a Des-  
3 ignated Leasing Area but not formally recognized as  
4 being in such an area shall be equivalent to rents  
5 and fees for new leases inside of a Designated Leas-  
6 ing Area.

7 **SEC. 2606. RENEWABLE ENERGY GOAL.**

8 The Secretary shall seek to issue permits that, in  
9 total, authorize production of not less than 25 gigawatts  
10 of electricity from wind, solar, and geothermal energy  
11 projects by not later than 2025, through management of  
12 public lands and administration of Federal laws.

13 **SEC. 2607. FACILITATION OF COPRODUCTION OF GEO-**  
14 **THERMAL ENERGY ON OIL AND GAS LEASES.**

15 Section 4(b) of the Geothermal Steam Act of 1970  
16 (30 U.S.C. 1003(b)) is amended by adding at the end the  
17 following:

18 “(4) LAND SUBJECT TO OIL AND GAS LEASE.—  
19 Land under an oil and gas lease issued pursuant to  
20 the Mineral Leasing Act (30 U.S.C. 181 et seq.) or  
21 the Mineral Leasing Act for Acquired Lands (30  
22 U.S.C. 351 et seq.) that is subject to an approved  
23 application for permit to drill and from which oil  
24 and gas production is occurring may be available for

1 noncompetitive leasing under subsection (c) by the  
2 holder of the oil and gas lease—

3 “(A) on a determination that geothermal  
4 energy will be produced from a well producing  
5 or capable of producing oil and gas; and

6 “(B) in order to provide for the coproduc-  
7 tion of geothermal energy with oil and gas.”.

8 **SEC. 2608. NONCOMPETITIVE LEASING OF ADJOINING**  
9 **AREAS FOR DEVELOPMENT OF GEOTHERMAL**  
10 **RESOURCES.**

11 Section 4(b) of the Geothermal Steam Act of 1970  
12 (30 U.S.C. 1003(b)) is further amended by adding at the  
13 end the following:

14 “(5) ADJOINING LAND.—

15 “(A) DEFINITIONS.—In this paragraph:

16 “(i) FAIR MARKET VALUE PER  
17 ACRE.—The term ‘fair market value per  
18 acre’ means a dollar amount per acre  
19 that—

20 “(I) except as provided in this  
21 clause, shall be equal to the market  
22 value per acre (taking into account  
23 the determination under subparagraph  
24 (B)(iii) regarding a valid discovery on  
25 the adjoining land) as determined by

1 the Secretary under regulations issued  
2 under this paragraph;

3 “(II) shall be determined by the  
4 Secretary with respect to a lease  
5 under this paragraph, by not later  
6 than the end of the 180-day period  
7 beginning on the date the Secretary  
8 receives an application for the lease;  
9 and

10 “(III) shall be not less than the  
11 greater of—

12 “(aa) 4 times the median  
13 amount paid per acre for all land  
14 leased under this Act during the  
15 preceding year; or

16 “(bb) \$50.

17 “(ii) INDUSTRY STANDARDS.—The  
18 term ‘industry standards’ means the stand-  
19 ards by which a qualified geothermal pro-  
20 fessional assesses whether downhole or  
21 flowing temperature measurements with  
22 indications of permeability are sufficient to  
23 produce energy from geothermal resources,  
24 as determined through flow or injection

1 testing or measurement of lost circulation  
2 while drilling.

3 “(iii) QUALIFIED FEDERAL LAND.—  
4 The term ‘qualified Federal land’ means  
5 land that is otherwise available for leasing  
6 under this Act.

7 “(iv) QUALIFIED GEOTHERMAL PRO-  
8 FESSIONAL.—The term ‘qualified geo-  
9 thermal professional’ means an individual  
10 who is an engineer or geoscientist in good  
11 professional standing with at least 5 years  
12 of experience in geothermal exploration,  
13 development, or project assessment.

14 “(v) QUALIFIED LESSEE.—The term  
15 ‘qualified lessee’ means a person who may  
16 hold a geothermal lease under this Act (in-  
17 cluding applicable regulations).

18 “(vi) VALID DISCOVERY.—The term  
19 ‘valid discovery’ means a discovery of a  
20 geothermal resource by a new or existing  
21 slim hole or production well, that exhibits  
22 downhole or flowing temperature measure-  
23 ments with indications of permeability that  
24 are sufficient to meet industry standards.

1           “(B) AUTHORITY.—An area of qualified  
2 Federal land that adjoins other land for which  
3 a qualified lessee holds a legal right to develop  
4 geothermal resources may be available for a  
5 noncompetitive lease under this section to the  
6 qualified lessee at the fair market value per  
7 acre, if—

8           “(i) the area of qualified Federal  
9 land—

10           “(I) consists of not less than 1  
11 acre and not more than 640 acres;  
12 and

13           “(II) is not already leased under  
14 this Act or nominated to be leased  
15 under subsection (a);

16           “(ii) the qualified lessee has not pre-  
17 viously received a noncompetitive lease  
18 under this paragraph in connection with  
19 the valid discovery for which data has been  
20 submitted under clause (iii)(I); and

21           “(iii) sufficient geological and other  
22 technical data prepared by a qualified geo-  
23 thermal professional has been submitted by  
24 the qualified lessee to the applicable Fed-  
25 eral land management agency that would

1 lead individuals who are experienced in the  
2 subject matter to believe that—

3 “(I) there is a valid discovery of  
4 geothermal resources on the land for  
5 which the qualified lessee holds the  
6 legal right to develop geothermal re-  
7 sources; and

8 “(II) that geothermal feature ex-  
9 tends into the adjoining areas.

10 “(C) DETERMINATION OF FAIR MARKET  
11 VALUE.—

12 “(i) IN GENERAL.—The Secretary  
13 shall—

14 “(I) publish a notice of any re-  
15 quest to lease land under this para-  
16 graph;

17 “(II) determine fair market value  
18 for purposes of this paragraph in ac-  
19 cordance with procedures for making  
20 those determinations that are estab-  
21 lished by regulations issued by the  
22 Secretary;

23 “(III) provide to a qualified les-  
24 see and publish, with an opportunity  
25 for public comment for a period of 30



1 days, any proposed determination  
2 under this subparagraph of the fair  
3 market value of an area that the  
4 qualified lessee seeks to lease under  
5 this paragraph; and

6 “(IV) provide to the qualified les-  
7 see and any adversely affected party  
8 the opportunity to appeal the final de-  
9 termination of fair market value in an  
10 administrative proceeding before the  
11 applicable Federal land management  
12 agency, in accordance with applicable  
13 law (including regulations).

14 “(ii) LIMITATION ON NOMINATION.—  
15 After publication of a notice of request to  
16 lease land under this paragraph, the Sec-  
17 retary may not accept under subsection (a)  
18 any nomination of the land for leasing un-  
19 less the request has been denied or with-  
20 drawn.

21 “(iii) ANNUAL RENTAL.—For pur-  
22 poses of section 5(a)(3), a lease awarded  
23 under this paragraph shall be considered a  
24 lease awarded in a competitive lease sale.

1           “(D) REGULATIONS.—Not later than 270  
2           days after the date of the enactment of this  
3           paragraph, the Secretary shall issue regulations  
4           to carry out this paragraph.”.

5 **SEC. 2609. SAVINGS CLAUSE.**

6           Notwithstanding any other provision of this subtitle,  
7           the Secretary shall continue to manage public lands under  
8           the principles of multiple use and sustained yield in ac-  
9           cordance with title I of the Federal Land Policy and Man-  
10          agement Act of 1976 (43 U.S.C. 1701 et seq.), including  
11          due consideration of mineral and nonrenewable energy-re-  
12          lated projects and other nonrenewable energy uses, for the  
13          purposes of land use planning, permit processing, and con-  
14          ducting environmental reviews.

15           **Subtitle G—Renewable Energy**  
16           **Grant Program**

17 **SEC. 2701. RENEWABLE ENERGY GRANT PROGRAM.**

18          (a) ESTABLISHMENT.—Not later than 180 days after  
19          the date of enactment of this Act, the Secretary shall es-  
20          tablish a renewable energy program (in this section re-  
21          ferred to as the “program”) under which the Secretary  
22          may award grants to covered entities to facilitate projects,  
23          in territories of the United States, described in subsection  
24          (c).

1 (b) APPLICATIONS.—To be eligible for a grant under  
2 the program, a covered entity shall submit to the Sec-  
3 retary an application at such time, in such form, and con-  
4 taining such information as the Secretary may require.

5 (c) GRANT USES.—

6 (1) IN GENERAL.—A covered entity receiving a  
7 grant under the program may use grant funds for  
8 a project, in territories of the United States—

9 (A) to develop or construct a renewable en-  
10 ergy system;

11 (B) to carry out an activity to increase en-  
12 ergy efficiency;

13 (C) to develop or construct an energy stor-  
14 age system or device for—

15 (i) a system developed or constructed  
16 under subparagraph (A); or

17 (ii) an activity carried out under sub-  
18 paragraph (B);

19 (D) to develop or construct—

20 (i) a smart grid; or

21 (ii) a microgrid; or

22 (E) to train residents of territories of the  
23 United States to develop, construct, maintain,  
24 or operate a renewable energy system.

1           (2) LIMITATION.—A covered entity receiving a  
2           grant under the program may not use grant funds  
3           to develop or construct a facility that generates elec-  
4           tricity using energy derived from—

5                     (A) fossil fuels; or

6                     (B) nuclear power.

7           (d) TECHNICAL ASSISTANCE.—The Secretary shall  
8           ensure that Department of Energy national laboratories  
9           offer to provide technical assistance to each covered entity  
10          carrying out a project assisted with a grant under the pro-  
11          gram.

12          (e) REPORT.—Not later than two years after the es-  
13          tablishment of the program, and on an annual basis there-  
14          after, the Secretary shall submit to Congress a report con-  
15          taining—

16                    (1) an estimate of the amount of funds dis-  
17                    bursed under the program;

18                    (2) an estimate of the energy conservation  
19                    achieved as a result of the program;

20                    (3) a description of challenges encountered in  
21                    implementing projects described in subsection (c)(1);  
22                    and

23                    (4) recommendations as to additional legislative  
24                    measures to increase the use of renewable energy in  
25                    territories of the United States, as appropriate.

1 (f) GAO STUDY AND REPORT.—

2 (1) STUDY AND REPORT.—Not later than 180  
3 days after the date of enactment of this section, the  
4 Comptroller General of the United States shall—

5 (A) conduct a study regarding renewable  
6 energy and energy efficiency in territories of the  
7 United States; and

8 (B) submit to Congress a report con-  
9 taining—

10 (i) the findings of the study; and

11 (ii) related recommendations.

12 (2) COMPONENTS.—The study conducted under  
13 paragraph (1) shall consider, in relation to terri-  
14 tories of the United States, the potential—

15 (A) to modify existing electric power sys-  
16 tems to use renewable energy sources;

17 (B) to expand the use of microgrids; and

18 (C) to improve energy resiliency.

19 (g) DEFINITIONS.—In this section, the following defi-  
20 nitions apply:

21 (1) COVERED ENTITY.—The term “covered en-  
22 tity” means a not-for-profit organization determined  
23 eligible by the Secretary for purposes of this section.

24 (2) DEPARTMENT OF ENERGY NATIONAL LAB-  
25 ORATORIES.—The term “Department of Energy na-

1 tional laboratories” has the same meaning as the  
2 term “National Laboratory” under section 2 of the  
3 Energy Policy Act of 2005 (42 U.S.C. 15801).

4 (3) MICROGRID.—The term “microgrid” means  
5 an electric system—

6 (A) that serves the local community with a  
7 power generation and distribution system; and

8 (B) that has the ability—

9 (i) to disconnect from a traditional  
10 electric grid; and

11 (ii) to operate autonomously when dis-  
12 connected.

13 (4) RENEWABLE ENERGY; RENEWABLE ENERGY  
14 SYSTEM.—The terms “renewable energy” and “re-  
15 newable energy system” have the meanings given  
16 those terms in section 415(c) of the Energy Con-  
17 servation and Production Act (42 U.S.C. 6865(c)).

18 (5) SECRETARY.—The term “Secretary” means  
19 the Secretary of Energy.

20 (6) SMART GRID.—The term “smart grid”  
21 means an intelligent electric grid that uses digital  
22 communications technology, information systems,  
23 and automation to, while maintaining high system  
24 reliability—

1 (A) detect and react to local changes in  
2 usage;

3 (B) improve system operating efficiency;  
4 and

5 (C) reduce spending costs.

6 (7) TERRITORY.—The term “territory” means  
7 the Commonwealth of Puerto Rico, Guam, the  
8 United States Virgin Islands, American Samoa, and  
9 the Commonwealth of the Northern Mariana Is-  
10 lands.

11 (h) AUTHORIZATION OF APPROPRIATIONS.—There  
12 are authorized to be appropriated such sums as may be  
13 necessary to carry out this section.

## 14 **Subtitle H—Other**

### 15 **SEC. 2801. AMENDMENT TO ENERGY POLICY ACT OF 2005**

#### 16 **DEFINITION OF RENEWABLE ENERGY.**

17 (a) IN GENERAL.—Section 203 of the Energy Policy  
18 Act of 2005 (42 U.S.C. 15852) is amended—

19 (1) in subsection (b)(2), by striking “gen-  
20 erated” and inserting “produced”; and

21 (2) in subsection (c)—

22 (A) by redesignating paragraphs (1)  
23 through (3) as subparagraphs (A) through (C),  
24 respectively, and indenting appropriately;

1 (B) in the matter preceding subparagraph  
2 (A) (as so redesignated), by striking “For pur-  
3 poses” and inserting the following:

4 “(1) IN GENERAL.—For purposes”; and

5 (C) by adding at the end the following:

6 “(2) SEPARATE CALCULATION.—

7 “(A) IN GENERAL.—For purposes of deter-  
8 mining compliance with the requirement of this  
9 section, any energy consumption that is avoided  
10 through the use of geothermal energy shall be  
11 considered to be renewable energy produced.

12 “(B) EFFICIENCY ACCOUNTING.—Energy  
13 consumption that is avoided through the use of  
14 geothermal energy that is considered to be re-  
15 newable energy under this section shall not be  
16 considered energy efficiency for the purpose of  
17 compliance with Federal energy efficiency goals,  
18 targets, and incentives.”.

19 (b) CONFORMING AMENDMENT.—Section 2410q(a)  
20 of title 10, United States Code, is amended by striking  
21 “section 203(b)(2) of the Energy Policy Act of 2005 (42  
22 U.S.C. 15852(b)(2))” and inserting “section 203(b) of the  
23 Energy Policy Act of 2005 (42 U.S.C. 15852(b))”.



1 **TITLE III—CARBON POLLUTION**  
2 **REDUCTION TECHNOLOGIES**  
3 **Subtitle A—Fossil Energy Research**  
4 **and Development**

5 **SEC. 3101. DEFINITIONS.**

6 For purposes of this part:

7 (1) DEPARTMENT.—The term “Department”  
8 means the Department of Energy.

9 (2) SECRETARY.—The term “Secretary” means  
10 the Secretary of Energy.

11 **SEC. 3102. FOSSIL ENERGY OBJECTIVES.**

12 Section 961 of the Energy Policy Act of 2005 (42  
13 U.S.C. 16291) is amended—

14 (1) in subsection (a)—

15 (A) by striking paragraph (2) and insert-  
16 ing the following:

17 “(2) Decreasing the cost of emissions control  
18 technologies for fossil energy production, generation,  
19 and delivery.”;

20 (B) by striking paragraph (7) and insert-  
21 ing the following:

22 “(7) Increasing the export of emissions control  
23 technologies from the United States for fossil en-  
24 ergy-related equipment, technology, and services.”;  
25 and

1 (C) by adding at the end the following:

2 “(8) Improving the conversion, use, and storage  
3 of carbon oxides.

4 “(9) Lowering greenhouse gas emissions for all  
5 fossil fuel production, generation, delivery, and utili-  
6 zation, to the maximum extent possible.

7 “(10) Preventing, predicting, monitoring, and  
8 mitigating the unintended leaking of methane, car-  
9 bon dioxide, or other fossil fuel-related emissions  
10 into the atmosphere.

11 “(11) Improving the separation and purification  
12 of helium from fossil fuel resources.

13 “(12) Reducing water use, improving water  
14 reuse, and minimizing the surface and subsurface  
15 environmental impact in the development of uncon-  
16 ventional domestic oil and natural gas resources.

17 “(13) Developing carbon removal and utiliza-  
18 tion technologies, products, and methods that result  
19 in net reductions in greenhouse gas emissions, in-  
20 cluding direct air capture and storage and carbon  
21 use and reuse for commercial application.”;

22 (2) by striking subsections (c) through (e) and  
23 inserting the following:

24 “(c) PRIORITIZATION.—In carrying out this section,  
25 the Secretary shall prioritize technologies and strategies

1 that have the potential to meet emissions reduction goals  
2 in the agreement of the twenty-first session of the Con-  
3 ference of the Parties to the United Nations Framework  
4 Convention on Climate Change.

5 “(d) LIMITATION.—None of the funds authorized  
6 under this section may be used for Fossil Energy Environ-  
7 mental Restoration or Import/Export Authorization.”.

8 **SEC. 3103. CARBON CAPTURE TECHNOLOGIES.**

9 (a) CARBON CAPTURE PROGRAM.—Section 962 of  
10 the Energy Policy Act of 2005 (42 U.S.C. 16292) is  
11 amended to read as follows:

12 **“SEC. 962. CARBON CAPTURE TECHNOLOGIES.**

13 “(a) IN GENERAL.—The Secretary shall conduct a  
14 program of research, development, demonstration, and  
15 commercial application of carbon capture technologies,  
16 which shall include facilitation of the development and use  
17 of—

18 “(1) carbon capture technologies for coal and  
19 natural gas;

20 “(2) innovations to significantly decrease emis-  
21 sions at existing power plants;

22 “(3) innovations to significantly decrease emis-  
23 sions in manufacturing and industrial applications,  
24 including at biofuel facilities; and

25 “(4) advanced separation technologies.

1       “(b) INVESTMENT.—As a part of the program under  
2 subsection (a), the Secretary shall maintain robust invest-  
3 ments in carbon capture technologies for coal and natural  
4 gas applications.

5       “(c) LARGE-SCALE PILOTS.—In carrying out this  
6 section, the Secretary is encouraged to support pilot  
7 projects that test carbon capture technologies on coal and  
8 natural gas power and industrial systems below the 100  
9 megawatt scale, consistent with section 988(b).

10       “(d) COST AND PERFORMANCE GOALS.—In carrying  
11 out the program under subsection (a), the Secretary shall  
12 establish cost and performance goals to assist in the tran-  
13 sition of carbon capture research to commercially viable  
14 technologies.

15       “(e) CARBON CAPTURE PILOT TEST CENTERS.—

16               “(1) IN GENERAL.—As a part of the program  
17 under subsection (a), not later than 1 year after the  
18 date of the enactment of this section, the Secretary  
19 shall award grants to eligible entities for the oper-  
20 ation of not less than three Carbon Capture Test  
21 Centers (in this subsection, known as the ‘Centers’)  
22 to provide unique testing capabilities for innovative  
23 carbon capture technologies for power and industrial  
24 systems.

25               “(2) PURPOSE.—Each Center shall—

1           “(A) advance research, development, dem-  
2           onstration, and commercial application of car-  
3           bon capture technologies for power and indus-  
4           trial systems; and

5           “(B) test technologies that represent the  
6           scale of technology development beyond labora-  
7           tory testing, but not yet advanced to testing  
8           under operational conditions at commercial  
9           scale.

10          “(3) APPLICATION.—An entity seeking to oper-  
11          ate a Center under this subsection shall submit to  
12          the Secretary an application at such time and in  
13          such manner as the Secretary may require.

14          “(4) PRIORITY CRITERIA.—In selecting applica-  
15          tions to operate a Center under this subsection, the  
16          Secretary shall prioritize applicants that—

17                 “(A) have access to existing or planned re-  
18                 search facilities with modular technology capa-  
19                 bilities;

20                 “(B) are institutions of higher education  
21                 with established expertise in engineering and  
22                 design for carbon capture technologies, or part-  
23                 nerships with such institutions;

1           “(C) have access to existing research and  
2           test facilities for pre-combustion, post-combus-  
3           tion, or oxy-combustion technologies; or

4           “(D) have test capabilities to address scal-  
5           ing challenges of integrating carbon capture  
6           technologies with utility scale power plants.

7           “(5) CONSIDERATIONS.—In awarding grants  
8           for the operation of the Centers under this sub-  
9           section, the Secretary shall ensure that—

10           “(A) the portfolio of Centers includes a di-  
11           verse representation of regional and resource  
12           characteristics; and

13           “(B) each new Center demonstrates unique  
14           research capabilities, unique regional benefits,  
15           or new technology development opportunities.

16           “(6) SCHEDULE.—Each grant to operate a  
17           Center under this subsection shall be awarded for a  
18           term of not more than 5 years, subject to the avail-  
19           ability of appropriations. The Secretary may renew  
20           such 5-year term without limit, subject to a rigorous  
21           merit review.

22           “(7) TERMINATION.—To the extent otherwise  
23           authorized by law, the Secretary may eliminate a  
24           Center during any 5-year term described in para-  
25           graph (6) if such Center is underperforming.

1 “(f) DEMONSTRATIONS.—

2 “(1) IN GENERAL.—As a part of the program  
3 under subsection (a), the Secretary may provide  
4 grants for large-scale demonstration projects for  
5 power and industrial systems that test the scale of  
6 technology necessary to gain the operational data  
7 needed to understand the technical and performance  
8 risks of the technology before the application of the  
9 technology at commercial scale, in accordance with  
10 this subsection.

11 “(2) ENGINEERING AND DESIGN STUDIES.—  
12 The Secretary is authorized to fund front-end engi-  
13 neering and design studies in addition to, or in ad-  
14 vance of, issuing an award for a demonstration  
15 project under this subsection.

16 “(3) APPLICATION.—An entity seeking an  
17 award to conduct a demonstration project under this  
18 subsection shall submit to the Secretary an applica-  
19 tion at such time and in such manner as the Sec-  
20 retary may require.

21 “(4) LIMITATIONS.—The Secretary shall only  
22 provide an award under this subsection after review-  
23 ing each applicant and application regarding—

24 “(A) financial strength;

25 “(B) construction schedule;

1 “(C) market risk; and

2 “(D) contractor history.

3 “(5) REQUIREMENTS.—A demonstration project  
4 funded under this subsection shall—

5 “(A) utilize technologies that have com-  
6 pleted pilot-scale testing or the equivalent, as  
7 determined by the Secretary;

8 “(B) secure and maintain agreements for  
9 the utilization or sequestration of captured car-  
10 bon dioxide; and

11 “(C) upon completion, demonstrate carbon  
12 capture technologies on a power or industrial  
13 system capable of capturing not less than  
14 100,000 tons of carbon dioxide annually.

15 “(g) DEFINITION OF POWER SYSTEM.—In this sec-  
16 tion, the term ‘power system’ means any electricity gener-  
17 ating unit that utilizes fossil fuels to generate electricity  
18 provided to the electric grid or directly to a consumer.

19 “(h) AUTHORIZATION OF APPROPRIATIONS.—There  
20 are authorized to be appropriated to the Secretary for ac-  
21 tivities under subsections (a) through (f)—

22 “(1) \$300,000,000 for fiscal year 2021;

23 “(2) \$315,000,000 for fiscal year 2022;

24 “(3) \$330,750,000 for fiscal year 2023;

25 “(4) \$347,288,000 for fiscal year 2024; and



1           “(5) \$364,652,000 for fiscal year 2025.

2           “(i) COMMERCIAL DEMONSTRATION.—

3           “(1) IN GENERAL.—The Secretary shall estab-  
4           lish a carbon capture technology commercialization  
5           program to improve the efficiency, effectiveness,  
6           cost, and environmental performance of such tech-  
7           nologies for power, industrial, transportation, and  
8           other commercial applications. Such program shall  
9           include funding for commercial carbon capture tech-  
10          nology projects for up to five demonstrations of a  
11          particular technology type.

12          “(2) AUTHORIZATION OF APPROPRIATIONS.—

13          There are authorized to be appropriated to carry out  
14          this subsection \$1,500,000,000 for each of fiscal  
15          years 2021 through 2025.”.

16          (b) GAO STUDY.—

17          “(1) IN GENERAL.—Not later than 1 year after  
18          the date of enactment of this Act, the Comptroller  
19          General of the United States shall submit to the  
20          Committee on Science, Space, and Technology of the  
21          House of Representatives and the Committee on En-  
22          ergy and Natural Resources of the Senate a report  
23          on the results of a study of the Department’s suc-  
24          cesses, failures, practices, and improvements in car-  
25          rying out demonstration projects for carbon capture

1 technologies for power and industrial systems. In  
2 conducting the study, the Comptroller General shall  
3 consider—

4 (A) applicant and contractor qualifications;

5 (B) project management practices at the  
6 Department;

7 (C) economic or market changes and other  
8 factors impacting project viability;

9 (D) completion of third-party agreements,  
10 including power purchase agreements and car-  
11 bon dioxide offtake agreements;

12 (E) regulatory challenges; and

13 (F) construction challenges.

14 (2) CONSIDERATION.—The Secretary shall con-  
15 sider any relevant recommendations, as determined  
16 by the Secretary, provided in the report required  
17 under paragraph (1), and shall adopt such rec-  
18 ommendations as the Secretary considers appro-  
19 priate.

20 (3) POWER SYSTEM DEFINED.—In this section,  
21 the term “power system” means any electricity gen-  
22 erating unit that utilizes fossil fuels to generate elec-  
23 tricity provided to the electric grid or directly to a  
24 consumer.

1 **SEC. 3104. NATURAL GAS CARBON CAPTURE RESEARCH,**  
2 **DEVELOPMENT, AND DEMONSTRATION PRO-**  
3 **GRAM.**

4 (a) IN GENERAL.—Subtitle F of title IX of the En-  
5 ergy Policy Act of 2005 (42 U.S.C. 16291 et seq.) is  
6 amended by adding at the end the following:

7 **“SEC. 969. NATURAL GAS CARBON CAPTURE RESEARCH,**  
8 **DEVELOPMENT, AND DEMONSTRATION PRO-**  
9 **GRAM.**

10 “(a) DEFINITIONS.—In this section:

11 “(1) NATURAL GAS.—The term ‘natural gas’  
12 includes any fuel consisting in whole or in part of—

13 “(A) natural gas;

14 “(B) liquid petroleum gas;

15 “(C) synthetic gas derived from petroleum  
16 or natural gas liquids; or

17 “(D) any mixture of natural gas and syn-  
18 thetic gas.

19 “(2) QUALIFYING ELECTRIC GENERATION FA-  
20 CILITY.—The term ‘qualifying electric generation fa-  
21 cility’ means a facility that generates electric energy  
22 through the use of natural gas or a facility that gen-  
23 erates hydrogen from natural gas.

24 “(3) QUALIFYING TECHNOLOGY.—The term  
25 ‘qualifying technology’ means any technology to cap-  
26 ture carbon dioxide produced during the generation

1 of electricity from natural gas power systems or dur-  
2 ing the generation of hydrogen from natural gas.

3 “(b) ESTABLISHMENT OF RESEARCH, DEVELOP-  
4 MENT, AND DEMONSTRATION PROGRAM.—

5 “(1) IN GENERAL.—The Secretary shall estab-  
6 lish a program under which the Secretary shall,  
7 through a competitive, merit-reviewed process, award  
8 grants to eligible entities to conduct research, devel-  
9 opment, and demonstration of qualifying tech-  
10 nologies.

11 “(2) OBJECTIVES.—The objectives of the pro-  
12 gram established under paragraph (1) shall be—

13 “(A) to conduct research to accelerate the  
14 development of qualifying technologies to reduce  
15 the quantity of carbon dioxide emissions re-  
16 leased from qualifying electric generation facili-  
17 ties, including—

18 “(i) pre- and post-combustion capture  
19 technologies; and

20 “(ii) technologies to improve the ther-  
21 modynamics, kinetics, scalability, dura-  
22 bility, and flexibility of carbon capture  
23 technologies for use during the generation  
24 of electricity from natural gas power sys-  
25 tems;

1           “(B) to expedite and carry out demonstra-  
2           tion projects (including pilot projects) for quali-  
3           fying technologies in partnership with quali-  
4           fying electric generation facilities in order to  
5           demonstrate the technical feasibility and eco-  
6           nomic potential for commercial deployment of  
7           technologies developed pursuant to subpara-  
8           graph (A); and

9           “(C) to identify any barriers to the com-  
10          mercial deployment of any qualifying tech-  
11          nologies under development pursuant to re-  
12          search conducted pursuant to subparagraph  
13          (A).

14          “(3) ELIGIBLE ENTITIES.— An entity eligible  
15          to receive a grant under this subsection is—

16                 “(A) a National Laboratory;

17                 “(B) an institution of higher education;

18                 “(C) a research facility;

19                 “(D) a multi-institutional collaboration; or

20                 “(E) another appropriate entity or com-

21                 bination of any of the entities specified in sub-

22                 paragraphs (A) through (D).

23          “(c) CARBON CAPTURE FACILITIES DEMONSTRATION  
24          PROGRAM.—

1           “(1) ESTABLISHMENT.—As part of the pro-  
2           gram established under paragraph (1), the Secretary  
3           shall establish a demonstration program under which  
4           the Secretary shall, through a competitive, merit-re-  
5           viewed process, enter into cooperative agreements  
6           with entities that submit applications pursuant to  
7           paragraph (4) for demonstration or pilot projects to  
8           construct and operate, by not later than September  
9           30, 2025, up to five facilities to capture carbon diox-  
10          ide from qualifying electric generation facilities. The  
11          Secretary shall, to the maximum extent practicable,  
12          provide technical assistance to any entity seeking to  
13          enter into such a cooperative agreement in obtaining  
14          any necessary permits and licenses to demonstrate  
15          qualifying technologies.

16          “(2) COOPERATIVE AGREEMENTS.—The Sec-  
17          retary may enter into a cooperative agreement under  
18          this subsection with industry stakeholders, including  
19          any such industry stakeholder operating in partner-  
20          ship with National Laboratories, institutions of high-  
21          er education, multi-institutional collaborations, and  
22          other appropriate entities.

23          “(3) GOALS.—Each demonstration or pilot  
24          project carried out pursuant to the demonstration  
25          program under this subsection shall—

1           “(A) be designed to further the develop-  
2           ment of qualifying technologies that may be  
3           used by a qualifying electric generation facility;

4           “(B) be financed in part by the private  
5           sector;

6           “(C) if necessary, secure agreements for  
7           the offtake of carbon dioxide emissions captured  
8           by qualifying technologies during the project;  
9           and

10           “(D) support energy production in the  
11           United States.

12           “(4) REQUEST FOR APPLICATIONS.—Not later  
13           than 120 days after the date of enactment of this  
14           Act, the Secretary shall solicit applications for coop-  
15           erative agreements for projects—

16           “(A) to demonstrate qualifying tech-  
17           nologies at up to five qualifying electric genera-  
18           tion facilities; and

19           “(B) to construct and operate three or  
20           more facilities to capture carbon dioxide from a  
21           qualifying electric generation facility.

22           “(5) REVIEW OF APPLICATIONS.—In consid-  
23           ering applications submitted under paragraph (4),  
24           the Secretary, to the maximum extent practicable,  
25           shall—

1           “(A) ensure a broad geographic distribu-  
2           tion of project sites;

3           “(B) ensure that a broad selection of  
4           qualifying electric generation facilities are rep-  
5           resented;

6           “(C) ensure that a broad selection of quali-  
7           fying technologies are represented;

8           “(D) require information and knowledge  
9           gained by each participant in the demonstration  
10          program to be transferred and shared among  
11          all participants in the demonstration program;  
12          and

13          “(E) leverage existing—

14                  “(i) public-private partnerships; and

15                  “(ii) Federal resources.

16          “(d) COST SHARING.—In carrying out this section,  
17          the Secretary shall require cost sharing in accordance with  
18          section 988.

19          “(e) REPORT.—Not later than 180 days after the  
20          date on which the Secretary solicits applications under  
21          subsection (c)(3), and annually thereafter, the Secretary  
22          shall submit to the appropriate committees of jurisdiction  
23          of the Senate and the House of Representatives a report  
24          that includes—



1           “(1) a detailed description of how applications  
2           for cooperative agreements under subsection (b) will  
3           be solicited and evaluated, including—

4                   “(A) a list of any activities carried out by  
5                   the Secretary to solicit or evaluate applications;  
6                   and

7                   “(B) a process for ensuring that any  
8                   projects carried out under a cooperative agree-  
9                   ment are designed to result in the development  
10                  or demonstration of qualifying technologies;

11           “(2)(A) in the case of the first report under  
12           this subsection, a detailed list of technical milestones  
13           for the development and demonstration of each  
14           qualifying technology pursued under subsection (b);  
15           and

16                   “(B) in the case of each subsequent report  
17                   under this subsection, the progress made towards  
18                   achieving such technical milestones during the pe-  
19                   riod covered by the report; and

20           “(3) with respect to the demonstration program  
21           established under subsection (c), includes—

22                   “(A) an estimate of the cost of licensing,  
23                   permitting, constructing, and operating each  
24                   carbon capture facility expected to be con-  
25                   structed under that demonstration program;

1           “(B) a schedule for the planned construc-  
2           tion and operation of each demonstration or  
3           pilot project; and

4           “(C) an estimate of any financial assist-  
5           ance, compensation, or incentives proposed to  
6           be paid by the host State, Indian Tribe, or local  
7           government with respect to each facility.

8           “(f) There are authorized to be appropriated to the  
9           Secretary to carry out this section \$50,000,000, to remain  
10          available until expended, for each of fiscal years 2021  
11          through 2025.”.

12          (b) CLERICAL AMENDMENT.—The table of contents  
13          for the Energy Policy Act of 2005 (Public Law 109–58;  
14          119 Stat. 600) is amended by inserting after the item re-  
15          lating to section 968 the following:

          “Sec. 969. Natural gas carbon capture research, development, and demonstra-  
          tion program.”.

16          **SEC. 3105. CARBON STORAGE VALIDATION AND TESTING.**

17          Section 963 of the Energy Policy Act of 2005 (42  
18          U.S.C. 16293) is amended to read as follows:

19          **“SEC. 963. CARBON STORAGE VALIDATION AND TESTING.**

20          “(a) CARBON STORAGE.—The Secretary, in consulta-  
21          tion with the Administrator of the Environmental Protec-  
22          tion Agency, shall carry out a program of research, devel-  
23          opment, and demonstration for carbon storage. The pro-  
24          gram shall—

1           “(1) in coordination with relevant Federal agen-  
2           cies, develop and maintain mapping tools and re-  
3           sources that assess the capacity of geologic storage  
4           formations in the United States;

5           “(2) develop monitoring tools, modeling of geo-  
6           logic formations, and analyses to predict and verify  
7           carbon dioxide containment and account for seques-  
8           tered carbon dioxide in geologic storage sites;

9           “(3) research potential environmental, safety,  
10          and health impacts in the event of a leak to the at-  
11          mosphere or to an aquifer, and any corresponding  
12          mitigation actions or responses to limit harmful con-  
13          sequences;

14          “(4) evaluate the interactions of carbon dioxide  
15          with formation solids and fluids, including the pro-  
16          pensity of injections to induce seismic activity;

17          “(5) assess and ensure the safety of operations  
18          related to geologic sequestration of carbon dioxide;

19          “(6) determine the fate of carbon dioxide con-  
20          current with and following injection into geologic  
21          formations;

22          “(7) support cost and business model assess-  
23          ments to examine the economic viability of tech-  
24          nologies and systems developed under this program;  
25          and

1           “(8) provide information to State, local, and  
2 Tribal governments, the Environmental Protection  
3 Agency, and other appropriate entities, to support  
4 development of a regulatory framework for commer-  
5 cial-scale sequestration operations that ensure the  
6 protection of human health and the environment.

7           “(b) GEOLOGIC SETTINGS.—In carrying out research  
8 activities under this section, the Secretary shall consider  
9 a variety of candidate geologic settings, both onshore and  
10 offshore, including—

11           “(1) operating oil and gas fields;

12           “(2) depleted oil and gas fields;

13           “(3) residual oil zones;

14           “(4) unconventional reservoirs and rock types;

15           “(5) unmineable coal seams;

16           “(6) saline formations in both sedimentary and  
17 basaltic geologies;

18           “(7) geologic systems that may be used as engi-  
19 neered reservoirs to extract economical quantities of  
20 brine from geothermal resources of low permeability  
21 or porosity; and

22           “(8) geologic systems containing in situ carbon  
23 dioxide mineralization formations.

24           “(c) REGIONAL CARBON SEQUESTRATION PARTNER-  
25 SHIPS.—

1           “(1) IN GENERAL.—The Secretary shall carry  
2 out large-scale carbon sequestration demonstrations  
3 for geologic containment of carbon dioxide to collect  
4 and validate information on the cost and feasibility  
5 of commercial deployment of technologies for the  
6 geologic containment of carbon dioxide. The Sec-  
7 retary may fund new demonstrations or expand the  
8 work completed at one or more of the existing re-  
9 gional carbon sequestration partnerships.

10           “(2) DEMONSTRATION COMPONENTS.—Each  
11 demonstration described in paragraph (1) shall in-  
12 clude longitudinal tests involving carbon dioxide in-  
13 jection and monitoring, mitigation, and verification  
14 operations.

15           “(3) CLEARINGHOUSE.—The National Energy  
16 Technology Laboratory shall act as a clearinghouse  
17 of shared information and resources for the regional  
18 carbon sequestration partnerships and any new dem-  
19 onstrations funded under this section.

20           “(4) REPORT.—Not later than 1 year after the  
21 date of enactment of this section, the Secretary shall  
22 provide to the Committee on Science, Space, and  
23 Technology of the House of Representatives and the  
24 Committee on Energy and Natural Resources of the  
25 Senate a report that—

1           “(A) assesses the progress of all regional  
2 carbon sequestration partnerships;

3           “(B) identifies the remaining challenges in  
4 achieving carbon sequestration that is reliable  
5 and safe for the environment and public health;  
6 and

7           “(C) creates a roadmap for Department of  
8 Energy carbon storage research and develop-  
9 ment activities through 2030 with the goal of  
10 reducing economic and policy barriers to com-  
11 mercial carbon sequestration.

12           “(5) LARGE-SCALE CARBON SEQUESTRATION.—  
13 For purposes of this subsection, ‘large-scale carbon  
14 sequestration’ means a scale that demonstrates the  
15 ability to inject and sequester several million metric  
16 tons carbon dioxide for at least 10 years.

17           “(d) INTEGRATED STORAGE PROJECTS.—The Sec-  
18 retary may carry out a program for the purpose of  
19 transitioning the large-scale carbon sequestration dem-  
20 onstration projects under subsection (c) into integrated,  
21 commercial storage complexes. The program shall focus  
22 on—

23           “(1) qualifying geologic storage sites in order to  
24 accept large volumes of carbon dioxide acceptable for  
25 commercial contracts;

1           “(2) understanding the technical and commer-  
2           cial viability of storage sites;

3           “(3) developing the qualification processes that  
4           will be necessary for a diverse range of geologic stor-  
5           age sites to commercially accept carbon dioxide; and

6           “(4) any other activities the Secretary deter-  
7           mines necessary to transition the large scale dem-  
8           onstration storage projects into commercial ventures.

9           “(e) COST SHARING.—The Secretary shall require  
10          cost sharing under this section in accordance with section  
11          988.

12          “(f) AUTHORIZATION OF APPROPRIATIONS.—There  
13          are authorized to be appropriated to the Secretary for ac-  
14          tivities under this section—

15                 “(1) \$620,000,000 for fiscal year 2021;

16                 “(2) \$626,000,000 for fiscal year 2022;

17                 “(3) \$632,300,000 for fiscal year 2023;

18                 “(4) \$638,915,000 for fiscal year 2024; and

19                 “(5) \$645,860,750 for fiscal year 2025.”.

20          **SEC. 3106. CARBON UTILIZATION.**

21           (a) PROGRAM.—Subtitle F of title IX of the Energy  
22          Policy Act of 2005 (42 U.S.C. 16291 et seq.), as amended  
23          by this Act, is amended by adding at the end the following:

1 **“SEC. 970. CARBON UTILIZATION.**

2 “(a) IN GENERAL.—The Secretary shall carry out a  
3 program of research, development, and demonstration for  
4 carbon utilization. The program shall—

5 “(1) assess and monitor potential changes in  
6 life cycle carbon dioxide and other greenhouse gas  
7 emissions, and other environmental safety indicators  
8 of new technologies, practices, processes, or meth-  
9 ods, used in enhanced hydrocarbon recovery as part  
10 of the activities authorized in section 963 of the En-  
11 ergy Policy Act of 2005 (42 U.S.C. 16293);

12 “(2) identify and evaluate novel uses for car-  
13 bon, including the conversion of carbon oxides, in a  
14 manner that, on a full life-cycle basis, achieves a  
15 permanent reduction in, or avoidance of a net in-  
16 crease in carbon dioxide in the atmosphere, for use  
17 in commercial and industrial products, such as—

18 “(A) chemicals;

19 “(B) plastics;

20 “(C) building materials;

21 “(D) fuels;

22 “(E) cement;

23 “(F) products of coal utilization in power  
24 systems (as such term is defined in section  
25 962(e)), or other applications; or



1           “(G) other products with demonstrated  
2           market value;

3           “(3) carbon capture technologies for industrial  
4           systems;

5           “(4) identify and assess alternative uses for  
6           coal that result in no net emissions of carbon dioxide  
7           or other pollutants, including products derived from  
8           carbon engineering, carbon fiber, and coal conversion  
9           methods.

10          “(b) AUTHORIZATION OF APPROPRIATIONS.—There  
11         are authorized to be appropriated to the Secretary for ac-  
12         tivities under this section—

13           “(1) \$30,000,000 for fiscal year 2021;

14           “(2) \$31,500,000 for fiscal year 2022;

15           “(3) \$33,075,000 for fiscal year 2023;

16           “(4) \$34,729,000 for fiscal year 2024; and

17           “(5) \$36,465,000 for fiscal year 2025.”.

18          (b) STUDY.—The Secretary shall enter into an agree-  
19         ment with the National Academies to conduct a study as-  
20         sessing the barriers, and opportunities related to the com-  
21         mercial application of carbon dioxide in the United States.

22         Such study shall—

23           (1) analyze the technical feasibility, related  
24           challenges, and impacts to commercializing carbon  
25           dioxide, including—

1 (A) creating a national system of carbon  
2 dioxide pipelines and geologic sequestration  
3 sites;

4 (B) mitigating environmental and land-  
5 owner impacts; and

6 (C) regional economic challenges and op-  
7 portunities;

8 (2) identify potential markets, industries, or  
9 sectors that may benefit from greater access to com-  
10 mercial carbon dioxide;

11 (3) assess the current state of infrastructure  
12 and any necessary updates to allow for the integra-  
13 tion of safe and reliable carbon dioxide transpor-  
14 tation, utilization, and storage;

15 (4) estimate the economic, climate, and environ-  
16 mental impacts of any well-integrated national car-  
17 bon dioxide pipeline system, including suggestions  
18 for policies that could improve the economic impact  
19 of the system;

20 (5) assess the global status and progress of car-  
21 bon utilization technologies (both chemical and bio-  
22 logical) in practice today that utilize waste carbon  
23 (including carbon dioxide, carbon monoxide, meth-  
24 ane, and biogas) from power generation, biofuels  
25 production, and other industrial processes that may

1 be important to minimizing net greenhouse gas  
2 emissions;

3 (6) identify emerging technologies and ap-  
4 proaches for carbon utilization that show promise  
5 for scale-up, demonstration, deployment, and com-  
6 mercialization relevant to minimizing net greenhouse  
7 gas emissions;

8 (7) analyze the factors associated with making  
9 carbon utilization technologies that may be impor-  
10 tant to minimizing net greenhouse gas emissions via-  
11 ble at a commercial scale, including carbon waste  
12 stream availability, economics, market capacity, en-  
13 ergy and lifecycle requirements;

14 (8) assess the major technical challenges associ-  
15 ated with increasing the commercial viability of car-  
16 bon reuse technologies, and identify the research and  
17 development questions that will address those chal-  
18 lenges;

19 (9) assess current research efforts, including  
20 engineering and computational, that are addressing  
21 these challenges and identify gaps in the current re-  
22 search portfolio; and

23 (10) develop a comprehensive research agenda  
24 that addresses both long- and short-term research  
25 needs and opportunities for technologies that may be

1 important to minimizing net greenhouse gas emis-  
2 sions.

3 **SEC. 3107. ADVANCED ENERGY SYSTEMS.**

4 Subtitle F of title IX of the Energy Policy Act of  
5 2005 (42 U.S.C. 16291 et seq.), as amended by this Act,  
6 is further amended by adding at the end the following:

7 **“SEC. 970A. ADVANCED ENERGY SYSTEMS.**

8 “(a) IN GENERAL.—The Secretary shall conduct a  
9 program, with the purpose of reducing emissions from fos-  
10 sil fuel power generation by not less than 50 percent, of  
11 research, development, demonstration, and commercial ap-  
12 plication with respect to the following:

13 “(1) High-efficiency turbines in accordance with  
14 the program under section 970A–1.

15 “(2) Supercritical and ultrasupercritical carbon  
16 dioxide, with an emphasis on developing directly-  
17 fired and indirectly fired cycles in the next 10 years.

18 “(3) Advanced combustion systems, including  
19 oxy-combustion systems and chemical looping.

20 “(4) Fuel cell technologies for low-cost, high-ef-  
21 ficiency, fuel-flexible, modular power systems, includ-  
22 ing solid oxide fuel cell technology for commercial,  
23 residential, and distributed generation systems,  
24 using improved manufacturing production and proc-  
25 esses.

1           “(5) Gasification systems to enable carbon cap-  
2           ture, improve efficiency, and reduce capital and op-  
3           erating costs.

4           “(6) Thermal cycling with ramping or rapid  
5           black start capabilities that do not compromise effi-  
6           ciency or environmental performance.

7           “(7) Small-scale and modular coal-fired tech-  
8           nologies with reduced carbon outputs or carbon cap-  
9           ture that can support incremental power generation  
10          capacity additions.

11          “(b) PRIORITY.—In carrying out the program under  
12          subsection (a), the Secretary is encouraged to prioritize  
13          transformational technologies that enable a step change  
14          in reduction of emissions as compared to the technology  
15          in existence on the date of enactment of this section.

16          “(c) AUTHORIZATION OF APPROPRIATIONS.—There  
17          are authorized to be appropriated to the Secretary for ac-  
18          tivities under this section and section 970A–1—

19                 “(1) \$150,000,000 for fiscal year 2021;

20                 “(2) \$157,500,000 for fiscal year 2022;

21                 “(3) \$165,375,000 for fiscal year 2023;

22                 “(4) \$173,643,750 for fiscal year 2024; and

23                 “(5) \$182,325,938 for fiscal year 2025.

1 **“SEC. 970A-1. HIGH EFFICIENCY GAS TURBINES.**

2       “(a) IN GENERAL.—The Secretary of Energy,  
3 through the Office of Fossil Energy, shall carry out a  
4 multiyear, multiphase program of research, development,  
5 and technology demonstration to improve the efficiency of  
6 gas turbines used in power generation systems and to  
7 identify the technologies that ultimately will lead to gas  
8 turbine combined cycle efficiency of 67 percent or simple  
9 cycle efficiency of 50 percent.

10       “(b) PROGRAM ELEMENTS.—The program under this  
11 section shall—

12               “(1) support first-of-a-kind engineering and de-  
13 tailed gas turbine design for megawatt-scale and  
14 utility-scale electric power generation, including—

15                       “(A) high temperature materials, including  
16 superalloys, coatings, and ceramics;

17                       “(B) improved heat transfer capability;

18                       “(C) manufacturing technology required to  
19 construct complex three-dimensional geometry  
20 parts with improved aerodynamic capability;

21                       “(D) combustion technology to produce  
22 higher firing temperature while lowering nitro-  
23 gen oxide and carbon monoxide emissions per  
24 unit of output;

25                       “(E) advanced controls and systems inte-  
26 gration;

1           “(F) advanced high performance com-  
2           pressor technology; and

3           “(G) validation facilities for the testing of  
4           components and subsystems;

5           “(2) include technology demonstration through  
6           component testing, subscale testing, and full-scale  
7           testing in existing fleets;

8           “(3) include field demonstrations of the devel-  
9           oped technology elements so as to demonstrate tech-  
10          nical and economic feasibility; and

11          “(4) assess overall combined cycle and simple  
12          cycle system performance.

13          “(c) PROGRAM GOALS.—The goals of the multiphase  
14          program established under subsection (a) shall be—

15               “(1) in phase I—

16                       “(A) to develop the conceptual design of  
17                       advanced high efficiency gas turbines that can  
18                       achieve at least 65-percent combined cycle effi-  
19                       ciency or 47-percent simple cycle efficiency on  
20                       a lower heating value basis; and

21                       “(B) to develop and demonstrate the tech-  
22                       nology required for advanced high efficiency gas  
23                       turbines that can achieve at least 65-percent  
24                       combined cycle efficiency or 47-percent simple

1 cycle efficiency on a lower heating value basis;  
2 and

3 “(2) in phase II, to develop the conceptual de-  
4 sign for advanced high efficiency gas turbines that  
5 can achieve at least 67-percent combined cycle effi-  
6 ciency or 50-percent simple cycle efficiency on a  
7 lower heating value basis.

8 “(d) PROPOSALS.—Not later than 180 days after the  
9 date of enactment of this section, the Secretary shall so-  
10 licit grant and contract proposals from industry, small  
11 businesses, universities, and other appropriate parties for  
12 conducting activities under this Act. In selecting pro-  
13 posals, the Secretary shall emphasize—

14 “(1) the extent to which the proposal will stim-  
15 ulate the creation or increased retention of jobs in  
16 the United States; and

17 “(2) the extent to which the proposal will pro-  
18 mote and enhance United States technology leader-  
19 ship.

20 “(e) COMPETITIVE AWARDS.—The provision of fund-  
21 ing under this section shall be on a competitive basis with  
22 an emphasis on technical merit.

23 “(f) COST SHARING.—Section 988 of the Energy Pol-  
24 icy Act of 2005 (42 U.S.C. 16352) shall apply to an award  
25 of financial assistance made under this section.



1       “(g) LIMITS ON PARTICIPATION.—The limits on par-  
2       ticipation applicable under section 999E of the Energy  
3       Policy Act of 2005 (42 U.S.C. 16375) shall apply to finan-  
4       cial assistance awarded under this section.”.

5       **SEC. 3108. RARE EARTH ELEMENTS.**

6       Subtitle F of title IX of the Energy Policy Act of  
7       2005 (42 U.S.C. 16291 et seq.) is further amended by  
8       adding at the end the following:

9       **“SEC. 970B. RARE EARTH ELEMENTS.**

10       “(a) IN GENERAL.—In coordination with the relevant  
11       Federal agencies, the Secretary shall conduct research to  
12       develop and assess methods to separate and recover rare  
13       earth elements and other strategic minerals and coprod-  
14       ucts from coal and coal byproduct streams. The program  
15       shall—

16               “(1) develop advanced rare earth element sepa-  
17       ration and extraction processes using coal-based re-  
18       sources as feedstock materials;

19               “(2) assess the technical and economic feasi-  
20       bility of recovering rare earth elements from coal-  
21       based resources and validate such feasibility with  
22       prototype systems producing salable, high-purity  
23       rare earth elements from coal-based resources; and

1           “(3) assess and mitigate any environmental and  
2           public health impacts of recovering rare earth ele-  
3           ments from coal-based resources.

4           “(b) AUTHORIZATION OF APPROPRIATIONS.—There  
5           are authorized to be appropriated to the Secretary for ac-  
6           tivities under this section—

7           “(1) \$23,000,000 for fiscal year 2021;

8           “(2) \$24,150,000 for fiscal year 2022;

9           “(3) \$25,357,500 for fiscal year 2023;

10          “(4) \$26,625,375 for fiscal year 2024; and

11          “(5) \$27,956,644 for fiscal year 2025.”.

12   **SEC. 3109. METHANE HYDRATE RESEARCH AMENDMENTS.**

13          (a) REPEAL.—Section 2 of the Methane Hydrate Re-  
14          search and Development Act of 2000 (30 U.S.C. 2001)  
15          is repealed.

16          (b) DEVELOPMENT.—Section 4 of the Methane Hy-  
17          drate Research and Development Act of 2000 (30 U.S.C.  
18          2003) is amended by striking “and development” in each  
19          place it occurs.

20          (c) IN GENERAL.—Section 4(b) of the Methane Hy-  
21          drate Research and Development Act of 2000 (30 U.S.C.  
22          2003(b)) is amended to read as follows:

23          “(b) GRANTS, CONTRACTS, COOPERATIVE AGREE-  
24          MENTS, INTERAGENCY FUNDS TRANSFER AGREEMENTS,  
25          AND FIELD WORK PROPOSALS.—

1           “(1) ASSISTANCE AND COORDINATION.—In car-  
2           rying out the program of methane hydrate research  
3           authorized by this section, the Secretary may award  
4           grants, or enter into contracts or cooperative agree-  
5           ments to—

6                   “(A) conduct research to assess and miti-  
7                   gate the environmental impact of natural meth-  
8                   ane hydrate degassing;

9                   “(B) conduct research to identify the envi-  
10                  ronmental and health impacts of methane hy-  
11                  drate development;

12                  “(C) assess and develop technologies to  
13                  mitigate environmental impacts of natural  
14                  methane hydrate degassing and to mitigate en-  
15                  vironmental impacts of the exploration and  
16                  commercial development of methane hydrates,  
17                  including through the avoidance of the use of  
18                  seismic testing; or

19                  “(D) expand education and training pro-  
20                  grams in methane hydrate research through fel-  
21                  lowships or other means for graduate education  
22                  and training.

23           “(2) ENVIRONMENTAL MONITORING AND RE-  
24           SEARCH.—

1           “(A) IN GENERAL.—The Secretary, Sec-  
2           retary of Commerce, and Secretary of the Inte-  
3           rior shall conduct a long-term environmental  
4           monitoring and research program to study  
5           methane hydrates.

6           “(B) NOTICE AND COMMENT.—In devel-  
7           oping a plan for long-term environmental moni-  
8           toring and research under subparagraph (A),  
9           the Secretaries shall publish in the Federal  
10          Register a notice providing for an opportunity  
11          for the public to comment on such plan prior to  
12          conducting monitoring and research under such  
13          subparagraph.

14          “(3) COMPETITIVE PEER REVIEW.—Funds  
15          made available to carry out paragraphs (1) and (2)  
16          shall be made available based on a competitive proc-  
17          ess using external scientific peer review of proposed  
18          research.”.

19          (d) RESPONSIBILITIES OF THE SECRETARY.—Section  
20          4(e) of the Methane Hydrate Research and Development  
21          Act of 2000 (30 U.S.C. 2003(e)) is amended to read as  
22          follows:

23          “(e) RESPONSIBILITIES OF THE SECRETARY.—In  
24          carrying out subsection (b)(1), the Secretary shall—

1           “(1) facilitate and develop partnerships among  
2 government, industrial enterprises, and institutions  
3 of higher education to research methane hydrates;

4           “(2) ensure that the data and information de-  
5 veloped through the program are accessible and  
6 widely disseminated as needed and appropriate;

7           “(3) promote cooperation among agencies that  
8 are developing technologies that may hold promise  
9 for methane hydrate research;

10           “(4) report annually to Congress on the results  
11 of actions taken to carry out this chapter; and

12           “(5) ensure, to the maximum extent prac-  
13 ticable, greater participation by the Department of  
14 Energy in international cooperative efforts.”.

15       (e) CONFORMING AMENDMENT.—Section 4(e) of  
16 such Act (30 U.S.C. 2003(e)) is amended in the matter  
17 preceding paragraph (1) by striking “subsection (b)(1)”  
18 and inserting “paragraphs (1) and (2) of subsection (b)”.

19       (f) AUTHORIZATION OF APPROPRIATIONS.—Section 7  
20 of such Act (30 U.S.C. 2006) is amended to read as fol-  
21 lows:

22       **“SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

23           “‘There are authorized to be appropriated to the Sec-  
24 retary to carry out this Act \$15,000,000, to remain avail-

1 able until expended, for each of fiscal years 2021 through  
2 2025.”.

3 **SEC. 3110. CARBON REMOVAL.**

4 Subtitle F of title IX of the Energy Policy Act of  
5 2005 (42 U.S.C. 16291 et seq.) is further amended by  
6 adding at the end the following:

7 **“SEC. 970C. CARBON REMOVAL.**

8 “(a) **ESTABLISHMENT.**—The Secretary, in coordina-  
9 tion with the appropriate Federal agencies, shall establish  
10 a research, development, and demonstration program to  
11 remove carbon dioxide from the atmosphere on a large  
12 scale. The program may include activities in—

13 “(1) direct air capture and storage technologies;

14 “(2) enhanced carbon mineralization;

15 “(3) bioenergy with carbon capture and seques-  
16 tration;

17 “(4) agricultural and grazing practices;

18 “(5) forest management and afforestation; and

19 “(6) planned or managed carbon sinks, includ-  
20 ing natural and artificial.

21 “(b) **PRIORITIZATION.**—In carrying out the program  
22 established in subsection (a), the Secretary shall  
23 prioritize—

1           “(1) the activities described in paragraphs (1)  
2           and (2) of subsection (a), acting through the Assist-  
3           ant Secretary for Fossil Energy;

4           “(2) the activities described in subsection  
5           (a)(3), acting through the Assistant Secretary for  
6           Energy Efficiency and Renewable Energy and the  
7           Assistant Secretary for Fossil Energy;

8           “(3) the activities described in subsection  
9           (a)(4), acting through the Assistant Secretary for  
10          Fossil Energy in consultation with the Secretary of  
11          Agriculture; and

12          “(4) the activities described in subsection  
13          (a)(5), acting through the Assistant Secretary for  
14          Fossil Energy in consultation with the Secretary of  
15          Agriculture.

16          “(c) CONSIDERATIONS.—The program under this  
17          section shall identify and develop carbon removal tech-  
18          nologies and strategies that consider the following:

19                 “(1) Land use changes, including impacts on  
20                 natural and managed ecosystems.

21                 “(2) Ocean acidification.

22                 “(3) Net greenhouse gas emissions.

23                 “(4) Commercial viability.

24                 “(5) Potential for near-term impact.

1           “(6) Potential for carbon reductions on a  
2           gigaton scale.

3           “(7) Economic co-benefits.

4           “(d) ACCOUNTING.—The Department shall collabo-  
5           rate with the Environmental Protection Agency and other  
6           relevant agencies to develop and improve accounting  
7           frameworks and tools to accurately measure carbon re-  
8           moval and sequestration methods and technologies across  
9           the Federal Government.

10          “(e) AIR CAPTURE TECHNOLOGY PRIZE.—Not later  
11          than 1 year after the date of enactment of this Act, as  
12          part of the program carried out under this section, the  
13          Secretary shall carry out a program to award competitive  
14          technology prizes for carbon dioxide capture from ambient  
15          air or water. In carrying out this subsection, the Secretary  
16          shall—

17                 “(1) in accordance with section 24 of the Ste-  
18                 venson-Wydler Technology Innovation Act of 1980  
19                 (15 U.S.C. 3719), develop requirements for—

20                         “(A) the prize competition process;

21                         “(B) minimum performance standards for  
22                         projects eligible to participate in the prize com-  
23                         petition; and



1           “(C) monitoring and verification proce-  
2           dures for projects selected to receive a prize  
3           award;

4           “(2) establish minimum levels for the capture of  
5           carbon dioxide from ambient air or water that are  
6           required to qualify for a prize award; and

7           “(3) offer prize awards for any of the following:

8           “(A) A design for a promising capture  
9           technology that will—

10           “(i) be operated on a demonstration  
11           scale; and

12           “(ii) have the potential to achieve sig-  
13           nificant reduction in the level of carbon di-  
14           oxide in the atmosphere.

15           “(B) A successful bench-scale demonstra-  
16           tion of a capture technology.

17           “(f) COMMERCIAL DIRECT AIR CAPTURE PRIZE.—

18           “(1) DEFINITIONS.—In this subsection:

19           “(A) QUALIFIED CARBON DIOXIDE.—

20           “(i) IN GENERAL.—The term ‘quali-  
21           fied carbon dioxide’ means any carbon di-  
22           oxide that—

23           “(I) is captured directly from the  
24           ambient air; and

1                   “(II) is measured at the source  
2                   of capture and verified at the point of  
3                   disposal, injection, or utilization.

4                   “(ii) INCLUSION.—The term ‘qualified  
5                   carbon dioxide’ includes the initial deposit  
6                   of captured carbon dioxide used as a ter-  
7                   tiary injectant.

8                   “(iii) EXCLUSION.—The term ‘quali-  
9                   fied carbon dioxide’ does not include car-  
10                  bon dioxide that is recaptured, recycled,  
11                  and reinjected as part of the enhanced oil  
12                  and natural gas recovery process.

13                  “(B) QUALIFIED DIRECT AIR CAPTURE FA-  
14                  CILITY.—

15                  “(i) IN GENERAL.—Subject to clause  
16                  (ii), the term ‘qualified direct air capture  
17                  facility’ means any facility that—

18                         “(I) uses carbon capture equip-  
19                         ment to capture carbon dioxide di-  
20                         rectly from the ambient air; and

21                         “(II) captures more than 10,000  
22                         metric tons of qualified carbon dioxide  
23                         annually.

24                  “(ii) EXCLUSION.—The term ‘quali-  
25                  fied direct air capture facility’ does not in-

1           clude any facility that captures carbon di-  
2           oxide—

3                       “(I) that is deliberately released  
4                       from naturally occurring subsurface  
5                       springs; or

6                       “(II) using natural photosyn-  
7                       thesis.

8           “(2) ESTABLISHMENT.—Not later than 1 year  
9           after the date of enactment of this section, the Sec-  
10          retary, in consultation with the Administrator of the  
11          Environmental Protection Agency, shall establish a  
12          commercial direct air capture prize designed to sig-  
13          nificantly reward commercial applications of direct  
14          air capture technologies.

15          “(3) COMMERCIAL DIRECT AIR CAPTURE PRIZE  
16          PROGRAM.—

17                       “(A) AWARDS.—Under the prize program,  
18                       the Secretary shall provide financial awards in  
19                       a competitive setting equally for each ton of  
20                       qualified carbon dioxide captured by a qualified  
21                       direct air capture facility until appropriated  
22                       funds are expended. The prize per metric ton  
23                       shall not exceed—

1           “(i) \$180 for qualified carbon dioxide  
2 captured and stored in saline storage for-  
3 mations;

4           “(ii) a lesser amount as determined by  
5 the Secretary for qualified carbon dioxide  
6 captured and stored in conjunction with  
7 enhanced oil recovery operations; or

8           “(iii) a lesser amount as determined  
9 by the Secretary for qualified carbon diox-  
10 ide captured and utilized in any activity  
11 consistent with section 45Q(f)(5) of the In-  
12 ternal Revenue Code of 1986.

13           “(B) ADMINISTRATION.—

14           “(i) REQUIREMENTS.—Not later than  
15 1 year after the date of enactment of this  
16 section, the Administrator, in consultation  
17 with the Secretary, shall submit require-  
18 ments for qualifying metric tons of carbon  
19 dioxide. In carrying out this clause, the  
20 Administrator shall develop specific re-  
21 quirements for—

22                   “(I) the process of applying for  
23 prizes; and

24                   “(II) the demonstration of per-  
25 formance of approved projects.

1           “(ii) DETERMINATION.—For purposes  
2           of determining the amount of metric tons  
3           of qualified carbon dioxide eligible for  
4           prizes under clause (i), the amount shall be  
5           equal to the net metric tons of carbon di-  
6           oxide removal demonstrated by the recipi-  
7           ent, subject to the requirements set forth  
8           by the Administrator under such clause.

9           “(C) SCHEDULE OF PAYMENT.—The Sec-  
10          retary shall award prizes on an annual basis to  
11          qualified direct air capture facilities for metric  
12          tons of qualified carbon dioxide captured and  
13          verified at the point of disposal, injection, or  
14          utilization.

15          “(4) AUTHORIZATION OF APPROPRIATIONS.—  
16          There are authorized to be appropriated to carry out  
17          this subsection \$200,000,000 for the period of fiscal  
18          years 2021 through 2025, and \$400,000,000 for the  
19          period of fiscal years 2026 through 2030, to remain  
20          available until expended.

21          “(g) DIRECT AIR CAPTURE TEST CENTER.—

22                 “(1) IN GENERAL.—Not later than 1 year after  
23                 the date of enactment of this section, the Secretary  
24                 shall award grants to one or more eligible entities  
25                 for the operation of one or more test centers (in this

1 subsection, known as ‘Centers’) to provide unique  
2 testing capabilities for innovative direct air capture  
3 and storage technologies.

4 “(2) PURPOSE.—Each Center shall—

5 “(A) advance research, development, dem-  
6 onstration, and commercial application of direct  
7 air capture and storage technologies;

8 “(B) support pilot plant and full-scale  
9 demonstration projects and test technologies  
10 that represent the scale of technology develop-  
11 ment beyond laboratory testing but not yet ad-  
12 vanced to test under operational conditions at  
13 commercial scale;

14 “(C) develop front-end engineering design  
15 and economic analysis; and

16 “(D) maintain a public record of pilot and  
17 full-scale plant performance.

18 “(3) PRIORITY CRITERIA.—In selecting applica-  
19 tions to operate a Center under this subsection, the  
20 Secretary shall prioritize applicants that—

21 “(A) have access to existing or planned re-  
22 search facilities;

23 “(B) are institutions of higher education  
24 with established expertise in engineering for di-

1           rect air capture technologies, or partnerships  
2           with such institutions; or

3                   “(C) have access to existing research and  
4           test facilities for bulk materials design and test-  
5           ing, component design and testing, or profes-  
6           sional engineering design.

7           “(4) SCHEDULE.—Each grant to operate a  
8           Center under this subsection shall be awarded for a  
9           term of not more than 5 years, subject to the avail-  
10          ability of appropriations. The Secretary may renew  
11          such 5-year term without limit, subject to a rigorous  
12          merit review.

13                   “(5) TERMINATION.—To the extent otherwise  
14          authorized by law, the Secretary may eliminate the  
15          center during any 5-year term described in the last  
16          paragraph if it is underperforming.

17          “(h) LARGE-SCALE PILOTS AND DEMONSTRA-  
18          TIONS.—In supporting the technology development activi-  
19          ties under this section, the Secretary is encouraged to sup-  
20          port carbon removal pilot and demonstration projects, in-  
21          cluding—

22                   “(1) pilot projects that test direct air capture  
23          systems capable of capturing 10 to 100 tonnes of  
24          carbon oxides per year to provide data for dem-  
25          onstration-scale projects; and

1           “(2) direct air capture demonstration projects  
2           capable of capturing greater than 1,000 tonnes of  
3           carbon oxides per year.

4           “(i) INTRA-AGENCY RESEARCH.—In carrying out the  
5           program established in (a), the Secretary shall encourage  
6           and promote collaborations among relevant offices and  
7           agencies within the Department.

8           “(j) AUTHORIZATION OF APPROPRIATIONS.—There  
9           are authorized to be appropriated to the Secretary for ac-  
10          tivities under this section—

11           “(1) \$275,000,000 for fiscal year 2021, of  
12          which \$15,000,000 are authorized to carry out sub-  
13          section (e) and of which \$200,000,000 are author-  
14          ized to carry out subsection (f);

15           “(2) \$263,000,000 for fiscal year 2022, of  
16          which \$200,000,000 are authorized to carry out sub-  
17          section (f);

18           “(3) \$266,150,000 for fiscal year 2023, of  
19          which \$200,000,000 are authorized to carry out sub-  
20          section (f);

21           “(4) \$269,458,000 for fiscal year 2024, of  
22          which \$200,000,000 are authorized to carry out sub-  
23          section (f); and



1           “(5) \$272,930,000 for fiscal year 2025, of  
2           which \$200,000,000 are authorized to carry out sub-  
3           section (f).”.

4 **SEC. 3111. METHANE LEAK DETECTION AND MITIGATION.**

5           Subtitle F of title IX of the Energy Policy Act of  
6 2005 (42 U.S.C. 16291 et seq.) is further amended by  
7 adding at the end the following:

8 **“SEC. 970D. METHANE LEAK DETECTION AND MITIGATION.**

9           “(a) IN GENERAL.—The Secretary, in consultation  
10 with the Administrator of the Environmental Protection  
11 Agency and other appropriate Federal agencies, shall  
12 carry out a program of methane leak detection and mitiga-  
13 tion research, development, demonstration, and commer-  
14 cial application for technologies and methods that signifi-  
15 cantly reduce emissions. In carrying out the program, the  
16 Secretary shall—

17           “(1) develop cooperative agreements with State  
18           or local governments or private entities to provide  
19           technical assistance to—

20           “(A) prevent or respond to methane leaks,  
21           including detection, mitigation, and identifica-  
22           tion of leaks throughout the natural gas infra-  
23           structure (which includes natural gas storage,  
24           pipelines, and natural gas production sites); and

1           “(B) protect public health in the event of  
2           a major methane leak;

3           “(2) promote demonstration and adoption of ef-  
4           fective methane emissions-reduction technologies in  
5           the private sector;

6           “(3) in coordination with representatives from  
7           private industry, State and local governments, and  
8           institutions of higher education, create a publicly ac-  
9           cessible resource for best practices in the design,  
10          construction, maintenance, performance, monitoring,  
11          and incident response for—

12                   “(A) pipeline systems;

13                   “(B) wells;

14                   “(C) compressor stations;

15                   “(D) storage facilities; and

16                   “(E) other vulnerable infrastructure;

17          “(4) identify high-risk characteristics of pipe-  
18          lines, wells, and materials, geologic risk factors, or  
19          other key factors that increase the likelihood of  
20          methane leaks; and

21          “(5) in collaboration with private entities and  
22          institutions of higher education, quantify and map  
23          significant geologic methane seeps across the United  
24          States.

1       “(b) CONSIDERATIONS.—In carrying out the pro-  
2 gram under this section, the Secretary shall consider the  
3 following:

4           “(1) Historical data of methane leaks.

5           “(2) Public health consequences.

6           “(3) Public safety.

7           “(4) Novel materials and designs for pipelines,  
8 compressor stations, components, and wells (includ-  
9 ing casing, cement, wellhead).

10          “(5) Regional geologic traits.

11          “(6) Induced and natural seismicity.

12       “(c) AUTHORIZATION OF APPROPRIATIONS.—There  
13 are authorized to be appropriated to the Secretary for ac-  
14 tivities under this section—

15           “(1) \$22,000,000 for fiscal year 2021;

16           “(2) \$23,100,000 for fiscal year 2022;

17           “(3) \$24,255,000 for fiscal year 2023;

18           “(4) \$25,467,750 for fiscal year 2024; and

19           “(5) \$26,741,138 for fiscal year 2025.”.

20 **SEC. 3112. WASTE GAS UTILIZATION.**

21       Subtitle F of title IX of the Energy Policy Act of  
22 2005 (42 U.S.C. 16291 et seq.) is further amended by  
23 adding at the end the following:

1 **“SEC. 970E. WASTE GAS UTILIZATION.**

2 “The Secretary shall carry out a program of research,  
3 development, and demonstration for waste gas utilization.

4 The program shall—

5 “(1) identify and evaluate novel uses for light  
6 hydrocarbons, such as methane, ethane, propane,  
7 butane, pentane, and hexane, produced during oil  
8 and shale gas production, including the production  
9 of chemicals or transportation fuels;

10 “(2) develop advanced gas conversion tech-  
11 nologies that are modular and compact, and may le-  
12 verage advanced manufacturing technologies;

13 “(3) support demonstration activities at oper-  
14 ating oil and gas facilities to test the performance  
15 and cost-effectiveness of new gas conversion tech-  
16 nologies; and

17 “(4) assess and monitor potential changes in  
18 life cycle greenhouse gas emissions that may result  
19 from the use of technologies developed under this  
20 program.”.

21 **SEC. 3113. NATIONAL ENERGY TECHNOLOGY LABORATORY**  
22 **REFORMS.**

23 (a) SPECIAL HIRING AUTHORITY FOR SCIENTIFIC,  
24 ENGINEERING, AND PROJECT MANAGEMENT PER-  
25 SONNEL.—

1           (1) IN GENERAL.—The Director of the National  
2 Energy Technology Laboratory shall have the au-  
3 thority to—

4           (A) make appointments to positions in the  
5 Laboratory to assist in meeting a specific  
6 project or research need, without regard to civil  
7 service laws, of individuals who—

8           (i) have an advanced scientific or en-  
9 gineering background; or

10           (ii) have a business background and  
11 can assist in specific technology-to-market  
12 needs;

13           (B) fix the basic pay of any employee ap-  
14 pointed under this section at a rate not to ex-  
15 ceed level II of the Executive Schedule; and

16           (C) pay any employee appointed under this  
17 section payments in addition to basic pay, ex-  
18 cept that the total amount of additional pay-  
19 ments paid to an employee under this sub-  
20 section for any 12-month period shall not ex-  
21 ceed the least of—

22           (i) \$25,000;

23           (ii) the amount equal to 25 percent of  
24 the annual rate of basic pay of that em-  
25 ployee; and

1 (iii) the amount of the limitation that  
2 is applicable for a calendar year under sec-  
3 tion 5307(a)(1) of title 5, United States  
4 Code.

5 (2) LIMITATIONS.—

6 (A) IN GENERAL.—The term of any em-  
7 ployee appointed under this section shall not ex-  
8 ceed 3 years.

9 (B) FULL-TIME EMPLOYEES.—Not more  
10 than 10 full-time employees appointed under  
11 this subsection may be employed at the Na-  
12 tional Energy Technology Laboratory at any  
13 given time.

14 (b) DISCRETIONARY RESEARCH AND DEVELOP-  
15 MENT.—

16 (1) IN GENERAL.—The Secretary shall establish  
17 mechanisms under which the Director of the Na-  
18 tional Energy Technology Laboratory may use an  
19 amount that is, in total, not less than 2 percent and  
20 not more than 4 percent of all funds available to the  
21 Laboratory for the following purposes:

22 (A) To fund innovative research that is  
23 conducted at the Laboratory and supports the  
24 mission of the Department.

1           (B) To fund technology development pro-  
2           grams that support the transition of tech-  
3           nologies developed by the Laboratory into the  
4           commercial market.

5           (C) To fund workforce development activi-  
6           ties to strengthen external engineering and  
7           manufacturing partnerships to ensure safe, effi-  
8           cient, productive, and useful fossil energy tech-  
9           nology production.

10          (D) To fund the revitalization, recapitaliza-  
11          tion, or minor construction of the Laboratory  
12          infrastructure.

13          (2) PRIORITIZATION.—The Director shall  
14          prioritize innovative experiments and proposals pro-  
15          posed by scientists and researchers at the National  
16          Energy Technology Laboratory.

17          (3) ANNUAL REPORT ON USE OF AUTHORITY.—  
18          Not later than March 1 of each year, the Secretary  
19          shall submit to the Committee on Science, Space,  
20          and Technology of the House of Representatives and  
21          the Committee on Energy and Natural Resources of  
22          the Senate a report on the use of the authority  
23          under this subsection during the preceding fiscal  
24          year.

1 (c) LABORATORY OPERATIONS.—The Secretary shall  
2 delegate human resources operations of the National En-  
3 ergy Technology Laboratory to the Director of the Na-  
4 tional Energy Technology Laboratory.

5 (d) REVIEW.—Not later than 2 years after the date  
6 of enactment of this Act, the Secretary shall submit to  
7 the Committee on Science, Space, and Technology of the  
8 House of Representatives and the Committee on Energy  
9 and Natural Resources of the Senate a report assessing  
10 the National Energy Technology Laboratory’s manage-  
11 ment and research. The report shall include—

12 (1) an assessment of the quality of science and  
13 research at the National Energy Technology Labora-  
14 tory relative to similar work at other national lab-  
15 oratories;

16 (2) a review of the effectiveness of authorities  
17 provided in subsections (a) and (b); and

18 (3) recommendations for policy changes within  
19 the Department and legislative changes to provide  
20 the National Energy Technology Laboratory the nec-  
21 essary tools and resources to advance its research  
22 mission.

23 **SEC. 3114. CLIMATE SOLUTIONS CHALLENGES.**

24 (a) AUTHORITY.—Not later than 180 days after the  
25 date of enactment of this Act, the Secretary of Energy



1 shall establish a program to be known as “Fossil Energy  
2 Climate Solutions Challenges” for carrying out prize com-  
3 petitions described under subsection (d) pursuant to sec-  
4 tion 24 of the Stevenson-Wydler Technology Innovation  
5 Act of 1980 (15 U.S.C. 3719) relating to the climate and  
6 energy.

7 (b) PRIZE COMMITTEES.—

8 (1) IN GENERAL.—The Secretary shall assem-  
9 ble a prize committee that shall define the scope and  
10 detail of, and provide the requirements for, the prize  
11 competitions under this section. Such committee  
12 may be composed of—

13 (A) members from the Office of Fossil En-  
14 ergy, Advanced Research Projects Energy, Of-  
15 fice of Technology Transitions, or other offices  
16 that most appropriately corresponds with the  
17 topic of the prize competition; and

18 (B) representatives of any other entities,  
19 as determined appropriate by the Secretary, in-  
20 cluding other Federal agencies, State and local  
21 governments, and the private sector.

22 (2) DEFINING TOPIC AREAS.—The prize com-  
23 mittee may modify and define the scope of the prize  
24 areas described under subsection (c), so long as such

1 modification is in accordance with descriptions in  
2 such subsection.

3 (3) INCENTIVE FOR PRIZE COMPETITION.—The  
4 prize committee for each prize competition shall de-  
5 termine the incentive for the prize competition. In  
6 determining the incentive, the committee shall con-  
7 sider—

8 (A) a cash prize;

9 (B) access to Government facilities, such  
10 as through a lab-embedded entrepreneurship  
11 program of the Department of Energy, a coop-  
12 erative research and development agreement, or  
13 other method;

14 (C) advance market commitments for tech-  
15 nologies of use or promise to the Federal Gov-  
16 ernment; and

17 (D) any other incentive provided for by  
18 law.

19 (4) JUDGING CRITERIA.—The prize committee  
20 for each prize competition shall establish judging cri-  
21 teria for the competition that shall include, at a min-  
22 imum—

23 (A) potential for the solution to become a  
24 commercial product or service or advance  
25 knowledge to further the public good;

1 (B) consideration of how likely the solution  
2 is to lead to subsequent research, development,  
3 deployment, or manufacturing in the United  
4 States;

5 (C) the degree to which the solution will  
6 lower the climate footprint of the United States;  
7 and

8 (D) the degree to which the solution will  
9 lower the global climate footprint.

10 (5) CONSIDERATION.—In carrying out this sec-  
11 tion, the committee shall take into consideration the  
12 best practices provided for in the challenges and  
13 prizes toolkit made publicly available on December  
14 15, 2016, by the General Services Administration.

15 (c) PRIZE COMPETITIONS.—In carrying out the pro-  
16 gram, the Secretary shall offer prize awards for any of  
17 the following:

18 (1) Solutions to capture carbon emissions from  
19 sources that would otherwise be emitted to the at-  
20 mosphere.

21 (2) Solutions to convert carbon emissions to a  
22 beneficial use that does not result in near-term re-  
23 release into the atmosphere, unless such re-release  
24 offsets the emission of additional carbon into the at-  
25 mosphere, such that the net effect of the solution is

1 to reduce the overall amount of carbon being emitted  
2 to the atmosphere.

3 (3) Other solutions that have potential to  
4 achieve reduction in greenhouse gas emissions asso-  
5 ciated with fossil-based energy production.

6 (d) ACCEPTANCE OF FUNDS.—In addition to such  
7 sums as may be appropriated or otherwise made available  
8 to the Secretary to award prizes under this section, the  
9 Secretary may accept funds from other Federal agencies,  
10 private sector entities, and State and local governments  
11 to award prizes under this section. The Secretary may not  
12 give any special consideration relating to the selection of  
13 awards under the prize competition to any private sector  
14 entity or individual in return for a donation to the Sec-  
15 retary or prize committee.

16 (e) ELIGIBILITY.—Notwithstanding section 24(g)(3)  
17 of the Stevenson-Wydler Technology Innovation Act of  
18 1980 (15 U.S.C. 3719(g)(3)), a group may be eligible for  
19 an award under this section if one or more members of  
20 such group is a citizen or permanent resident of the  
21 United States.

22 (f) COMPLETION OF PRIZE COMPETITIONS.—The  
23 prize competitions carried out under this section shall be  
24 completed not later than the date that is 5 years after  
25 the program is established under subsection (a).

1 (g) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated \$15,000,000 to carry out  
3 this section, to remain available until expended.

4 **SEC. 3115. CARBON DIOXIDE REMOVAL TASK FORCE AND**  
5 **REPORT.**

6 (a) REPORT.—Not later than 180 days after the date  
7 of enactment of this Act, the Secretary of Energy (re-  
8 ferred to in this section as the “Secretary”), in consulta-  
9 tion with the head of any other relevant Federal agency,  
10 shall prepare a report that—

11 (1) estimates the magnitude of excess carbon  
12 dioxide in the atmosphere that will need to be re-  
13 moved by 2050 to achieve net-zero emissions and  
14 stabilize the climate;

15 (2) inventories current and emerging ap-  
16 proaches of carbon dioxide removal and evaluates  
17 the advantages and disadvantages of each such ap-  
18 proach; and

19 (3) identifies recommendations for legislation,  
20 funding, rules, revisions to rules, financing mecha-  
21 nisms, or other policy tools that the Federal Govern-  
22 ment can use to sufficiently advance the deployment  
23 of carbon dioxide removal projects in order to meet,  
24 in the aggregate, the magnitude of needed removals

1 estimated under paragraph (1), including policy  
2 tools such as—

3 (A) grants;

4 (B) loans or loan guarantees;

5 (C) public-private partnerships;

6 (D) direct procurement;

7 (E) incentives, including subsidized Fed-  
8 eral financing mechanisms available to project  
9 developers;

10 (F) advance market commitments;

11 (G) regulations; and

12 (H) and any other policy mechanism deter-  
13 mined by the Secretary to be beneficial for ad-  
14 vancing carbon dioxide removal methods and  
15 the deployment of carbon dioxide removal  
16 projects.

17 (b) SUBMISSION; PUBLICATION.—The Secretary shall  
18 submit the report prepared under subsection (a) to the  
19 Committee on Energy and Natural Resources of the Sen-  
20 ate and the Committee on Energy and Commerce of the  
21 House of Representatives, and as soon as practicable,  
22 make the report publicly available.

23 (c) EVALUATION.—The Secretary shall—

24 (1) not later than 2 years after the publication  
25 of the report under subsection (a), and every 2 years

1 thereafter, evaluate the findings and recommenda-  
2 tions of the report, taking into consideration any  
3 issues and recommendations identified by the task  
4 force established under subsection (d); and

5 (2) after each evaluation under paragraph (1),  
6 revise the report as necessary and submit to the  
7 Committee on Energy and Natural Resources of the  
8 Senate and the Committee on Energy and Com-  
9 merce of the House of Representatives an updated  
10 report.

11 (d) TASK FORCE.—

12 (1) ESTABLISHMENT AND DUTIES.—Not later  
13 than 60 days after the date of enactment of this  
14 Act, the Secretary shall establish a task force to—

15 (A) identify barriers to advancement of  
16 carbon dioxide removal methods and the deploy-  
17 ment of carbon dioxide removal projects;

18 (B) inventory existing or potential Federal  
19 legislation, rules, revisions to rules, financing  
20 mechanisms, or other policy tools that are capa-  
21 ble of advancing carbon dioxide removal meth-  
22 ods and the deployment of carbon dioxide re-  
23 moval projects;

24 (C) assist in drafting the report described  
25 in subsection (a) and any updates thereto; and

1 (D) advise the Secretary on matters per-  
2 taining to carbon dioxide removal.

3 (2) MEMBERS AND SELECTION.—The Secretary  
4 shall—

5 (A) develop criteria for the selection of  
6 members to the task force; and

7 (B) select members for the task force in  
8 accordance with the criteria developed under  
9 subparagraph (A).

10 (3) MEETINGS.—The task force shall meet not  
11 less than once each year.

12 (4) EVALUATION.—Not later than 7 years after  
13 the date of enactment of this Act, the Secretary  
14 shall—

15 (A) reevaluate the need for the task force;  
16 and

17 (B) submit to Congress a recommendation  
18 as to whether the task force should continue.

19 (e) CARBON DIOXIDE REMOVAL DEFINITION.—In  
20 this section, the term “carbon dioxide removal” means the  
21 capture of carbon dioxide directly from ambient air or, in  
22 dissolved form, from seawater, combined with the seques-  
23 tration of such carbon dioxide, including through direct  
24 air capture and sequestration, enhanced carbon min-  
25 eralization, bioenergy with carbon capture and sequestra-



1 tion, forest restoration, soil carbon management, and di-  
2 rect ocean capture.

3 **SEC. 3116. NATIONAL ACADEMY OF SCIENCES STUDY ON**  
4 **CARBON CAPTURE TECHNOLOGY.**

5 (a) IN GENERAL.—The Secretary of Energy shall  
6 enter into an agreement with the National Academy of  
7 Sciences, Engineering, and Medicine to conduct a study  
8 evaluating the efficacy of carbon capture and storage tech-  
9 nology by industry in reducing emissions and the cost-ef-  
10 fectiveness of such technologies. Such study shall include  
11 a description of the following:

12 (1) Analysis of the effectiveness of emissions re-  
13 ductions and cost through implementation of carbon  
14 capture as compared to transitioning to other low-  
15 emissions technologies.

16 (2) Differences in performance of various car-  
17 bon capture technologies and storage methods, in-  
18 cluding the net amount of carbon dioxide that can  
19 be permanently sequestered, the cost (in terms of  
20 dollar per ton captured/sequestered) of each tech-  
21 nology, and the potential to increase the net amount  
22 of carbon dioxide captured/sequestered and lower  
23 operational costs.

24 (3) Barriers, in terms of cost, infrastructure,  
25 geology, aquifers, and markets, to ensuring perma-

1        nent carbon storage including both point of source  
2        capture and removal from the atmosphere of cap-  
3        tured carbon dioxide.

4            (4) Analysis of the lifecycle emissions associated  
5        with carbon capture technologies, including construc-  
6        tion and operation of the carbon capture technology,  
7        as well as transport, processing, and injection of car-  
8        bon dioxide, including the permanence of carbon  
9        storage and sequestration, and strategies to reduce  
10       those emissions. This should include the amount of  
11       carbon dioxide emitted from a facility outfitted with  
12       carbon capture technologies that is permanently se-  
13       questered compared to the amount of carbon dioxide  
14       emitted by the carbon capture process itself.

15           (5) Evaluation of the impact of carbon capture  
16        technologies on air pollution, including particulate  
17        emissions and ozone precursors, with specific anal-  
18        ysis on the impacts on communities historically over-  
19        burdened with pollution, including rural commu-  
20        nities.

21           (b) REPORT.—The agreement under subsection (a)  
22        shall specify that, not later than 1 year after the date of  
23        enactment of this Act, the National Academy of Sciences  
24        shall submit to Congress a report containing the results  
25        and findings of study authorized under this section.

1 **SEC. 3117. STUDY ON BLUE HYDROGEN TECHNOLOGY.**

2 (a) STUDY.—The Secretary of Energy shall conduct  
3 a study to examine opportunities for research and develop-  
4 ment in integrating blue hydrogen technology in the indus-  
5 trial power sector and how that could enhance the deploy-  
6 ment and adoption of carbon capture and storage.

7 (b) REPORT.—Not later than 1 year after the date  
8 of enactment of this Act, the Secretary of Energy shall  
9 submit to the Committee on Energy and Natural Re-  
10 sources of the Senate and the Committee on Science,  
11 Space, and Technology of the House of Representatives  
12 a report that describes the results of the study under sub-  
13 section (a).

14 **Subtitle B—Controlling Methane**  
15 **Leaks**

16 **SEC. 3201. IMPROVING THE NATURAL GAS DISTRIBUTION**  
17 **SYSTEM.**

18 (a) PROGRAM.—The Secretary of Energy shall estab-  
19 lish a grant program to provide financial assistance to  
20 States to offset the incremental rate increases paid by low-  
21 income households resulting from the implementation of  
22 infrastructure replacement, repair, and maintenance pro-  
23 grams that are approved by the rate-setting entity and de-  
24 signed to accelerate the necessary replacement, repair, or  
25 maintenance of natural gas distribution systems.

1 (b) DATE OF ELIGIBILITY.—Awards may be provided  
2 under this section to offset rate increases described in sub-  
3 section (a) occurring on or after the date of enactment  
4 of this Act.

5 (c) PRIORITIZATION.—The Secretary shall collabo-  
6 rate with States to prioritize the distribution of grants  
7 made under this section. At a minimum, the Secretary  
8 shall consider prioritizing the distribution of grants to  
9 States which have—

10 (1) authorized or adopted enhanced infrastruc-  
11 ture replacement programs or innovative rate recov-  
12 ery mechanisms, such as infrastructure cost trackers  
13 and riders, infrastructure base rate surcharges, de-  
14 ferred regulatory asset programs, and earnings sta-  
15 bility mechanisms; and

16 (2) a viable means for delivering financial as-  
17 sistance to low-income households.

18 (d) AUDITING AND REPORTING REQUIREMENTS.—  
19 The Secretary shall establish auditing and reporting re-  
20 quirements for States with respect to the performance of  
21 eligible projects funded pursuant to grants awarded under  
22 this section.

23 (e) PREVAILING WAGES.—All laborers and mechanics  
24 employed by contractors or subcontractors in the perform-  
25 ance of construction, alteration, or repair work assisted,

1 in whole or in part, by a grant under this section shall  
2 be paid wages at rates not less than those prevailing on  
3 similar construction in the locality as determined by the  
4 Secretary of Labor in accordance with subchapter IV of  
5 chapter 31 of title 40. With respect to the labor standards  
6 in this subsection, the Secretary of Labor shall have the  
7 authority and functions set forth in Reorganization Plan  
8 Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and  
9 section 3145 of title 40.

10 (f) DEFINITIONS.—In this section:

11 (1) INNOVATIVE RATE RECOVERY MECHA-  
12 NISMS.—The term “innovative rate recovery mecha-  
13 nisms” means rate structures that allow State public  
14 utility commissions to modify tariffs and recover  
15 costs of investments in utility replacement incurred  
16 between rate cases.

17 (2) LOW-INCOME HOUSEHOLD.—The term  
18 “low-income household” means a household that is  
19 eligible to receive payments under section 2605(b)(2)  
20 of the Low-Income Home Energy Assistance Act of  
21 1981 (42 U.S.C. 8624(b)(2)).

22 (g) AUTHORIZATION OF APPROPRIATIONS.—There  
23 are authorized to be appropriated to the Secretary to carry  
24 out this section \$250,000,000 in each of fiscal years 2021  
25 through 2025.

1           **Subtitle C—Eminent Domain**  
2                           **Reform**

3   **SEC. 3301. MODIFICATIONS TO EXERCISE OF THE RIGHT OF**  
4                           **EMINENT DOMAIN BY HOLDER OF A CERTIFI-**  
5                           **CATE OF PUBLIC CONVENIENCE AND NECES-**  
6                           **SITY.**

7           (a) REQUIREMENT.—Section 7(h) of the Natural Gas  
8 Act (15 U.S.C. 717f(h)) is amended—

9                   (1) by striking “When any holder” and insert-  
10           ing the following: “ (1) Subject to paragraph (2),  
11           when any holder”; and

12                   (2) by adding at the end the following new  
13           paragraphs:

14           “(2) A holder of a certificate of public convenience  
15 and necessity may not exercise the right of eminent do-  
16 main under paragraph (1) unless the holder—

17                   “(A) obtains all Federal and State permits re-  
18           quired by law for the construction and operation of  
19           pipeline facilities;

20                   “(B) complies with all environmental conditions  
21           appended to the certificate order; and

22                   “(C) is in compliance with subsection (i)(2).

23           “(3) A holder of a certificate of public convenience  
24 and necessity shall be suspended from the exercise of the  
25 right of eminent domain under paragraph (1)—

1           “(A) if the holder requests a material amend-  
2           ment to the certificate, until such time as the condi-  
3           tions in paragraph (4) are satisfied; or

4           “(B) if a Federal or State permit held by the  
5           holder is vacated or remanded, until such time as—

6                   “(i) all vacated or remanded permits are  
7                   reinstated or reissued to the holder; and

8                   “(ii) the holder complies with all environ-  
9                   mental conditions appended to the certificate  
10                  order.

11          “(4) A holder of a certificate of public convenience  
12          and necessity who requests a material amendment to the  
13          certificate and has the exercise of the right of eminent do-  
14          main suspended under paragraph (3)(A) may not com-  
15          mence a new action or proceeding to exercise the right  
16          of eminent domain under paragraph (1) until such time  
17          as—

18                   “(A) the Commission issues an amended certifi-  
19                   cate of public convenience and necessity; and

20                   “(B) the holder—

21                           “(i) obtains all additional Federal and  
22                           State permits required by law pursuant to the  
23                           amended certificate; and

1                   “(ii) complies with all environmental condi-  
2                   tions appended to the amended certificate  
3                   order.”.

4           (b) ACCESS FOR SURVEYS.—Section 7 of the Natural  
5 Gas Act (15 U.S.C. 717f) is further amended by adding  
6 at the end the following:

7           “(i)(1) For purposes of subsection (h), the exercise  
8 of the right of eminent domain does not include accessing  
9 property for purposes of surveying prior to acquiring the  
10 property, except in accordance with paragraph (2).

11           “(2) If a holder of a certificate of public convenience  
12 and necessity is unable to agree with the owner of property  
13 on access to the property for purposes of surveying, the  
14 holder shall enter into the dispute resolution process of  
15 the Commission. If dispute resolution fails, or if the prop-  
16 erty owner refuses to participate in such process, the Com-  
17 mission may, upon a showing by the holder of documented  
18 repeated, good faith efforts to work with the property  
19 owner to agree on such access, issue an order declaring  
20 that, upon a court order, for purposes of the relevant cer-  
21 tificate and with respect to the relevant property, the exer-  
22 cise of the right of eminent domain under subsection (h)  
23 includes accessing the property, in a limited, non-land-dis-  
24 turbing manner, for purposes of surveying prior to acquir-  
25 ing the property.”.



1 (c) EFFECTIVE DATE.—The amendments made by  
2 this subtitle shall apply—

3 (1) to any action or proceeding for eminent do-  
4 main under section 7(h)(1) of the Natural Gas Act,  
5 as amended by this subtitle, commencing on or after  
6 the date of enactment of this Act; and

7 (2) to any request for a material amendment to  
8 a certificate of public convenience and necessity oc-  
9 ccurring on or after the date of enactment of this  
10 Act.

## 11 **Subtitle D—Climate Smart Ports**

### 12 **SEC. 3401. CLIMATE SMART PORTS GRANT PROGRAM.**

13 (a) ESTABLISHMENT.—Not later than 6 months after  
14 the date of enactment of this section, the Administrator  
15 shall establish a program to award grants to eligible enti-  
16 ties to purchase, and as applicable install, zero emissions  
17 port equipment and technology.

18 (b) USE OF GRANTS.—

19 (1) IN GENERAL.—An eligible entity may use a  
20 grant awarded under this section to purchase, and  
21 as applicable install, zero emissions port equipment  
22 and technology.

23 (2) PROHIBITED USE.—

24 (A) IN GENERAL.—An eligible entity may  
25 not use a grant awarded under this section to

1 purchase or install fully automated cargo han-  
2 dling equipment or terminal infrastructure that  
3 is designed for fully automated cargo handling  
4 equipment.

5 (B) HUMAN-OPERATED ZERO EMISSIONS  
6 PORT EQUIPMENT AND TECHNOLOGY.—Nothing  
7 in subparagraph (A) prohibits an eligible entity  
8 from using a grant awarded under this section  
9 to purchase human-operated zero emissions  
10 port equipment and technology or infrastruc-  
11 ture that supports such human-operated zero  
12 emissions port equipment and technology.

13 (3) COST SHARE.—

14 (A) IN GENERAL.—Except as provided in  
15 subparagraph (B), an eligible entity may not  
16 use a grant awarded under this section to cover  
17 more than 70 percent of the cost of purchasing,  
18 and as applicable installing, zero emissions port  
19 equipment and technology.

20 (B) CERTAIN GRANTS.—With respect to a  
21 grant in an amount equal to or greater than  
22 \$3,000,000, an eligible entity may use such  
23 grant to cover not more than 85 percent of the  
24 cost of purchasing and installing zero emissions

1 port equipment and technology if such eligible  
2 entity certifies to the Administrator that—

3 (i) such grant will be used, at least in  
4 part, to employ laborers or mechanics to  
5 install zero emissions port equipment and  
6 technology; and

7 (ii) such eligible entity is a party to a  
8 project labor agreement or requires that  
9 each subgrantee of such eligible entity, and  
10 any subgrantee thereof at any tier, that  
11 performs such installation participate in a  
12 project labor agreement.

13 (4) PROJECT LABOR.—An eligible entity that  
14 uses a grant awarded under this section to install  
15 zero emissions port equipment and technology shall  
16 ensure, to the greatest extent practicable, that any  
17 subgrantee of such eligible entity, and any sub-  
18 grantee thereof at any tier, that carries out such in-  
19 stallation employs laborers or mechanics for such in-  
20 stallation that—

21 (A) are domiciled not further than 50  
22 miles from such installation;

23 (B) are members of the Armed Forces  
24 serving on active duty, separated from active  
25 duty, or retired from active duty;

1 (C) have been incarcerated or served time  
2 in a juvenile detention facility; or

3 (D) have a disability.

4 (c) WAGES.—

5 (1) IN GENERAL.—All laborers and mechanics  
6 employed by a subgrantee of an eligible entity, and  
7 any subgrantee thereof at any tier, to perform con-  
8 struction, alteration, installation, or repair work that  
9 is assisted, in whole or in part, by a grant awarded  
10 under this section shall be paid wages at rates not  
11 less than those prevailing on similar construction, al-  
12 teration, installation, or repair work in the locality  
13 as determined by the Secretary of Labor in accord-  
14 ance with subchapter IV of chapter 31 of title 40,  
15 United States Code.

16 (2) LABOR STANDARDS.—With respect to the  
17 labor standards in this subsection, the Secretary of  
18 Labor shall have the authority and functions set  
19 forth in Reorganization Plan Numbered 14 of 1950  
20 (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of  
21 title 40, United States Code.

22 (d) APPLICATION.—

23 (1) IN GENERAL.—To be eligible to be awarded  
24 a grant under this section, an eligible entity shall  
25 submit to the Administrator an application at such

1 time, in such manner, and containing such informa-  
2 tion as the Administrator may require.

3 (2) PRIORITY.—The Administrator shall  
4 prioritize awarding grants under this section to eligi-  
5 ble entities based on the following:

6 (A) The degree to which the proposed use  
7 of the grant will—

8 (i) reduce greenhouse gas emissions;

9 (ii) reduce emissions of any criteria  
10 pollutant and precursor thereof;

11 (iii) reduce hazardous air pollutant  
12 emissions; and

13 (iv) reduce public health disparities in  
14 communities that receive a dispropor-  
15 tionate quantity of air pollution from a  
16 port.

17 (B) The amount of matching, non-Federal  
18 funds expected to be used by an applicant to  
19 purchase, and as applicable install, zero emis-  
20 sions port equipment and technology.

21 (C) Whether the applicant will use such  
22 grant to purchase, and as applicable install,  
23 zero emissions port equipment and technology  
24 that is produced in the United States.

1           (D) As applicable, whether the applicant  
2 will meet the utilization requirements for reg-  
3 istered apprentices established by the Secretary  
4 of Labor or a State Apprenticeship Agency.

5           (E) As applicable, whether the applicant  
6 will recruit and retain skilled workers through  
7 a State-approved joint labor management ap-  
8 prenticeship program.

9       (e) OUTREACH.—

10           (1) IN GENERAL.—Not later than 90 days after  
11 funds are made available to carry out this section,  
12 the Administrator shall develop and carry out an  
13 educational outreach program to promote and ex-  
14 plain the grant program established under sub-  
15 section (a) to prospective grant recipients.

16           (2) PROGRAM COMPONENTS.—In carrying out  
17 the outreach program developed under paragraph  
18 (1), the Administrator shall—

19           (A) inform prospective grant recipients  
20 how to apply for a grant awarded under this  
21 section;

22           (B) describe to prospective grant recipients  
23 the benefits of available zero emissions port  
24 equipment and technology;

1 (C) explain to prospective grant recipients  
2 the benefits of participating in the grant pro-  
3 gram established under this section; and

4 (D) facilitate the sharing of best practices  
5 and lessons learned between grant recipients  
6 and prospective grant recipients with respect to  
7 how to apply for and use grants awarded under  
8 this section.

9 (f) REPORTS.—

10 (1) REPORT TO ADMINISTRATOR.—Not later  
11 than 90 days after the date on which an eligible en-  
12 tity uses a grant awarded under this section, such  
13 eligible entity shall submit to the Administrator a re-  
14 port containing such information as the Adminis-  
15 trator shall require.

16 (2) ANNUAL REPORT TO CONGRESS.—Not later  
17 than January 31, 2021, and annually thereafter, the  
18 Administrator shall submit to Congress and make  
19 available on the website of the Environmental Pro-  
20 tection Agency a report that includes, with respect  
21 to each grant awarded under this section during the  
22 preceding calendar year—

23 (A) the name and location of the eligible  
24 entity that was awarded such grant;

1 (B) the amount of such grant that the eli-  
2 gible entity was awarded;

3 (C) the name and location of the port  
4 where the zero emissions port equipment and  
5 technology that was purchased, and as applica-  
6 ble installed, with such grant is used;

7 (D) an estimate of the impact of such zero  
8 emissions port equipment and technology on re-  
9 ducing—

10 (i) greenhouse gas emissions;

11 (ii) emissions of criteria pollutants  
12 and precursors thereof;

13 (iii) hazardous air pollutant emissions;

14 and

15 (iv) public health disparities; and

16 (E) any other information the Adminis-  
17 trator determines necessary to understand the  
18 impact of grants awarded under this section.

19 (g) AUTHORIZATION OF APPROPRIATIONS.—

20 (1) IN GENERAL.—There is authorized to be  
21 appropriated to carry out this section  
22 \$1,000,000,000 for each of fiscal years 2021  
23 through 2030.

24 (2) NONATTAINMENT AREAS.—To the extent  
25 practicable, at least 25 percent of amounts made



1 available to carry out this section in each fiscal year  
2 shall be used to award grants to eligible entities to  
3 provide zero emissions port equipment and tech-  
4 nology to ports that are in nonattainment areas.

5 (h) DEFINITIONS.—In this section:

6 (1) ACTIVE DUTY.— The term “active duty”  
7 has the meaning given such term in section 101 of  
8 title 10, United States Code.

9 (2) ADMINISTRATOR.—The term “Adminis-  
10 trator” means the Administrator of the Environ-  
11 mental Protection Agency.

12 (3) ALTERNATIVE EMISSIONS CONTROL TECH-  
13 NOLOGY.—The term “alternative emissions control  
14 technology” means a technology, technique, or meas-  
15 ure that—

16 (A) captures the emissions of nitrogen  
17 oxide, particulate matter, reactive organic com-  
18 pounds, and greenhouse gases from the auxil-  
19 iary engine and auxiliary boiler of an ocean-  
20 going vessel at berth;

21 (B) is verified or approved by a State or  
22 Federal air quality regulatory agency;

23 (C) the use of which achieves at least the  
24 equivalent reduction of emissions as the use of  
25 shore power for an ocean-going vessel at berth;

1 (D) the use of which results in reducing  
2 emissions of the auxiliary engine of an ocean-  
3 going vessel at berth to a rate of less than—

4 (i) 2.8 g/kW-hr for nitrogen oxide;

5 (ii) 0.03 g/kW-hr for particulate mat-  
6 ter 2.5; and

7 (iii) 0.1 g/kW-hr for reactive organic  
8 compounds; and

9 (E) reduces the emissions of the auxiliary  
10 engine and boiler of an ocean-going vessel at  
11 berth by at least 80 percent of the default emis-  
12 sions rate, which is 13.8 g.

13 (4) CRITERIA POLLUTANT.—The term “criteria  
14 pollutant” means each of the following:

15 (A) Ground-level ozone.

16 (B) Particulate matter.

17 (C) Carbon monoxide.

18 (D) Lead.

19 (E) Sulfur dioxide.

20 (F) Nitrogen dioxide.

21 (5) DISTRIBUTED ENERGY RESOURCE.—

22 (A) IN GENERAL.—The term “distributed  
23 energy resource” means an energy resource  
24 that—

1 (i) is located on or near a customer  
2 site;

3 (ii) is operated on the customer side  
4 of the electric meter; and

5 (iii) is interconnected with the electric  
6 grid.

7 (B) INCLUSIONS.—The term “distributed  
8 energy resource” includes—

9 (i) clean electric generation;

10 (ii) customer electric efficiency meas-  
11 ures;

12 (iii) electric demand flexibility; and

13 (iv) energy storage.

14 (6) ELIGIBLE ENTITY.—The term “eligible enti-  
15 ty” means—

16 (A) a port authority;

17 (B) a State, regional, local, or Tribal agen-  
18 cy that has jurisdiction over a port authority or  
19 a port;

20 (C) an air pollution control district or air  
21 quality management district; or

22 (D) a private or nonprofit entity, applying  
23 for a grant awarded under this section in col-  
24 laboration with another entity described in sub-

1 paragraphs (A) through (C), that owns or uses  
2 cargo or transportation equipment at a port.

3 (7) ENERGY STORAGE SYSTEM.—The term “en-  
4 ergy storage system” means a system, equipment,  
5 facility, or technology that—

6 (A) is capable of absorbing energy, storing  
7 energy for a period of time, and dispatching the  
8 stored energy; and

9 (B) uses a mechanical, electrical, chemical,  
10 electrochemical, or thermal process to store en-  
11 ergy that—

12 (i) was generated at an earlier time  
13 for use at a later time; or

14 (ii) was generated from a mechanical  
15 process, and would otherwise be wasted,  
16 for delivery at a later time.

17 (8) FULLY AUTOMATED CARGO HANDLING  
18 EQUIPMENT.—The term “fully automated cargo  
19 handling equipment” means cargo handling equip-  
20 ment that—

21 (A) is remotely operated or remotely mon-  
22 itored; and

23 (B) with respect to the use of such equip-  
24 ment, does not require the exercise of human  
25 intervention or control.

1           (9) NONATTAINMENT AREA.—The term “non-  
2           attainment area” has the meaning given such term  
3           in section 171 of the Clean Air Act (42 U.S.C.  
4           7501).

5           (10) PORT.—The term “port” includes a mari-  
6           time port and an inland port.

7           (11) PORT AUTHORITY.—The term “port au-  
8           thority” means a governmental or quasi-govern-  
9           mental authority formed by a legislative body to op-  
10          erate a port.

11          (12) PROJECT LABOR AGREEMENT.—The term  
12          “project labor agreement” means a pre-hire collec-  
13          tive bargaining agreement with one or more labor  
14          organization that establishes the terms and condi-  
15          tions of employment for a specific construction  
16          project and is described in section 8(f) of the Na-  
17          tional Labor Relations Act (29 U.S.C. 158(f)).

18          (13) REGISTERED APPRENTICE.—The term  
19          “registered apprentice” means a person who is par-  
20          ticipating in a registered apprenticeship program.

21          (14) REGISTERED APPRENTICESHIP PRO-  
22          GRAM.—The term “registered apprenticeship pro-  
23          gram” means a program registered pursuant to the  
24          Act of August 16, 1937 (commonly known as the

1 “National Apprenticeship Act”; 50 Stat. 664, chap-  
2 ter 663; 29 U.S.C. 50 et seq.).

3 (15) SHORE POWER.—The term “shore power”  
4 means the provision of shoreside electrical power to  
5 a ship at berth that has shut down main and auxil-  
6 iary engines.

7 (16) STATE APPRENTICESHIP AGENCY.—The  
8 term “State Apprenticeship Agency” has the mean-  
9 ing given such term in section 29.2 of title 29, Code  
10 of Federal Regulations (as in effect on January 1,  
11 2020).

12 (17) ZERO EMISSIONS PORT EQUIPMENT AND  
13 TECHNOLOGY.—

14 (A) IN GENERAL.—The term “zero emis-  
15 sions port equipment and technology” means  
16 equipment and technology, including the equip-  
17 ment and technology described in subparagraph  
18 (B), that—

19 (i) is used at a port; and

20 (ii) (I) produces zero exhaust emis-  
21 sions of—

22 (aa) any criteria pollutant  
23 and precursor thereof; and

24 (bb) any greenhouse gas,  
25 other than water vapor; or

1 (II) captures 100 percent of the  
2 exhaust emissions produced by an  
3 ocean-going vessel at berth.

4 (B) EQUIPMENT AND TECHNOLOGY DE-  
5 SCRIBED.—The equipment and technology de-  
6 scribed in this subparagraph is the following:

7 (i) Any equipment that handles cargo.

8 (ii) A drayage truck that transports  
9 cargo.

10 (iii) A train that transports cargo.

11 (iv) Port harbor craft.

12 (v) A distributed energy resource.

13 (vi) An energy storage system.

14 (vii) Electrical charging infrastruc-  
15 ture.

16 (viii) Shore power or an alternative  
17 emissions control technology.

18 (ix) An electric transport refrigeration  
19 unit.

1 **Subtitle E—Interagency Task**  
2 **Force on Short-Lived Climate**  
3 **Pollutant Mitigation**

4 **SEC. 3501. INTERAGENCY TASK FORCE ON SHORT-LIVED**  
5 **CLIMATE POLLUTANT MITIGATION.**

6 (a) ESTABLISHMENT.—Not later than 90 days after  
7 the date of enactment of this Act, the President shall es-  
8 tablish a task force, to be known as the Interagency Task  
9 Force on Short-Lived Climate Pollutant Mitigation.

10 (b) MEMBERSHIP.—The members of the Task Force  
11 shall include the head (or a designee thereof) of each of—

12 (1) the Department of Agriculture;

13 (2) the Department of Commerce;

14 (3) the Department of Defense;

15 (4) the Department of Energy;

16 (5) the Department of Health and Human  
17 Services;

18 (6) the Department of the Interior;

19 (7) the Department of State;

20 (8) the Department of Transportation;

21 (9) the Environmental Protection Agency;

22 (10) the National Oceanic and Atmospheric Ad-  
23 ministration;

24 (11) the Council on Environmental Quality;



1           (12) the United States Agency for International  
2           Development; and

3           (13) any other Federal agency the President  
4           determines appropriate.

5           (c) DUTIES.—The Task Force shall—

6           (1) review the policy recommendations made  
7           by—

8                   (A) the Intergovernmental Panel on Cli-  
9                   mate Change;

10                   (B) the United States Climate Alliance;

11                   (C) the Interagency Strategy to Reduce  
12                   Methane Emissions;

13                   (D) the Council on Climate Preparedness  
14                   and Resilience; and

15                   (E) the Clean Cooking Alliance;

16           (2) develop an action plan to reduce short-lived  
17           climate pollutants that incorporates any appropriate  
18           proposals or recommendations made by the entities  
19           referred to in paragraph (1) that are relevant to  
20           short-lived climate pollutants;

21           (3) identify any Federal program that is, or  
22           could be, relevant to reducing short-lived climate pol-  
23           lutants—

24                   (A) in the United States; or

25                   (B) worldwide;

1           (4) identify overlapping and duplicative Federal  
2 programs addressing short-lived climate pollutants  
3 that would benefit from consolidation and stream-  
4 lining;

5           (5) identify gaps and serious deficiencies in  
6 Federal programs targeted at short-lived climate pol-  
7 lutants, including gaps and deficiencies that can be  
8 addressed through a combination of assessment, sci-  
9 entific research, monitoring, and technological devel-  
10 opment activities, with an emphasis on—

11                   (A) industry standards; and

12                   (B) public-private partnerships;

13           (6) in developing recommendations, consult  
14 with affected stakeholders in private industry; and

15           (7) not later than 18 months after the date of  
16 enactment of this Act, submit to the Committee on  
17 Energy and Commerce of the House of Representa-  
18 tives and the Committee on Environment and Public  
19 Works of the Senate a report describing the findings  
20 and recommendations resulting from the activities  
21 described in paragraphs (1) through (6).

## 22           **Subtitle F—Black Carbon**

### 23   **SEC. 3601. REDUCTION OF BLACK CARBON EMISSIONS.**

24           (a) COMPREHENSIVE PLAN.—

1           (1) IN GENERAL.—The Administrator of the  
2           Environmental Protection Agency (in this section re-  
3           ferred to as the “Administrator”), in consultation  
4           with the Secretary of Energy, the Secretary of State,  
5           the Secretary of Transportation, the Secretary of  
6           Commerce, and the Commandant of the Coast  
7           Guard, shall develop a comprehensive plan to reduce  
8           black carbon emissions from ships based on appro-  
9           priate emissions data from oceangoing vessels. The  
10          plan shall provide for such reduction through—

11                   (A) a clean freight partnership;

12                   (B) limits on black carbon emissions; and

13                   (C) efforts that include protection of access  
14          to critical fuel shipments and emergency needs  
15          of coastal communities.

16          (2) ROADMAP.—A principal objective of the  
17          plan developed pursuant to paragraph (1) shall be  
18          the establishment, in coordination with the Secretary  
19          of State, of a roadmap for helping countries to re-  
20          duce fine-particle (PM<sub>2.5</sub>) and black carbon emis-  
21          sions in the shipping sector through—

22                   (A) the installation of advanced emissions  
23          controls;

24                   (B) the reduction of sulfur content in  
25          fuels; and

1 (C) the adoption of black carbon control  
2 policies.

3 (b) BLACK CARBON EMISSIONS REDUCTION  
4 GOALS.—The Administrator, in coordination with the Sec-  
5 retary of State, and other relevant Federal agencies,  
6 shall—

7 (1) lead an effort to reduce black carbon  
8 through an Arctic-wide aspirational black carbon  
9 goal; and

10 (2) encourage observers of the Arctic Council  
11 (including India and China) to adopt mitigation  
12 plans consistent with the findings and recommenda-  
13 tions of the Arctic Council’s Framework for Action  
14 on Black Carbon and Methane.

15 (c) CLIMATE AND CLEAN AIR COALITION.—The Ad-  
16 ministrator, in coordination with the Secretary of State,  
17 is encouraged to work with the Climate and Clean Air Co-  
18 alition to Reduce Short-Lived Climate Pollutants to craft  
19 specific financing mechanisms for the incremental cost of  
20 international black carbon mitigation activities.

21 (d) BLACK CARBON MITIGATION ACTIVITIES.—

22 (1) PRIORITIZATION.—The Administrator of  
23 the United States Agency for International Develop-  
24 ment, in cooperation with the Administrator, shall—

1 (A) encourage black carbon mitigation ac-  
2 tivities as part of official development assist-  
3 ance and programmatic activities;

4 (B) give special emphasis to projects that  
5 produce substantial environmental, gender, live-  
6 lihood, and public health benefits, including  
7 support for clean-burning cookstoves and fuels;  
8 and

9 (C) work with the Global Alliance for  
10 Clean Cookstoves to help developing nations es-  
11 tablish thriving markets for clean and efficient  
12 cooking solutions.

13 (2) EMISSIONS REDUCTIONS.—The Secretary of  
14 State, in collaboration with the Administrator, the  
15 Secretary of Energy, and the Secretary of Transpor-  
16 tation, shall provide aid to international efforts to  
17 reduce black carbon emissions from diesel trucks  
18 and ships, 2-stroke engines, diesel generators, and  
19 industrial processes by providing technical assist-  
20 ance—

21 (A) to help developing nations lower the  
22 sulfur content of diesel fuels;

23 (B) to expand access to diesel particulate  
24 filters;

1 (C) to provide vehicle manufacturers with  
2 low- and zero-emission engine designs;

3 (D) to deploy on-road, off-road, and shore-  
4 side infrastructure to support zero-emission en-  
5 gine technologies;

6 (E) to develop other mitigation activities,  
7 including energy efficiency alternatives for gen-  
8 erators and industrial processes; and

9 (F) to reduce ammonia emissions from ag-  
10 riculture.

11 **TITLE IV—NUCLEAR ENERGY**  
12 **Subtitle A—Advanced Nuclear Fuel**  
13 **Availability**

14 **SEC. 4101. PROGRAM.**

15 (a) ESTABLISHMENT.—The Secretary shall establish  
16 and carry out, through the Office of Nuclear Energy, a  
17 program to support the availability of HA–LEU for civil-  
18 ian domestic demonstration and commercial use.

19 (b) PROGRAM ELEMENTS.—In carrying out the pro-  
20 gram under subsection (a), the Secretary—

21 (1) shall develop, in consultation with the Com-  
22 mission, criticality benchmark data to assist the  
23 Commission in—

24 (A) the licensing and regulation of cat-  
25 egory II spent nuclear material fuel fabrication

1 and enrichment facilities under part 70 of title  
2 10, Code of Federal Regulations; and

3 (B) certification of transportation pack-  
4 ages under part 71 of title 10, Code of Federal  
5 Regulations;

6 (2) may conduct research and development, and  
7 provide financial assistance to assist commercial en-  
8 tities, to design and license transportation packages  
9 for HA–LEU, including canisters for metal, gas,  
10 and other HA–LEU compositions;

11 (3) shall, to the extent practicable—

12 (A) by January 1, 2024, have commercial  
13 entities submit such transportation package de-  
14 signs to the Commission for certification by the  
15 Commission under part 71 of title 10, Code of  
16 Federal Regulations; and

17 (B) encourage the Commission to have  
18 such transportation package designs so certified  
19 by the Commission by January 1, 2026;

20 (4) shall consider options for acquiring or pro-  
21 viding HA–LEU from a stockpile of uranium owned  
22 by the Department, or using enrichment technology,  
23 to make available to members of the consortium es-  
24 tablished pursuant to paragraph (6) for commercial  
25 use or demonstration projects, taking into account

1 cost and amount of time required, and prioritizing  
2 methods that would produce usable HA–LEU the  
3 quickest, including options for acquiring or providing  
4 HA–LEU—

5 (A) that—

6 (i) directly meets the needs of an end  
7 user; and

8 (ii) has been previously used or fab-  
9 ricated for another purpose;

10 (B) that meets the needs of an end user  
11 after having radioactive or other contaminants  
12 that resulted from a previous use or fabrication  
13 of the fuel for research, development, dem-  
14 onstration, or deployment activities of the De-  
15 partment removed;

16 (C) that is produced from high-enriched  
17 uranium that is blended with lower assay ura-  
18 nium to become HA–LEU to meet the needs of  
19 an end user;

20 (D) that is produced by United States or  
21 foreign-owned commercial entities; or

22 (E) that does not require extraction of ura-  
23 nium or development of uranium from lands  
24 managed by the Federal Government, cause  
25 harm to the natural or cultural resources of



1 Tribal communities or sovereign Native Na-  
2 tions, or result in degraded ground or surface  
3 water quality on publicly managed or privately  
4 owned lands;

5 (5) not later than 1 year after the date of en-  
6 actment of this Act, and biennially thereafter, shall  
7 conduct a survey of stakeholders to estimate the  
8 quantity of HA–LEU necessary for domestic com-  
9 mercial use for each of the 5 subsequent years;

10 (6) shall establish a consortium, which may in-  
11 clude entities involved in any stage of the nuclear  
12 fuel cycle, to partner with the Department to sup-  
13 port the availability of HA–LEU for civilian domes-  
14 tic demonstration and commercial use, including  
15 by—

16 (A) providing information to the Secretary  
17 for purposes of surveys conducted under para-  
18 graph (5);

19 (B) purchasing HA–LEU made available  
20 to members of the consortium by the Secretary  
21 under the program; and

22 (C) carrying out demonstration projects  
23 using HA–LEU awarded by the Secretary  
24 under the program;

1           (7) shall, prior to acquiring or providing HA–  
2 LEU under paragraph (8), in coordination with the  
3 consortium established pursuant to paragraph (6),  
4 develop a schedule for cost recovery of HA–LEU  
5 made available to members of the consortium using  
6 HA–LEU for commercial use pursuant to paragraph  
7 (8);

8           (8) shall, beginning not later than 3 years after  
9 the establishment of a consortium under paragraph  
10 (6), have the capability to acquire or provide HA–  
11 LEU, in order to make such HA–LEU available to  
12 members of the consortium beginning not later than  
13 January 1, 2026, in amounts that are consistent, to  
14 the extent practicable, with—

15                   (A) the quantities estimated under the sur-  
16 veys conducted under paragraph (5); plus

17                   (B) the quantities necessary for dem-  
18 onstration projects carried out under the pro-  
19 gram, as determined by the Secretary; and

20           (9) shall, for advanced reactor demonstration  
21 projects, determine awardees of HA–LEU under this  
22 subtitle through a merit-based, competitive selection  
23 process.

24           (c) APPLICABILITY OF USEC PRIVATIZATION ACT.—

1           (1) SALE OR TRANSFER TO CONSORTIUM.—The  
2 requirements of subparagraphs (A) and (C) of sec-  
3 tion 3112(d)(2) of the USEC Privatization Act (42  
4 U.S.C. 2297h–10(d)(2)) shall apply to a sale or  
5 transfer of HA–LEU for commercial use by the Sec-  
6 retary to a member of the consortium under this  
7 section.

8           (2) DEMONSTRATION.—HA–LEU made avail-  
9 able to members of the consortium established pur-  
10 suant to subsection (b)(6) for demonstration projects  
11 shall remain the property of the Department, which  
12 shall be responsible for the storage, use, and disposi-  
13 tion of all radioactive waste created by the irradiation,  
14 processing, or purification of such uranium,  
15 and shall not be treated as a sale or transfer of ura-  
16 nium subject to sections 3112 and 3113 of the  
17 USEC Privatization Act (42 U.S.C. 2297h–10; 42  
18 U.S.C. 2297h–11).

19           (d) DOE ACQUISITION OF HA–LEU.—The Sec-  
20 retary may not make commitments under this section (in-  
21 cluding cooperative agreements (used in accordance with  
22 section 6305 of title 31, United States Code), purchase  
23 agreements, guarantees, leases, service contracts, or any  
24 other type of commitment) for the purchase or other ac-  
25 quisition of HA–LEU unless funds are specifically pro-

1 vided for such purposes in advance in subsequent appro-  
2 priations Acts, and only to the extent that the full extent  
3 of anticipated costs stemming from such commitments is  
4 recorded as an obligation up front and in full at the time  
5 it is made.

6 (e) SUNSET.—The authority of the Secretary to carry  
7 out the program under this section shall expire on the ear-  
8 lier of—

9 (1) September 30, 2034; or

10 (2) 90 days after the date on which HA–LEU  
11 is available to provide a reliable and adequate supply  
12 for civilian domestic advanced nuclear reactors in  
13 the commercial market.

14 (f) LIMITATION.—The Secretary shall not barter or  
15 otherwise sell or transfer uranium in any form in exchange  
16 for services relating to the final disposition of radioactive  
17 waste from uranium that is made available under this sec-  
18 tion.

19 **SEC. 4102. REPORTS TO CONGRESS.**

20 (a) COMMISSION REPORT ON NECESSARY REGU-  
21 LATORY UPDATES.—Not later than 12 months after the  
22 date of enactment of this Act, the Commission shall sub-  
23 mit to Congress a report that includes—

24 (1) identification of updates to regulations, cer-  
25 tifications, and other regulatory policies that the

1 Commission determines are necessary in order for  
2 HA–LEU to be commercially available, including—

3 (A) guidance for material control and ac-  
4 countability of category II special nuclear mate-  
5 rial;

6 (B) certifications relating to transportation  
7 packaging for HA–LEU; and

8 (C) licensing of enrichment, conversion,  
9 and fuel fabrication facilities for HA–LEU, and  
10 associated physical security plans for such fa-  
11 cilities;

12 (2) a description of such updates; and

13 (3) a timeline to complete such updates.

14 (b) DOE REPORT ON PROGRAM TO SUPPORT THE  
15 AVAILABILITY OF HA–LEU FOR CIVILIAN DOMESTIC  
16 DEMONSTRATION AND COMMERCIAL USE.—

17 (1) IN GENERAL.—Not later than 180 days  
18 after the date of enactment of this section, the Sec-  
19 retary shall submit to Congress a report that de-  
20 scribes actions proposed to be carried out by the  
21 Secretary under the program described in section  
22 4101(a).

23 (2) COORDINATION AND STAKEHOLDER  
24 INPUT.—In developing the report under this sub-  
25 section, the Secretary shall consult with—

- 1 (A) the Nuclear Regulatory Commission;
- 2 (B) the National Nuclear Security Admin-  
3 istration;
- 4 (C) the National Laboratories;
- 5 (D) institutions of higher education;
- 6 (E) a diverse group of entities from the  
7 nuclear energy industry;
- 8 (F) a diverse group of technology devel-  
9 opers;
- 10 (G) experts in nuclear nonproliferation, en-  
11 vironmental safety, public health and safety,  
12 and economics; and
- 13 (H) members of the consortium created  
14 under section 4101(b)(6).

15 (3) COST AND SCHEDULE ESTIMATES.—The re-  
16 port under this subsection shall include estimated  
17 costs, budgets, and timeframes for all activities car-  
18 ried out under this subtitle.

19 (4) REQUIRED EVALUATIONS.—The report  
20 under this subsection shall evaluate—

- 21 (A) the actions required to establish and  
22 carry out the program under section 4101(a)  
23 and the cost of such actions, including with re-  
24 spect to—

1 (i) proposed preliminary terms for  
2 contracting between the Department and  
3 recipients of HA-LEU under the program  
4 (including guidelines defining the roles and  
5 responsibilities between the Department  
6 and the recipient); and

7 (ii) the potential to coordinate with  
8 recipients of HA-LEU under the program  
9 regarding—

10 (I) fuel fabrication; and

11 (II) fuel transport;

12 (B) the potential sources and fuel forms  
13 available to provide uranium for the program  
14 under section 4101(a);

15 (C) options to coordinate the program  
16 under section 4101(a) with the operation of the  
17 versatile, reactor-based fast neutron source  
18 under section 959A of the Energy Policy Act of  
19 2005 (as added by this title);

20 (D) the ability of uranium producers to  
21 provide materials for advanced nuclear reactor  
22 fuel;

23 (E) any associated legal, regulatory, and  
24 policy issues that should be addressed to en-  
25 able—

1 (i) implementation of the program  
2 under section 4101(a); and

3 (ii) the establishment of an industry  
4 capable of providing HA–LEU; and

5 (F) any research and development plans to  
6 develop criticality benchmark data under sec-  
7 tion 4101(b)(1), if needed.

8 (c) ALTERNATE FUELS REPORT.—Not later than  
9 180 days after the date of enactment of this Act, the Sec-  
10 retary shall, after consulting with relevant entities, includ-  
11 ing National Laboratories, institutions of higher edu-  
12 cation, and technology developers, submit to Congress a  
13 report identifying any and all options for providing nuclear  
14 material, containing isotopes other than the uranium-235  
15 isotope, such as uranium-233 and thorium-232 to be used  
16 as fuel for advanced nuclear reactor research, develop-  
17 ment, demonstration, or commercial application purposes.

18 **SEC. 4103. AUTHORIZATION OF APPROPRIATIONS.**

19 There are authorized to be appropriated to carry out  
20 this subtitle—

21 (1) \$31,500,000 for fiscal year 2021;

22 (2) \$33,075,000 for fiscal year 2022;

23 (3) \$34,728,750 for fiscal year 2023;

24 (4) \$36,465,188 for fiscal year 2024; and

25 (5) \$38,288,447 for fiscal year 2025.



1 **SEC. 4104. DEFINITIONS.**

2 In this subtitle:

3 (1) COMMISSION.—The term “Commission”  
4 means the Nuclear Regulatory Commission.

5 (2) DEPARTMENT.—The term “Department”  
6 means Department of Energy.

7 (3) HA–LEU.—The term “HA–LEU” means  
8 high-assay low-enriched uranium.

9 (4) HIGH-ASSAY LOW-ENRICHED URANIUM.—  
10 The term “high-assay low-enriched uranium” means  
11 uranium having an assay greater than 5.0 weight  
12 percent and less than 20.0 weight percent enrich-  
13 ment of the uranium-235 isotope.

14 (5) HIGH-ENRICHED URANIUM.—The term  
15 “high-enriched uranium” means uranium with an  
16 assay of 20.0 weight percent enrichment or more of  
17 the uranium-235 isotope.

18 (6) SECRETARY.—The term “Secretary” means  
19 the Secretary of Energy.

20 **Subtitle B—Nuclear Energy**  
21 **Leadership Act**

22 **SEC. 4201. DEFINITIONS.**

23 Section 951(b) of the Energy Policy Act of 2005 (42  
24 U.S.C. 16271(b)) is amended—

25 (1) by amending paragraph (1) to read as fol-  
26 lows:

1           “(1) ADVANCED NUCLEAR REACTOR.—The  
2 term ‘advanced nuclear reactor’ means—

3           “(A) a nuclear fission reactor, including a  
4 prototype plant (as defined in sections 50.2 and  
5 52.1 of title 10, Code of Federal Regulations  
6 (or successor regulations)), with significant im-  
7 provements compared to reactors operating on  
8 the date of enactment of the Clean Economy  
9 Jobs and Innovation Act, including improve-  
10 ments such as—

11           “(i) additional inherent safety fea-  
12 tures;

13           “(ii) lower waste yields;

14           “(iii) improved fuel and material per-  
15 formance;

16           “(iv) increased tolerance to loss of  
17 fuel cooling;

18           “(v) enhanced reliability;

19           “(vi) increased proliferation resist-  
20 ance;

21           “(vii) increased thermal efficiency;

22           “(viii) reduced consumption of cooling  
23 water and other environmental impacts;

1 “(ix) the ability to integrate into elec-  
2 tric applications and nonelectric applica-  
3 tions;

4 “(x) modular sizes to allow for deploy-  
5 ment that corresponds with the demand  
6 for electricity or process heat;

7 “(xi) operational flexibility to respond  
8 to changes in demand for electricity or  
9 process heat and to complement integra-  
10 tion with intermittent renewable energy or  
11 energy storage; or

12 “(xii) improved resilience; and

13 “(B) a fusion reactor.”; and

14 (2) by adding at the end the following:

15 “(7) INSTITUTION OF HIGHER EDUCATION.—

16 The term ‘institution of higher education’ has the  
17 meaning given the term in section 101(a) of the  
18 Higher Education Act of 1965 (20 U.S.C.  
19 1001(a)).”.

20 **SEC. 4202. NUCLEAR ENERGY RESEARCH, DEVELOPMENT,**  
21 **DEMONSTRATION, AND COMMERCIAL APPLI-**  
22 **CATION PROGRAMS.**

23 (a) REACTOR CONCEPTS RESEARCH, DEVELOPMENT,  
24 AND DEMONSTRATION.—Section 952 of the Energy Policy

1 Act of 2005 (42 U.S.C. 16272) is amended to read as  
2 follows:

3 **“SEC. 952. REACTOR CONCEPTS RESEARCH, DEVELOP-**  
4 **MENT, DEMONSTRATION, AND COMMERCIAL**  
5 **APPLICATION.**

6 “(a) SUSTAINABILITY PROGRAM FOR LIGHT WATER  
7 REACTORS.—

8 “(1) IN GENERAL.—The Secretary shall carry  
9 out a program of research, development, demonstra-  
10 tion, and commercial application to support existing  
11 operating nuclear power plants which shall address  
12 technologies to modernize and improve, with respect  
13 to such plants—

14 “(A) reliability;

15 “(B) capacity;

16 “(C) component aging;

17 “(D) safety;

18 “(E) physical security and security costs;

19 “(F) plant lifetime;

20 “(G) operations and maintenance costs, in-  
21 cluding by utilizing risk-informed systems anal-  
22 ysis;

23 “(H) the ability for plants to operate flexi-  
24 bly;

1           “(I) nuclear hybrid energy system applica-  
2           tions described in subsection (c);

3           “(J) efficiency;

4           “(K) environmental impacts; and

5           “(L) resilience.

6           “(2) AUTHORIZATION OF APPROPRIATIONS.—

7           There are authorized to be appropriated to the Sec-  
8           retary to carry out the program under this sub-  
9           section—

10           “(A) \$55,000,000 for fiscal year 2021;

11           “(B) \$57,750,000 for fiscal year 2022;

12           “(C) \$60,637,500 for fiscal year 2023;

13           “(D) \$63,669,375 for fiscal year 2024;

14           and

15           “(E) \$66,852,844 for fiscal year 2025.

16           “(3) REPORT.—The Secretary shall submit an-  
17           nually a public report to the Congressional Commit-  
18           tees of Jurisdiction documenting funds spent under  
19           the program, including those that could benefit the  
20           entirety of the existing reactor fleet, such as with re-  
21           spect to aging management and related sustain-  
22           ability concerns, and identifying funds awarded to  
23           private entities.

24           “(b) ADVANCED REACTOR TECHNOLOGIES.—

1           “(1) IN GENERAL.—The Secretary shall carry  
2           out a program of research, development, demonstra-  
3           tion, and commercial application to support ad-  
4           vanced reactor technologies.

5           “(2) REQUIREMENTS.—In carrying out the pro-  
6           gram under this subsection, the Secretary shall—

7                   “(A) prioritize designs for advanced nu-  
8                   clear reactors that are proliferation resistant  
9                   and passively safe, including designs that, com-  
10                  pared to reactors operating on the date of en-  
11                  actment of the Clean Economy Jobs and Inno-  
12                  vation Act—

13                           “(i) are economically competitive with  
14                           other electric power generation plants;

15                           “(ii) have higher efficiency, lower cost,  
16                           less environmental impacts, increased resil-  
17                           ience, and improved safety;

18                           “(iii) use fuels that are proliferation-  
19                           resistant and have reduced production of  
20                           high-level waste per unit of output; and

21                           “(iv) use advanced instrumentation  
22                           and monitoring systems;

23                   “(B) consult with the Nuclear Regulatory  
24                   Commission on appropriate metrics to consider  
25                   for the criteria specified in subparagraph (A);

1           “(C) support research and development to  
2 resolve materials challenges relating to extreme  
3 environments, including environments that con-  
4 tain high levels of—

5                   “(i) radiation fluence;

6                   “(ii) temperature;

7                   “(iii) pressure; and

8                   “(iv) corrosion;

9           “(D) support research and development to  
10 aid in the qualification of advanced fuels, in-  
11 cluding fabrication techniques;

12           “(E) support activities that address near-  
13 term challenges in modeling and simulation to  
14 enable accelerated design of and licensing of ad-  
15 vanced nuclear reactors, including the identi-  
16 fication of tools and methodologies for vali-  
17 dating such modeling and simulation efforts;

18           “(F) develop technologies, including tech-  
19 nologies to manage, reduce, or reuse nuclear  
20 waste;

21           “(G) ensure that nuclear research infra-  
22 structure is maintained or constructed, includ-  
23 ing—

1                   “(i) currently operational research re-  
2                   actors at the National Laboratories and in-  
3                   stitutions of higher education;

4                   “(ii) hot cell research facilities;

5                   “(iii) a versatile fast neutron source;

6                   and

7                   “(iv) advanced coolant testing facili-  
8                   ties, including coolants such as lead, so-  
9                   dium, gas, and molten salt;

10                  “(H) improve scientific understanding of  
11                  nonlight water coolant physics and chemistry;

12                  “(I) develop advanced sensors and control  
13                  systems, including the identification of tools  
14                  and methodologies for validating such sensors  
15                  and systems;

16                  “(J) investigate advanced manufacturing  
17                  and advanced construction techniques and ma-  
18                  terials to reduce the cost of advanced nuclear  
19                  reactors, including the use of digital twins and  
20                  of strategies to implement project and construc-  
21                  tion management best practices, and study the  
22                  effects of radiation and corrosion on materials  
23                  created with these techniques;

24                  “(K) consult with the Administrator of the  
25                  National Nuclear Security Administration to in-



1           tegrate reactor safeguards and security into de-  
2           sign;

3           “(L) support efforts to reduce any tech-  
4           nical barriers that would prevent commercial  
5           application of advanced nuclear energy systems;  
6           and

7           “(M) develop various safety analyses and  
8           emergency preparedness and response meth-  
9           odologies.

10          “(3) COORDINATION.—The Secretary shall co-  
11          ordinate with individuals engaged in the private sec-  
12          tor and individuals who are experts in nuclear non-  
13          proliferation, environmental and public health and  
14          safety, and economics to advance the development of  
15          various designs of advanced nuclear reactors. In car-  
16          rying out this paragraph, the Secretary shall con-  
17          vene an advisory committee of such individuals and  
18          such committee shall submit annually a report to the  
19          relevant committees of Congress with respect to the  
20          progress of the program.

21          “(4) AUTHORIZATION OF APPROPRIATIONS.—  
22          There are authorized to be appropriated to the Sec-  
23          retary to carry out the program under this sub-  
24          section \$55,000,000 for each of fiscal years 2021  
25          through 2025.

1       “(c) NUCLEAR HYBRID ENERGY SYSTEMS RE-  
2 SEARCH, DEVELOPMENT, DEMONSTRATION, AND COM-  
3 Mercial APPLICATION PROGRAM.—

4           “(1) IN GENERAL.—The Secretary shall carry  
5 out a program of research, development, demonstra-  
6 tion, and commercial application to develop nuclear  
7 hybrid energy systems, composed of 2 or more co-  
8 located or jointly operated subsystems of energy gen-  
9 eration, energy storage, or other technologies and in  
10 which not less than 1 such subsystem is a nuclear  
11 energy system, to reduce greenhouse gas emissions  
12 in both the power and nonpower sectors.

13           “(2) COORDINATION.—In carrying out the pro-  
14 gram under paragraph (1), the Secretary shall co-  
15 ordinate with relevant program offices within the  
16 Department of Energy.

17           “(3) FOCUS AREAS.—The program under para-  
18 graph (1) may include research, development, dem-  
19 onstration, or commercial application of nuclear hy-  
20 brid energy systems with respect to—

21                   “(A) desalination of water;

22                   “(B) hydrogen or other liquid and gaseous  
23 fuel or chemical production;

24                   “(C) heat for industrial processes;

25                   “(D) district heating;

1           “(E) heat or electricity generation and  
2 storage;

3           “(F) carbon capture, use, utilization, and  
4 storage;

5           “(G) microgrid or island applications;

6           “(H) integrated systems modeling, anal-  
7 ysis, and optimization, inclusive of different  
8 configurations of hybrid energy systems; and

9           “(I) integrated design, planning, building,  
10 and operation of systems with existing infra-  
11 structure, including interconnection require-  
12 ments with the electric grid, as appropriate.

13           “(4) AUTHORIZATION OF APPROPRIATIONS.—  
14 There are authorized to be appropriated to the Sec-  
15 retary to carry out the program under this sub-  
16 section—

17           “(A) \$52,500,000 for fiscal year 2021;

18           “(B) \$55,125,000 for fiscal year 2022;

19           “(C) \$57,881,250 for fiscal year 2023;

20           “(D) \$60,775,313 for fiscal year 2024;

21           and

22           “(E) \$63,814,078 for fiscal year 2025.”.

23           (b) FUEL CYCLE RESEARCH AND DEVELOPMENT.—  
24 Section 953 of the Energy Policy Act of 2005 (42 U.S.C.  
25 16273) is amended to read as follows:

1 **“SEC. 953. FUEL CYCLE RESEARCH, DEVELOPMENT, DEM-**  
2 **ONSTRATION, AND COMMERCIAL APPLICA-**  
3 **TION.**

4 “(a) USED NUCLEAR FUEL RESEARCH, DEVELOP-  
5 MENT, DEMONSTRATION, AND COMMERCIAL APPLICA-  
6 TION.—

7 “(1) IN GENERAL.—The Secretary shall con-  
8 duct an advanced fuel cycle research, development,  
9 demonstration, and commercial application program  
10 that improves fuel cycle performance and supports a  
11 variety of options for used nuclear fuel storage, use,  
12 and disposal, including advanced nuclear reactor and  
13 non-reactor concepts (such as radioisotope power  
14 systems), while minimizing environmental and public  
15 health and safety impacts, including—

16 “(A) dry cask storage;

17 “(B) consolidated interim storage;

18 “(C) deep geological storage and disposal,  
19 including mined repository, and other tech-  
20 nologies;

21 “(D) used nuclear fuel transportation;

22 “(E) integrated waste management sys-  
23 tems;

24 “(F) vitrification;

25 “(G) fuel recycling and transmutation  
26 technologies, including advanced reprocessing

1 technologies such as electrochemical and molten  
2 salt technologies, and advanced redox extraction  
3 technologies;

4 “(H) advanced materials to be used in sub-  
5 paragraphs (A) through (G); and

6 “(I) other areas as determined by the Sec-  
7 retary.

8 “(2) REQUIREMENTS.—In carrying out the pro-  
9 gram under this subsection, the Secretary shall—

10 “(A) ensure all activities and designs in-  
11 corporate state of the art safeguards tech-  
12 nologies and techniques to reduce risk of pro-  
13 liferation;

14 “(B) consult with the Administrator of the  
15 National Nuclear Security Administration to in-  
16 tegrate safeguards and security by design;

17 “(C) consider the potential benefits and  
18 other impacts of those activities for civilian nu-  
19 clear applications, environmental health and  
20 safety, and national security, including consid-  
21 eration of public consent; and

22 “(D) consider the economic viability of all  
23 activities and designs.

24 “(3) AUTHORIZATION OF APPROPRIATIONS.—

25 There are authorized to be appropriated to the Sec-

1       retary to carry out the program under this sub-  
2       section—

3               “(A) \$91,875,000 for fiscal year 2021;

4               “(B) \$96,468,750 for fiscal year 2022;

5               “(C) \$101,292,188 for fiscal year 2023;

6               “(D) \$106,356,797 for fiscal year 2024;

7               and

8               “(E) \$111,674,637 for fiscal year 2025.

9       “(b) ADVANCED FUELS.—

10           “(1) IN GENERAL.—The Secretary shall con-  
11       duct an advanced fuels research, development, dem-  
12       onstration, and commercial application program on  
13       next-generation light water reactor and advanced re-  
14       actor fuels that demonstrate the potential for im-  
15       proved—

16               “(A) performance;

17               “(B) accident tolerance;

18               “(C) proliferation resistance;

19               “(D) use of resources;

20               “(E) environmental impact; and

21               “(F) economics.

22           “(2) REQUIREMENTS.—In carrying out the pro-  
23       gram under this subsection, the Secretary shall—

24               “(A) focus on the development of advanced  
25       technology fuels, including fabrication tech-

1           niques, that offer improved accident-tolerance  
2           and economic performance with the goal of ini-  
3           tial commercial application by December 31,  
4           2025; and

5           “(B) cooperate with private industry and  
6           with institutions of higher education through  
7           the Nuclear Energy University and Integrated  
8           Research Projects programs of the Department.

9           “(3) REPORT.—Not later than 180 days after  
10          the date of enactment of this section, the Secretary  
11          shall submit to the Committee on Science, Space,  
12          and Technology of the House of Representatives and  
13          the Committee on Energy and Natural Resources of  
14          the Senate a report that describes how the tech-  
15          nologies and concepts studied under this program  
16          would impact reactor economics, the fuel cycle, oper-  
17          ations, safety, proliferation, and the environment.

18          “(4) AUTHORIZATION OF APPROPRIATIONS.—  
19          There are authorized to be appropriated to the Sec-  
20          retary to carry out the program under this sub-  
21          section—

22                  “(A) \$133,000,000 for fiscal year 2021;

23                  “(B) \$139,650,000 for fiscal year 2022;

24                  “(C) \$146,632,500 for fiscal year 2023;

1           “(D) \$153,964,125 for fiscal year 2024;

2           and

3           “(E) \$161,662,331 for fiscal year 2025.”.

4           (c) NUCLEAR SCIENCE AND ENGINEERING SUP-  
5 PORT.—Section 954 of the Energy Policy Act of 2005 (42  
6 U.S.C. 16274) is amended—

7           (1) in the section heading, by striking “**UNI-**  
8           **VERSITY NUCLEAR**” and inserting “**NUCLEAR**”;

9           (2) in subsection (b)—

10           (A) in the matter preceding paragraph (1),  
11           by striking “this section” and inserting “this  
12           subsection”; and

13           (B) by redesignating paragraphs (1)  
14           through (5) as subparagraphs (A) through (E),  
15           respectively, and indenting appropriately;

16           (3) in subsection (c), by redesignating para-  
17           graphs (1) and (2) as subparagraphs (A) and (B),  
18           respectively, and indenting appropriately;

19           (4) in subsection (d)—

20           (A) in the matter preceding paragraph (1),  
21           by striking “this section” and inserting “this  
22           subsection”; and

23           (B) by redesignating paragraphs (1)  
24           through (4) as subparagraphs (A) through (D),  
25           respectively, and indenting appropriately;



1           (5) in subsection (e), by striking “this section”  
2           and inserting “this subsection”;

3           (6) in subsection (f)—

4                 (A) by striking “this section” and inserting  
5                 “this subsection”; and

6                 (B) by striking “subsection (b)(2)” and in-  
7                 serting “paragraph (2)(B)”;

8           (7) by redesignating subsections (a) through (d)  
9           as paragraphs (1) through (4), respectively, and in-  
10          denting appropriately;

11          (8) by redesignating subsections (e) and (f) as  
12          paragraphs (7) and (8), respectively;

13          (9) by inserting after paragraph (4) (as so re-  
14          designated) the following:

15                 “(5)   RADIOLOGICAL   FACILITIES   MANAGE-  
16                 MENT.—

17                         “(A) IN GENERAL.—The Secretary shall  
18                         carry out a program under which the Secretary  
19                         shall provide project management, technical  
20                         support, quality engineering and inspection, and  
21                         nuclear material handling support to research  
22                         reactors located at universities.

23                         “(B) AUTHORIZATION OF APPROPRIA-  
24                         TIONS.—Of any amounts appropriated to carry  
25                         out the program under this subsection, there

1           are authorized to be appropriated to the Sec-  
2           retary to carry out the program under this  
3           paragraph \$20,000,000 for each of fiscal years  
4           2021 through 2030.

5           “(6) NUCLEAR ENERGY UNIVERSITY PRO-  
6           GRAM.—In carrying out the programs under this  
7           section, the Department shall allocate 20 percent of  
8           funds appropriated to nuclear energy research and  
9           development programs annually to fund university-  
10          led research and university infrastructure projects  
11          through an open, competitive solicitation process.”;

12          (10) by inserting before paragraph (1) (as so  
13          redesignated) the following:

14          “(a) UNIVERSITY NUCLEAR SCIENCE AND ENGI-  
15          NEERING SUPPORT.—”; and

16          (11) by adding at the end the following:

17          “(b) NUCLEAR ENERGY APPRENTICESHIP SUBPRO-  
18          GRAM.—

19          “(1) ESTABLISHMENT.—In carrying out the  
20          program under subsection (a), the Secretary shall  
21          establish a nuclear energy apprenticeship subpro-  
22          gram under which the Secretary shall competitively  
23          award traineeships and apprenticeships in coordina-  
24          tion with universities to provide focused, advanced  
25          training to meet critical mission needs of the De-

1       partment, including in industries that are rep-  
2       resented by skilled labor unions.

3               “(2) REQUIREMENTS.—In carrying out the sub-  
4       program under this subsection, the Secretary shall—

5                       “(A) encourage appropriate partnerships  
6                       among National Laboratories, affected univer-  
7                       sities, and industry; and

8                       “(B) on an annual basis, evaluate the  
9                       needs of the nuclear energy community to im-  
10                      plement traineeships for focused topical areas  
11                      addressing mission-specific workforce needs.

12               “(3) AUTHORIZATION OF APPROPRIATIONS.—  
13       There are authorized to be appropriated to the Sec-  
14       retary to carry out the subprogram under this sub-  
15       section \$5,000,000 for each of fiscal years 2021  
16       through 2030.”.

17       (d) CONFORMING AMENDMENT.—The table of con-  
18       tents of the Energy Policy Act of 2005 (Public Law 109–  
19       58; 119 Stat. 600) is amended by striking the items relat-  
20       ing to sections 952 through 954 and inserting the fol-  
21       lowing:

“Sec. 952. Reactor concepts research, development, demonstration, and com-  
                    mercial application.

“Sec. 953. Fuel cycle research, development, demonstration, and commercial  
                    application

“Sec. 954. Nuclear science and engineering support.”.

1 (e) UNIVERSITY NUCLEAR LEADERSHIP PRO-  
2 GRAM.—Section 313 of the Omnibus Appropriations Act,  
3 2009 (42 U.S.C. 16274a), is amended to read as follows:

4 **“SEC. 313. UNIVERSITY NUCLEAR LEADERSHIP PROGRAM.**

5 “(a) IN GENERAL.—In carrying out section 954 of  
6 the Energy Policy Act of 2005 (42 U.S.C. 16274), the  
7 Secretary of Energy shall support a program to be known  
8 as the University Nuclear Leadership Program (in this  
9 section referred to as the ‘Program’).

10 “(b) USE OF FUNDS.—

11 “(1) IN GENERAL.—Except as provided in para-  
12 graph (2), amounts made available to carry out the  
13 Program shall be used to provide financial assistance  
14 for scholarships, fellowships, and research and devel-  
15 opment projects at institutions of higher education  
16 with respect to research, development, demonstra-  
17 tion, and commercial application activities relevant  
18 to civilian advanced nuclear reactors including, but  
19 not limited to—

20 “(A) relevant fuel cycle technologies;

21 “(B) project management; and

22 “(C) advanced construction, manufac-  
23 turing, and fabrication methods.

24 “(2) EXCEPTION.—Notwithstanding paragraph  
25 (1), amounts made available to carry out the Pro-

1       gram may be used to provide financial assistance for  
2       a scholarship, fellowship, or multiyear research and  
3       development project that does not align directly with  
4       a programmatic mission of the Department of En-  
5       ergy, if the activity for which assistance is provided  
6       would facilitate the maintenance of the discipline of  
7       nuclear science or nuclear engineering.

8       “(c) AUTHORIZATION OF APPROPRIATIONS.—There  
9       are authorized to be appropriated \$15,000,000 to the Sec-  
10       retary of Energy to carry out the Program for each of  
11       fiscal years 2021 through 2030.”.

12       (f) VERSATILE NEUTRON SOURCE.—Section 955(c)  
13       of the Energy Policy Act of 2005 (42 U.S.C. 16275(c))  
14       is amended—

15               (1) in paragraph (1)—

16                       (A) in the paragraph heading, by striking  
17                       “MISSION NEED” and inserting “AUTHOR-  
18                       IZATION”; and

19                       (B) in subparagraph (A), by striking “de-  
20                       termine the mission need” and inserting “pro-  
21                       vide”; and

22               (2) by adding at the end the following:

23               “(7) AUTHORIZATION OF APPROPRIATIONS.—  
24       There are authorized to be appropriated to the Sec-

1       retary to carry out to completion the construction of  
2       the facility under this section—

3               “(A) \$300,000,000 for fiscal year 2021;

4               “(B) \$550,000,000 for fiscal year 2022;

5               “(C) \$638,000,000 for fiscal year 2023;

6               “(D) \$765,000,000 for fiscal year 2024;

7               and

8               “(E) \$763,000,000 for fiscal year 2025.”.

9       (g) **ADVANCED NUCLEAR REACTOR RESEARCH, DE-**  
10 **VELOPMENT, AND DEMONSTRATION PROGRAM.—**

11           (1) **IN GENERAL.**—Subtitle E of title IX of the  
12       Energy Policy Act of 2005 (42 U.S.C. 16271 et  
13       seq.) is amended by adding at the end the following:

14 **“SEC. 959A. ADVANCED NUCLEAR REACTOR RESEARCH, DE-**  
15 **VELOPMENT, DEMONSTRATION, AND COM-**  
16 **MERCIAL APPLICATION PROGRAM.**

17       “(a) **DEMONSTRATION PROJECT DEFINED.**—For the  
18       purposes of this section, the term ‘demonstration project’  
19       means—

20           “(1) an advanced nuclear reactor operated for  
21       the purpose of demonstrating the suitability for com-  
22       mercial application of the advanced nuclear reac-  
23       tor—

24           “(A) as part of the power generation facili-  
25       ties of an electric utility system; or

1 “(B) in any other manner; or

2 “(2) the operation of one or more experimental  
3 advanced nuclear reactors, for the purpose of dem-  
4 onstrating the suitability for commercial application  
5 of such advanced nuclear reactors.

6 “(b) ESTABLISHMENT.—The Secretary shall estab-  
7 lish a program to advance the research, development, dem-  
8 onstration, and commercial application of domestic ad-  
9 vanced, affordable, nuclear energy technologies by—

10 “(1) demonstrating a variety of advanced nu-  
11 clear reactor technologies that could be used to  
12 produce—

13 “(A) safer, emissions-free power at a lower  
14 cost compared to reactors operating on the date  
15 of enactment of the Clean Economy Jobs and  
16 Innovation Act;

17 “(B) heat for community heating, indus-  
18 trial purposes, heat storage, or synthetic fuel  
19 production;

20 “(C) remote or off-grid energy supply; or

21 “(D) backup or mission-critical power sup-  
22 plies;

23 “(2) identifying research areas that the private  
24 sector is unable or unwilling to undertake due to the  
25 cost of, or risks associated with, the research; and

1           “(3) facilitating the access of the private sec-  
2           tor—

3                   “(A) to Federal research facilities and per-  
4                   sonnel; and

5                   “(B) to the results of research relating to  
6                   civil nuclear technology funded by the Federal  
7                   Government.

8           “(c) DEMONSTRATION PROJECTS.—In carrying out  
9           demonstration projects under the program established in  
10          subsection (b), the Secretary shall—

11                   “(1) include, as an evaluation criterion, diver-  
12                   sity in designs for the advanced nuclear reactors  
13                   demonstrated under this section, including designs  
14                   using various—

15                           “(A) primary coolants;

16                           “(B) fuel types and compositions; and

17                           “(C) neutron spectra;

18                   “(2) consider, as an evaluation criterion, the  
19                   likelihood that the operating cost for future commer-  
20                   cial units for each design implemented through a  
21                   demonstration project under this subsection is cost-  
22                   competitive in the applicable market, including those  
23                   designs configured as hybrid energy systems as de-  
24                   scribed in section 952(c);



1           “(3) ensure that each evaluation of candidate  
2 technologies for the demonstration projects is com-  
3 pleted through an external review of proposed de-  
4 signs, which review shall—

5                   “(A) be conducted by a panel that includes  
6 not fewer than 1 representative that does not  
7 have a conflict of interest of each of—

8                           “(i) an electric utility;

9                           “(ii) an entity that uses high-tempera-  
10 ture process heat for manufacturing or in-  
11 dustrial processing, such as a petro-  
12 chemical or synthetic fuel company, a man-  
13 ufacturer of metals or chemicals, or a man-  
14 ufacturer of concrete;

15                           “(iii) an expert from the investment  
16 community;

17                           “(iv) a project management practi-  
18 tioner; and

19                           “(v) an environmental health and  
20 safety expert; and

21                   “(B) include a review of each demonstra-  
22 tion project under this subsection which shall  
23 include consideration of cost-competitiveness  
24 and other value streams, together with the tech-  
25 nology readiness level, the technical abilities

1 and qualifications of teams desiring to dem-  
2 onstrate a proposed advanced nuclear reactor  
3 technology, the capacity to meet cost-share re-  
4 quirements of the Department, if Federal fund-  
5 ing is provided, and environmental impacts;

6 “(4) for federally funded demonstration  
7 projects, enter into cost-sharing agreements with  
8 private sector partners in accordance with section  
9 988 for the conduct of activities relating to the re-  
10 search, development, and demonstration of advanced  
11 nuclear reactor designs under the program;

12 “(5) consult with—

13 “(A) National Laboratories;

14 “(B) institutions of higher education;

15 “(C) traditional end users (such as electric  
16 utilities);

17 “(D) potential end users of new tech-  
18 nologies (such as users of high-temperature  
19 process heat for manufacturing processing, in-  
20 cluding petrochemical or synthetic fuel compa-  
21 nies, manufacturers of metals or chemicals, or  
22 manufacturers of concrete);

23 “(E) developers of advanced nuclear reac-  
24 tor technology;

1           “(F) environmental and public health and  
2           safety experts; and

3           “(G) non-proliferation experts;

4           “(6) seek to ensure that the demonstration  
5           projects carried out under this section do not cause  
6           any delay in the progress of an advanced reactor  
7           project by private industry and the Department of  
8           Energy that is underway as of the date of enactment  
9           of this section;

10          “(7) establish a streamlined approval process  
11          for expedited contracting between awardees and the  
12          Department;

13          “(8) identify technical challenges to candidate  
14          technologies;

15          “(9) support near-term research and develop-  
16          ment to address the highest risk technical challenges  
17          to the successful demonstration of a selected ad-  
18          vanced reactor technology, in accordance with—

19                  “(A) paragraph (8);

20                  “(B) the research and development activi-  
21                  ties under section 952(b); and

22                  “(C) the research and development activi-  
23                  ties under section 958; and

24          “(10) establish such technology advisory work-  
25          ing groups as the Secretary determines to be appro-

1        appropriate to advise the Secretary regarding the tech-  
2        nical challenges identified under paragraph (8) and  
3        the scope of research and development programs to  
4        address the challenges, in accordance with para-  
5        graph (9), to be comprised of—

6                “(A) private sector advanced nuclear reac-  
7                tor technology developers;

8                “(B) technical experts with respect to the  
9                relevant technologies at institutions of higher  
10              education;

11              “(C) technical experts at the National  
12              Laboratories;

13              “(D) environmental and public health and  
14              safety experts;

15              “(E) non-proliferation experts; and

16              “(F) any other entities the Secretary de-  
17              termines appropriate.

18        “(d)        MILESTONE-BASED        DEMONSTRATION  
19        PROJECTS.—The Secretary may carry out demonstration  
20        projects under subsection (c) as a milestone-based dem-  
21        onstration project under section 8304 of the Clean Econ-  
22        omy Jobs and Innovation Act.

23        “(e)        NONDUPLICATION.—Entities may not receive  
24        funds under this program if receiving funds from another

1 reactor demonstration program at the Department in the  
2 same fiscal year.

3 “(f) AUTHORIZATION OF APPROPRIATIONS.—There  
4 are authorized to be appropriated to the Secretary to carry  
5 out the program under this subsection—

6 “(1) \$530,000,000 for fiscal year 2021;

7 “(2) \$680,000,000 for fiscal year 2022;

8 “(3) \$680,000,000 for fiscal year 2023;

9 “(4) \$680,000,000 for fiscal year 2024; and

10 “(5) \$680,000,000 for fiscal year 2025.”.

11 (2) TABLE OF CONTENTS.—The table of con-  
12 tents of the Energy Policy Act of 2005 (Public Law  
13 109–58; 119 Stat. 594) is amended—

14 (A) in the items relating to sections 957,  
15 958, and 959, by inserting “Sec.” before “9”  
16 each place it appears; and

17 (B) by inserting after the item relating to  
18 section 959 the following:

“Sec. 959A. Advanced nuclear reactor research, development, demonstration,  
and commercial application program.”.

19 (h) INTERNATIONAL NUCLEAR ENERGY COOPERA-  
20 TION.—

21 (1) IN GENERAL.—Subtitle E of title IX of the  
22 Energy Policy Act of 2005 (42 U.S.C. 16271 et  
23 seq.), as amended by subsection (g), is further  
24 amended by adding at the end the following:

1 **“SEC. 959B. INTERNATIONAL NUCLEAR ENERGY COOPERA-**  
2 **TION.**

3 “(a) IN GENERAL.—The Secretary, in consultation  
4 with international regulators, shall carry out a program—

5 “(1) to coordinate international efforts with re-  
6 spect to research, development, demonstration, and  
7 commercial application of nuclear technology that  
8 supports diplomatic, nonproliferation, climate, and  
9 international economic objectives for the safe, se-  
10 cure, and peaceful use of such technology; and

11 “(2) to develop collaboration initiatives with re-  
12 spect to such efforts with a variety of countries  
13 through—

14 “(A) research and development agree-  
15 ments;

16 “(B) the development of coordinated action  
17 plans; and

18 “(C) new or existing multilateral coopera-  
19 tion commitments including—

20 “(i) the International Framework for  
21 Nuclear Energy Cooperation;

22 “(ii) the Generation IV International  
23 Forum;

24 “(iii) the International Atomic Energy  
25 Agency;

1                   “(iv) the Organization for Economic  
2                   Co-operation and Development Nuclear  
3                   Energy Agency; and

4                   “(v) any other international collabo-  
5                   rative effort with respect to advanced nu-  
6                   clear reactor operations and safety.

7           “(b) REQUIREMENTS.—The program under sub-  
8 section (a) shall be carried out to facilitate, to the max-  
9 imum extent practicable, workshops and expert-based ex-  
10 changes to engage industry, stakeholders, and foreign gov-  
11 ernments regarding international civil nuclear issues, such  
12 as training, financing, safety, and options for multi-  
13 national cooperation on used nuclear fuel disposal.”.

14           (2) TABLE OF CONTENTS.—The table of con-  
15 tents of the Energy Policy Act of 2005 (Public Law  
16 109–58; 119 Stat. 594), as amended by subsection  
17 (g), is further amended by inserting after the item  
18 relating to section 959A the following:

“Sec. 959B. International nuclear energy cooperation.”.

19 **SEC. 4203. NUCLEAR ENERGY BUDGET PLAN.**

20           Section 959 of the Energy Policy Act of 2005 (42  
21 U.S.C. 16279) is amended—

22           (1) by amending subsection (b) to read as fol-  
23 lows:

24           “(b) BUDGET PLAN ALTERNATIVE 1.—One of the  
25 budget plans submitted under subsection (a) shall assume

1 constant annual funding for 10 years at the appropriated  
2 level for the current fiscal year for the civilian nuclear en-  
3 ergy research and development of the Department.”; and

4 (2) by inserting after subsection (d) the fol-  
5 lowing:

6 “(e) UPDATES.—Not less frequently than once every  
7 2 years, the Secretary shall submit to the Committee on  
8 Science, Space, and Technology of the House of Rep-  
9 resentatives and the Committee on Energy and Natural  
10 Resources of the Senate updated 10-year budget plans  
11 which shall identify, and provide a justification for, any  
12 major deviation from a previous budget plan submitted  
13 under this section.”.

14 **SEC. 4204. ORGANIZATION AND ADMINISTRATION OF PRO-**  
15 **GRAMS.**

16 (a) IN GENERAL.—Subtitle E of title IX of the En-  
17 ergy Policy Act of 2005 (42 U.S.C. 16271 et seq.), as  
18 amended by this Act, is further amended by adding at the  
19 end of the following:

20 **“SEC. 959C. ORGANIZATION AND ADMINISTRATION OF PRO-**  
21 **GRAMS.**

22 “(a) COORDINATION.—In carrying out this subtitle,  
23 the Secretary shall coordinate activities, and effectively  
24 manage crosscutting research priorities across programs



1 of the Department and other relevant Federal agencies,  
2 including the National Laboratories.

3 “(b) COLLABORATION.—

4 “(1) IN GENERAL.—In carrying out this sub-  
5 title, the Secretary shall collaborate with industry,  
6 National Laboratories, other relevant Federal agen-  
7 cies, institutions of higher education, including mi-  
8 nority-serving institutions and research reactors,  
9 Tribal entities, including Alaska Native Corpora-  
10 tions, and international bodies with relevant sci-  
11 entific and technical expertise.

12 “(2) PARTICIPATION.—To the extent prac-  
13 ticable, the Secretary shall encourage research  
14 projects that promote collaboration between entities  
15 specified in paragraph (1).

16 “(c) DISSEMINATION OF RESULTS AND PUBLIC  
17 AVAILABILITY.—The Secretary shall, except to the extent  
18 protected from disclosure under section 552(b) of title 5,  
19 United States Code, publish the results of projects sup-  
20 ported under this subtitle through Department websites,  
21 reports, databases, training materials, and industry con-  
22 ferences, including information discovered after the com-  
23 pletion of such projects.

24 “(d) EDUCATION AND OUTREACH.—In carrying out  
25 the activities described in this subtitle, the Secretary shall

1 support education and outreach activities to disseminate  
2 information and promote public understanding of nuclear  
3 energy.

4 “(e) TECHNICAL ASSISTANCE.—In carrying out this  
5 subtitle, for the purposes of supporting technical, non-  
6 hardware, and information-based advances in nuclear en-  
7 ergy development and operations, the Secretary shall also  
8 conduct technical assistance and analysis activities, includ-  
9 ing activities that support commercial application of nu-  
10 clear energy in rural, Tribal, and low-income communities.

11 “(f) PROGRAM REVIEW.—At least annually, all pro-  
12 grams in this subtitle shall be subject to an annual review  
13 by the Nuclear Energy Advisory Committee of the Depart-  
14 ment or other independent entity, as appropriate.

15 “(g) SENSITIVE INFORMATION.—The Secretary shall  
16 not publish any information generated under this subtitle  
17 that is detrimental to national security, as determined by  
18 the Secretary.”.

19 (b) TABLE OF CONTENTS.—The table of contents of  
20 the Energy Policy Act of 2005 (Public Law 109–58; 119  
21 Stat. 594), as amended by this Act, is further amended  
22 by inserting after the item relating to section 959B the  
23 following:

“Sec. 959C. Organization and administration of programs.”.

1           **Subtitle C—Defending Against**  
2                           **Rosatom Exports**

3   **SEC. 4301. EXTENSION AND EXPANSION OF LIMITATIONS**  
4                           **ON IMPORTATION OF URANIUM FROM RUS-**  
5                           **SIAN FEDERATION.**

6           (a) IN GENERAL.—Section 3112A of the USEC Pri-  
7   vatization Act (42 U.S.C. 2297h–10a) is amended—

8                   (1) in subsection (a)—

9                           (A) by redesignating paragraph (7) as  
10                           paragraph (8); and

11                           (B) by inserting after paragraph (6) the  
12                           following:

13                           “(7) SUSPENSION AGREEMENT.—The term  
14                           ‘Suspension Agreement’ has the meaning given that  
15                           term in section 3102(13).”;

16                   (2) in subsection (b)—

17                           (A) by striking “United States to support”  
18                           and inserting the following: “United States—

19                           “(1) to support”;

20                           (B) by striking the period at the end and  
21                           inserting a semicolon; and

22                           (C) by adding at the end the following:

23                           “(2) to reduce reliance on uranium imports in  
24                           order to protect essential national security interests  
25                           of the United States;

1           “(3) to revive and strengthen the supply chain  
2 for nuclear fuel produced and used in the United  
3 States; and

4           “(4) to expand production of nuclear fuel in the  
5 United States.”; and

6           (3) in subsection (c)—

7                 (A) in paragraph (2)—

8                     (i) in subparagraph (A)—

9                             (I) by striking “After” and in-  
10                             serting “Except as provided in sub-  
11                             paragraph (B), after”;

12                             (II) in clause (vi), by striking “;  
13                             and” and inserting a semicolon;

14                             (III) in clause (vii), by striking  
15                             the period at the end and inserting a  
16                             semicolon; and

17                             (IV) by adding at the end the fol-  
18                             lowing:

19                             “(viii) in calendar year 2021, 596,682  
20                             kilograms;

21                             “(ix) in calendar year 2022, 489,617  
22                             kilograms;

23                             “(x) in calendar year 2023, 578,877  
24                             kilograms;

1                   “(xi) in calendar year 2024, 476,536  
2 kilograms;  
3                   “(xii) in calendar year 2025, 470,376  
4 kilograms;  
5                   “(xiii) in calendar year 2026, 464,183  
6 kilograms;  
7                   “(xiv) in calendar year 2027, 459,083  
8 kilograms;  
9                   “(xv) in calendar year 2028, 344,312  
10 kilograms;  
11                  “(xvi) in calendar year 2029, 340,114  
12 kilograms;  
13                  “(xvii) in calendar year 2030,  
14 332,141 kilograms;  
15                  “(xviii) in calendar year 2031,  
16 328,862 kilograms;  
17                  “(xix) in calendar year 2032, 322,255  
18 kilograms;  
19                  “(xx) in calendar year 2033, 317,536  
20 kilograms;  
21                  “(xxi) in calendar year 2034, 298,088  
22 kilograms;  
23                  “(xxii) in calendar year 2035,  
24 294,511 kilograms;

1           “(xxiii) in calendar year 2036,  
2           286,066 kilograms;

3           “(xxiv) in calendar year 2037,  
4           281,272 kilograms;

5           “(xxv) in calendar year 2038, 277,124  
6           kilograms;

7           “(xxvi) in calendar year 2039,  
8           277,124 kilograms; and

9           “(xxvii) in calendar year 2040,  
10          267,685 kilograms.”;

11          (ii) by redesignating subparagraph  
12          (B) as subparagraph (C); and

13          (iii) by inserting after subparagraph  
14          (A) the following:

15          “(B) ADMINISTRATION.—

16                 “(i) IN GENERAL.—The Secretary of  
17                 Commerce shall administer the import lim-  
18                 itations described in subparagraph (A) in  
19                 accordance with the provisions of the Sus-  
20                 pension Agreement, including—

21                         “(I) the limitations on sales of  
22                         enriched uranium product and separa-  
23                         tive work units plus conversion;

24                         “(II) the requirements for nat-  
25                         ural uranium returned feed associated

1 with sales of enrichment, or enrich-  
2 ment plus conversion from the Rus-  
3 sian Federation; and

4 “(III) any other provisions of the  
5 Suspension Agreement.

6 “(ii) EFFECT OF TERMINATION OF  
7 SUSPENSION AGREEMENT.—Clause (i)  
8 shall remain in effect if the Suspension  
9 Agreement is terminated.”;

10 (B) in paragraph (3)—

11 (i) in subparagraph (A), by striking  
12 the semicolon and inserting “; or”;

13 (ii) in subparagraph (B), by striking  
14 “; or” and inserting a period; and

15 (iii) by striking subparagraph (C);

16 (C) in paragraph (5)—

17 (i) in subparagraph (A)—

18 (I) by striking “reference data”  
19 and all that follows through “2019”  
20 and inserting the following: “Lower  
21 Scenario data in the 2019 report of  
22 the World Nuclear Association enti-  
23 tled ‘The Nuclear Fuel Report: Global  
24 Scenarios for Demand and Supply  
25 Availability 2019–2040’. In each of

1 calendar years 2023, 2029, and  
2 2035”; and

3 (II) by striking “report or a sub-  
4 sequent report” and inserting “re-  
5 port”;

6 (ii) by redesignating subparagraphs  
7 (B) and (C) as subparagraphs (C) and  
8 (D), respectively;

9 (iii) by inserting after subparagraph  
10 (A) the following:

11 “(B) REPORT REQUIRED.—Not later than  
12 one year after the date of the enactment of the  
13 Clean Economy Jobs and Innovation Act, and  
14 every 3 years thereafter, the Secretary shall  
15 submit to Congress a report that includes—

16 “(i) a recommendation on the use of  
17 all publicly available data to ensure accu-  
18 rate forecasting by scenario data to com-  
19 port to actual demand for low-enriched  
20 uranium for nuclear reactors in the United  
21 States; and

22 “(ii) an identification of the steps to  
23 be taken to adjust the import limitations  
24 described in paragraph (2)(A) based on the  
25 most accurate scenario data.”; and



1 (iv) in subparagraph (D), as redesignig-  
2 nated by clause (ii), by striking “subpara-  
3 graph (B)” and inserting “subparagraph  
4 (C)”;

5 (D) in paragraph (9), by striking “2020”  
6 and inserting “2040”;

7 (E) in paragraph (12)(B), by inserting “or  
8 the Suspension Agreement” after “the Russian  
9 HEU Agreement”; and

10 (F) by striking “(2)(B)” each place it ap-  
11 pears and inserting “(2)(C)”.

12 (b) APPLICABILITY.—The amendments made by sub-  
13 section (a) apply with respect to uranium imported from  
14 the Russian Federation on or after January 1, 2021.

15 **Subtitle D—FUSION ENERGY**  
16 **RESEARCH**

17 **SEC. 4401. FUSION ENERGY RESEARCH.**

18 (a) PROGRAM.—Section 307 of the Department of  
19 Energy Research and Innovation Act (42 U.S.C. 18645)  
20 is amended—

21 (1) by redesignating subsections (a) through (g)  
22 as subsections (b) through (h), respectively;

23 (2) by inserting before subsection (b), as so re-  
24 designated, the following:

1           “(a) PROGRAM.—As part of the activities authorized  
2 under section 209 of the Department of Energy Organiza-  
3 tion Act (42 U.S.C. 7139) and section 972 of the Energy  
4 Policy Act of 2005 (42 U.S.C. 16312), the Director shall  
5 carry out a fusion energy sciences research and enabling  
6 technology development program to effectively address the  
7 scientific and engineering challenges to building a cost  
8 competitive fusion power plant and to establish a competi-  
9 tive fusion power industry in the United States. As part  
10 of this program, the Director shall carry out research ac-  
11 tivities to expand the fundamental understandings of plas-  
12 mas and matter at very high temperatures and densities  
13 for fusion applications and for other plasma science appli-  
14 cations.”;

15           (3) by amending subsection (d) to read as fol-  
16 lows:

17           “(d) INERTIAL FUSION RESEARCH AND DEVELOP-  
18 MENT.—

19           “(1) IN GENERAL.—The Director shall carry  
20 out a program of research and technology develop-  
21 ment in inertial fusion for energy applications, in-  
22 cluding ion beam, laser, and pulsed power fusion  
23 systems.

24           “(2) ACTIVITIES.—As part of the program de-  
25 scribed in paragraph (1), the Director shall support

1 activities at and partnerships with universities and  
2 the National Laboratories to—

3 “(A) develop novel target designs;

4 “(B) support modeling of various inertial  
5 fusion energy concepts and systems;

6 “(C) develop diagnostic tools; and

7 “(D) improve inertial fusion energy driver  
8 technologies.

9 “(3) AUTHORIZATION OF APPROPRIATIONS.—

10 Out of funds authorized to be appropriated under  
11 subsection (o), there are authorized to be appro-  
12 priated to the Secretary to carry out the activities  
13 described in subsection (d)—

14 “(A) \$25,000,000 for fiscal year 2021;

15 “(B) \$26,250,000 for fiscal year 2022;

16 “(C) \$27,563,000 for fiscal year 2023;

17 “(D) \$28,941,000 for fiscal year 2024;

18 and

19 “(E) \$30,377,000 for fiscal year 2025.”;

20 (4) by amending subsection (e) to read as fol-  
21 lows:

22 “(e) ALTERNATIVE AND ENABLING CONCEPTS.—

23 “(1) IN GENERAL.—The Director shall support  
24 research and development activities and facility oper-  
25 ations at institutions of higher education, National

1 Laboratories, and private facilities in the United  
2 States for a portfolio of alternative and enabling fu-  
3 sion energy concepts that may provide solutions to  
4 significant challenges to the establishment of a com-  
5 mercial magnetic fusion power plant, prioritized  
6 based on the ability of the United States to play a  
7 leadership role in the international fusion research  
8 community.

9 “(2) ACTIVITIES.—Fusion energy concepts and  
10 activities explored under paragraph (1) may in-  
11 clude—

12 “(A) alternative fusion energy concepts, in-  
13 cluding—

14 “(i) advanced stellarator concepts;

15 “(ii) non-tokamak confinement con-  
16 figurations operating at low magnetic  
17 fields;

18 “(iii) magnetized target fusion energy  
19 concepts; or

20 “(iv) other promising fusion energy  
21 concepts identified by the Director;

22 “(B) enabling fusion technology develop-  
23 ment activities, including—

1                   “(i) high magnetic field approaches  
2                   facilitated by high temperature super-  
3                   conductors;

4                   “(ii) liquid metals to address issues  
5                   associated with fusion plasma interactions  
6                   with the inner wall of the encasing device;  
7                   and

8                   “(iii) advanced blankets for heat man-  
9                   agement and fuel breeding; and

10                  “(C) advanced scientific computing activi-  
11                  ties.

12                  “(3) INNOVATION NETWORK FOR FUSION EN-  
13                  ERGY.—

14                   “(A) IN GENERAL.—The Secretary, acting  
15                   through the Office of Science, shall support a  
16                   program to provide fusion energy researchers  
17                   with access to scientific and technical resources  
18                   and expertise at facilities supported by the De-  
19                   partment, including such facilities at National  
20                   Laboratories and universities, to advance inno-  
21                   vative fusion energy technologies toward com-  
22                   mercial application.

23                   “(B) AWARDS.—Financial assistance  
24                   under the program established in subsection (a)

1           may be in the form of grants, vouchers, equip-  
2           ment loans, or contracts to private entities.

3           “(3) AUTHORIZATION OF APPROPRIATIONS.—

4           Out of funds authorized to be appropriated under  
5           subsection (o), there are authorized to be appro-  
6           priated to the Secretary to carry out the activities  
7           described in subsection (e)—

8                   “(A) \$100,000,000 for fiscal year 2021;

9                   “(B) \$105,000,000 for fiscal year 2022;

10                   “(C) \$110,250,000 for fiscal year 2023;

11                   “(D) \$115,763,000 for fiscal year 2024;

12           and

13                   “(E) \$121,551,000 for fiscal year 2025.”;

14           and

15           (5) by adding at the end the following:

16           “(i) MILESTONE-BASED DEVELOPMENT PROGRAM.—

17                   “(1) IN GENERAL.—Using the authority of the  
18           Secretary under section 646(g) of the Department of  
19           Energy Organization Act (42 U.S.C. 7256(g)), not-  
20           withstanding paragraph (10) of such section, the  
21           Secretary shall establish, within 3 months of enact-  
22           ment of this Act, a milestone-based fusion energy  
23           development program that requires projects to meet  
24           particular technical milestones before a participant  
25           is awarded funds by the Department.

1           “(2) PURPOSE.—The purpose of the program  
2           established by paragraph (1) shall be to support the  
3           development of a U.S.-based fusion power industry  
4           through the research and development of tech-  
5           nologies that will enable the construction of new full-  
6           scale fusion systems capable of demonstrating sig-  
7           nificant improvements in the performance of such  
8           systems, as defined by the Secretary, within 10  
9           years of the enactment of this Act.

10           “(3) ELIGIBILITY.—Any entity is eligible to  
11           participate in the program provided that the Under  
12           Secretary has deemed it as having the necessary re-  
13           sources and expertise.

14           “(4) REQUIREMENTS.—In carrying out the  
15           milestone-based program under paragraph (1), the  
16           Secretary shall, for each relevant project—

17                   “(A) request proposals from eligible enti-  
18                   ties, as determined by the Secretary, that in-  
19                   clude proposed technical milestones, including  
20                   estimated project timelines and total costs;

21                   “(B) set milestones based on a rigorous  
22                   technical review process;

23                   “(C) award funding of a predetermined  
24                   amount to projects that successfully meet pro-  
25                   posed milestones under paragraph (1), or for

1 expenses deemed reimbursable by the Secretary,  
2 in accordance with terms negotiated for an indi-  
3 vidual award; and

4 “(D) communicate regularly with selected  
5 eligible entities and, if the Secretary deems ap-  
6 propriate, exercise small amounts of flexibility  
7 for technical milestones as projects mature.

8 “(5) AWARDS.—For the program established  
9 under paragraph (1)—

10 “(A) an award recipient shall be respon-  
11 sible for all costs until milestones are achieved,  
12 or reimbursable expenses are reviewed and  
13 verified by the Department; and

14 “(B) should an awardee not meet the mile-  
15 stones described in paragraph (4), the Sec-  
16 retary may end the partnership with an award  
17 recipient and use the remaining funds in the  
18 ended agreement for new or existing projects  
19 carried out under this section.

20 “(6) APPLICATIONS.—Any project proposal sub-  
21 mitted to the program under paragraph (1) shall be  
22 evaluated based upon its scientific, technical, and  
23 business merits through a peer-review process, which  
24 shall include reviewers with appropriate expertise  
25 from the private sector, the investment community,



1 and experts in the science and engineering of fusion  
2 and plasma physics.

3 “(7) PROJECT MANAGEMENT.—In carrying out  
4 projects under this program and assessing the com-  
5 pletion of their milestones in accordance with para-  
6 graph (4), the Secretary shall consult with experts  
7 that represent diverse perspectives and professional  
8 experiences, including those from the private sector,  
9 to ensure a complete and thorough review.

10 “(8) PROGRAMMATIC REVIEW.—Not later than  
11 4 years after the Secretary has established 3 mile-  
12 stones under this program, the Secretary shall enter  
13 into a contractual arrangement with the National  
14 Academy of Sciences to review and provide a report  
15 describing the findings of this review to the House  
16 Committee on Science, Space, and Technology and  
17 the Senate Committee on Energy and Natural Re-  
18 sources on the program established under this para-  
19 graph (1) that assesses—

20 “(A) the benefits and drawbacks of a mile-  
21 stone-based fusion program as compared to tra-  
22 ditional program structure funding models at  
23 the Department;

24 “(B) lessons-learned from program oper-  
25 ations; and

1           “(C) any other matters the Secretary de-  
2           termines regarding the program.

3           “(9) ANNUAL REPORT.—As part of the annual  
4           budget request submitted for each fiscal year, the  
5           Secretary shall provide the House Committee on  
6           Science, Space, and Technology and the Senate  
7           Committee on Energy and Natural Resources a re-  
8           port describing partnerships supported by the pro-  
9           gram established under paragraph (1) during the  
10          previous fiscal year.

11          “(10) AUTHORIZATIONS FOR APPROPRIA-  
12          TIONS.—Out of funds authorized to be appropriated  
13          under subsection (o), there are authorized to be ap-  
14          propriated to the Secretary to carry out the activi-  
15          ties described in subsection (i), to remain available  
16          until expended—

17                   “(A) \$45,000,000 for fiscal year 2021;

18                   “(B) \$110,000,000 for fiscal year 2022;

19                   “(C) \$140,000,000 for fiscal year 2023;

20                   “(D) \$110,000,000 for fiscal year 2024;

21                   and

22                   “(E) \$45,000,000 for fiscal year 2025.

23          “(j) FUSION REACTOR SYSTEM DESIGN.—The Direc-  
24          tor shall support research and development activities to

1 design future fusion reactor systems and examine and ad-  
2 dress the technical drivers for the cost of these systems.

3       “(k) GENERAL PLASMA SCIENCE AND APPLICA-  
4 TIONS.—The Director shall support research in general  
5 plasma science and high energy density physics that ad-  
6 vance the understanding of the scientific community of  
7 fundamental properties and complex behavior of matter to  
8 control and manipulate plasmas for a broad range of ap-  
9 plications, including support for research relevant to ad-  
10 vancements in chip manufacturing and microelectronics.

11       “(l) SENSE OF CONGRESS.—It is the sense of Con-  
12 gress that the United States should support a robust, di-  
13 verse program in addition to providing sufficient support  
14 to, at a minimum, meet its commitments to ITER and  
15 maintain the schedule of the project as determined by the  
16 Secretary in coordination with the ITER Organization at  
17 the time of the enactment of this Act. It is further the  
18 sense of Congress that developing the scientific basis for  
19 fusion, providing research results key to the success of  
20 ITER, and training the next generation of fusion sci-  
21 entists are of critical importance to the United States and  
22 should in no way be diminished by participation of the  
23 United States in the ITER project.

24       “(m) INTERNATIONAL COLLABORATION.—The Direc-  
25 tor shall—

1           “(1) as practicable and in coordination with  
2 other appropriate Federal agencies as necessary, en-  
3 sure the access of United States researchers to the  
4 most advanced fusion research facilities and research  
5 capabilities in the world, including ITER;

6           “(2) to the maximum extent practicable, con-  
7 tinue to leverage United States participation ITER,  
8 and prioritize expanding international partnerships  
9 and investments in current and future fusion re-  
10 search facilities within the United States; and

11           “(3) to the maximum extent practicable,  
12 prioritize engagement in collaborative efforts in sup-  
13 port of future international facilities that would pro-  
14 vide access to the most advanced fusion research fa-  
15 cilities in the world to United States researchers.

16           “(n) FISSION AND FUSION RESEARCH COORDINA-  
17 TION REPORT.—

18           “(1) IN GENERAL.—Not later than 6 months  
19 after the date of enactment of this Act, the Sec-  
20 retary shall transmit to Congress a report address-  
21 ing opportunities for coordinating fusion energy re-  
22 search and development activities between the Office  
23 of Nuclear Energy and the Office of Science.

1           “(2) COMPONENTS.—The report shall assess  
2 opportunities for collaboration on research and de-  
3 velopment of—

4           “(A) liquid metals to address issues associ-  
5 ated with fusion plasma interactions with the  
6 inner wall of the encasing device and other com-  
7 ponents within the reactor;

8           “(B) immersion blankets for heat manage-  
9 ment and fuel breeding;

10          “(C) technologies and methods for instru-  
11 mentation and control;

12          “(D) computational methods and codes for  
13 system operation and maintenance;

14          “(E) codes and standard development;

15          “(F) radioactive waste handling;

16          “(G) radiological safety;

17          “(H) potential for non-electricity genera-  
18 tion applications; and

19          “(I) any other overlapping priority as iden-  
20 tified by the Director of the Office of Science  
21 or the Assistant Secretary of Energy for Nu-  
22 clear Energy.

23          “(3) IMPLEMENTATION.—The Secretary shall  
24 implement the recommendations made by the report

1 directed in this section upon transmission of the re-  
2 port to Congress.

3 “(o) AUTHORIZATION OF APPROPRIATIONS.—There  
4 are authorized to be appropriated to the Secretary to carry  
5 out the activities described in this section—

6 “(1) \$976,000,000 for fiscal year 2021;

7 “(2) \$1,033,000,000 for fiscal year 2022;

8 “(3) \$1,104,000,000 for fiscal year 2023;

9 “(4) \$1,181,000,000 for fiscal year 2024; and

10 “(5) \$1,264,000,000 for fiscal year 2025.”.

11 (b) ITER.—Section 972(c) of the Energy Policy Act  
12 of 2005 (42 U.S.C. 16312) is amended to read as follows:

13 “(c) UNITED STATES PARTICIPATION IN ITER.—

14 “(1) IN GENERAL.—There is authorized United  
15 States participation in the construction and oper-  
16 ations of the ITER project, as agreed to under the  
17 April 25, 2007 ‘Agreement on the Establishment of  
18 the ITER International Fusion Energy Organization  
19 for the Joint Implementation of the ITER Project’.  
20 The Director shall coordinate and carry out the re-  
21 sponsibilities of the United States with respect to  
22 this Agreement.

23 “(2) REPORT.—Not later than 1 year after the  
24 date of enactment of this Act, the Secretary shall  
25 submit to Congress a report providing an assessment

1 of the most recent schedule for ITER that has been  
2 approved by the ITER Council.

3 “(3) AUTHORIZATION OF APPROPRIATIONS.—  
4 Out of funds authorized to be appropriated under  
5 section 307(o) of the Department of Energy Re-  
6 search and Innovation Act (42 U.S.C. 18645), there  
7 shall be made available to the Secretary to carry out  
8 the construction of ITER—

9 “(A) \$374,000,000 for fiscal year 2021;  
10 and

11 “(B) \$300,000,000 for each of fiscal years  
12 2022 through 2025.”.

13 **TITLE V—ELECTRIC GRID AND**  
14 **CYBERSECURITY**

15 **Subtitle A—Electric Grid**

16 **PART 1—21ST CENTURY POWER GRID**

17 **SEC. 5101. 21ST CENTURY POWER GRID.**

18 (a) IN GENERAL.—The Secretary of Energy shall es-  
19 tablish a program to provide financial assistance to eligible  
20 partnerships to carry out projects related to the mod-  
21 ernization of the electric grid, including—

22 (1) projects for the deployment of technologies  
23 to improve monitoring of, advanced controls for, and  
24 prediction of performance of, a distribution system;  
25 and

1           (2) projects related to transmission system  
2           planning and operation.

3           (b) ELIGIBLE PROJECTS.—Projects for which an eli-  
4           gible partnership may receive financial assistance under  
5           subsection (a)—

6           (1) shall be designed to improve the resiliency,  
7           performance, or efficiency of the electric grid, while  
8           ensuring the continued provision of safe, secure, reli-  
9           able, and affordable power;

10          (2) may be designed to deploy a new product or  
11          technology that could be used by customers of an  
12          electric utility; and

13          (3) shall demonstrate—

14                (A) secure integration and management of  
15                energy resources, including through distributed  
16                energy generation, combined heat and power,  
17                microgrids, energy storage, electric vehicles, en-  
18                ergy efficiency, demand response, or control-  
19                lable loads; or

20                (B) secure integration and interoperability  
21                of communications and information technologies  
22                related to the electric grid.

23          (c) CYBERSECURITY PLAN.—Each project carried  
24          out with financial assistance provided under subsection (a)  
25          shall include the development of a cybersecurity plan writ-



1 ten in accordance with guidelines developed by the Sec-  
2 retary of Energy.

3 (d) PRIVACY EFFECTS ANALYSIS.—Each project car-  
4 ried out with financial assistance provided under sub-  
5 section (a) shall include a privacy effects analysis that  
6 evaluates the project in accordance with the Voluntary  
7 Code of Conduct of the Department of Energy, commonly  
8 known as the “DataGuard Energy Data Privacy Pro-  
9 gram”, or the most recent revisions to the privacy pro-  
10 gram of the Department.

11 (e) DEFINITIONS.—In this section:

12 (1) ELIGIBLE PARTNERSHIP.—The term “eligi-  
13 ble partnership” means a partnership consisting of  
14 two or more entities, which—

15 (A) may include—

16 (i) any institution of higher education;

17 (ii) a National Laboratory;

18 (iii) a State, territory, or a local gov-  
19 ernment or other public body created by or  
20 pursuant to State law;

21 (iv) an Indian Tribe;

22 (v) a Federal power marketing admin-  
23 istration; or

24 (vi) an entity that develops and pro-  
25 vides technology; and

1 (B) shall include at least one of any of—

2 (i) an electric utility;

3 (ii) a Regional Transmission Organi-  
4 zation; or

5 (iii) an Independent System Operator.

6 (2) ELECTRIC UTILITY.—The term “electric  
7 utility” has the meaning given that term in section  
8 3(22) of the Federal Power Act (16 U.S.C.  
9 796(22)), except that such term does not include an  
10 entity described in subparagraph (B) of such sec-  
11 tion.

12 (3) FEDERAL POWER MARKETING ADMINISTRA-  
13 TION.—The term “Federal power marketing admin-  
14 istration” means the Bonneville Power Administra-  
15 tion, the Southeastern Power Administration, the  
16 Southwestern Power Administration, or the Western  
17 Area Power Administration.

18 (4) INDEPENDENT SYSTEM OPERATOR; RE-  
19 GIONAL TRANSMISSION ORGANIZATION.—The terms  
20 “Independent System Operator” and “Regional  
21 Transmission Organization” have the meanings  
22 given those terms in section 3 of the Federal Power  
23 Act (16 U.S.C. 796).

24 (5) INSTITUTION OF HIGHER EDUCATION.—The  
25 term “institution of higher education” has the

1 meaning given that term in section 101(a) of the  
2 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

3 (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
4 authorized to be appropriated to the Secretary of Energy  
5 to carry out this section \$700,000,000 for each of fiscal  
6 years 2021 through 2025, to remain available until ex-  
7 pended.

8 **SEC. 5102. DEFINITIONS.**

9 In sections 5103 and 5104:

10 (1) **ADVANCED ENERGY TECHNOLOGY.**—The  
11 term “advanced energy technology” means any en-  
12 ergy generation, load-modifying transmission, or  
13 storage technology with zero or minimal greenhouse  
14 gas emissions that is connected—

15 (A) to the distribution system;

16 (B) to the transmission system; or

17 (C) behind the meter.

18 (2) **ADVISORY COMMITTEE.**—The term “Advi-  
19 sory Committee” means the advisory committee es-  
20 tablished under section 5103(a)(2)(A).

21 (3) **COMMISSION.**—The term “Commission”  
22 means the Federal Energy Regulatory Commission.

23 (4) **ELECTRIC UTILITY.**—The term “electric  
24 utility” has the meaning given the term in section  
25 3 of the Federal Power Act (16 U.S.C. 796).

1           (5) GRID OPERATOR.—The term “grid oper-  
2           ator” means—

3                   (A) a Transmission Organization, includ-  
4           ing—

5                           (i) an Independent System Operator;

6                   and

7                           (ii) a Regional Transmission Organi-  
8           zation;

9                   (B) a public utility; and

10                   (C) an electric utility.

11           (6) INDEPENDENT SYSTEM OPERATOR.—The  
12           term “Independent System Operator” has the mean-  
13           ing given the term in section 3 of the Federal Power  
14           Act (16 U.S.C. 796).

15           (7) INITIATIVE.—The term “Initiative” means  
16           the Advanced Energy Technology Research Initiative  
17           established under section 5103(a)(1).

18           (8) PUBLIC UTILITY.—The term “public util-  
19           ity” has the meaning given the term in section  
20           201(e) of the Federal Power Act (16 U.S.C. 824(e)).

21           (9) REGIONAL TRANSMISSION ORGANIZATION.—  
22           The term “Regional Transmission Organization”  
23           has the meaning given the term in section 3 of the  
24           Federal Power Act (16 U.S.C. 796).

1           (10) SECRETARY.—The term “Secretary”  
2 means the Secretary of Energy.

3           (11) TRANSMISSION ORGANIZATION.—The term  
4 “Transmission Organization” has the meaning given  
5 the term in section 3 of the Federal Power Act (16  
6 U.S.C. 796).

7 **SEC. 5103. POWER SYSTEM MODELING REFORM AND UP-**  
8 **DATES TO GRID SERVICES AND GRID OPER-**  
9 **ATOR SOFTWARE.**

10       (a) ADVANCED ENERGY TECHNOLOGY RESEARCH  
11 INITIATIVE.—

12           (1) IN GENERAL.—Not later than 90 days after  
13 the date of enactment of this Act, the Commission,  
14 in coordination with the Secretary, shall establish an  
15 initiative, to be known as the “Advanced Energy  
16 Technology Research Initiative”, to research and  
17 provide recommendations on how to improve the  
18 modeling, operational, and planning practices used  
19 for the bulk electric system.

20           (2) ADVISORY COMMITTEE.—

21           (A) IN GENERAL.—Not later than 180  
22 days after the date of enactment of this Act,  
23 the Commission, in coordination with the Sec-  
24 retary, shall establish an advisory committee to  
25 research, report on, and provide recommenda-

1           tions on matters relating to the Initiative, in-  
2           cluding—

3                   (i) whether the existing modeling and  
4                   long-term and short-term planning prac-  
5                   tices used by grid operators for power sys-  
6                   tems, including power markets, adequately  
7                   incorporate expected integration with re-  
8                   spect to advanced energy technologies;

9                   (ii) whether the methods used to de-  
10                  termine future transmission and capacity  
11                  needs and make reliability-related deter-  
12                  minations use the right data to adequately  
13                  forecast and model the integration of ad-  
14                  vanced energy technology into electric  
15                  power systems;

16                  (iii) whether the modeling and plan-  
17                  ning practices described in clause (i) and  
18                  the methods described in clause (ii) need to  
19                  be updated to better account for the inte-  
20                  gration of advanced energy technology into  
21                  electric power systems;

22                  (iv) any undue barriers to the adop-  
23                  tion of advanced energy technology pre-  
24                  sented by—

- 1 (I) existing modeling, oper-  
2 ational, and planning practices; and
- 3 (II) State estimation tools for  
4 planning and reliability;
- 5 (v) any need to develop emerging  
6 technologies or software for use in improv-  
7 ing modeling, planning, and operations in  
8 wholesale electricity markets to resolve  
9 computational or technical barriers to the  
10 adoption of advanced energy technology,  
11 including software relating to—
- 12 (I) the use of big data, artificial  
13 intelligence, and probabilistic methods  
14 to predict, in near-real-time—
- 15 (aa) energy generation from  
16 variable and distributed re-  
17 sources;
- 18 (bb) load profiles; and
- 19 (cc) consumption and con-  
20 gestion; and
- 21 (II) the use of artificial intel-  
22 ligence to improve the responsiveness  
23 of energy system operations;
- 24 (vi) whether existing and future grid  
25 reliability service definitions and the mod-

1 eling techniques, operational processes, and  
2 planning processes used to procure grid re-  
3 liability services—

4 (I) appropriately account for the  
5 technical and operational characteris-  
6 tics of advanced energy technologies;

7 (II) allow for the use of those ad-  
8 vanced energy technologies to provide  
9 grid reliability services; and

10 (III) include appropriate cyberse-  
11 curity safeguards; and

12 (vii) any rulemaking, technical con-  
13 ference, or policy statement that, in the de-  
14 termination of the Advisory Committee,  
15 the Commission should consider.

16 (B) COMPOSITION.—The Advisory Com-  
17 mittee shall consist of—

18 (i) not fewer than 1 representative  
19 from each of—

20 (I) the Commission;

21 (II) the Department of Energy;

22 (III) the Electric Reliability Or-  
23 ganization (as defined in section  
24 215(a) of the Federal Power Act (16  
25 U.S.C. 824o(a)));



1 (IV) an Independent System Op-  
2 erator or a Regional Transmission Or-  
3 ganization;

4 (V) an entity generating electric  
5 power that is not affiliated with a  
6 transmission-owning public or non-  
7 public utility;

8 (VI) an environmental organiza-  
9 tion with expertise on the bulk electric  
10 system; and

11 (VII) an institution of higher  
12 education with expertise on the bulk  
13 electric system;

14 (ii) not fewer than 2 designees of the  
15 National Association of Regulatory Utility  
16 Commissioners;

17 (iii) not fewer than 3 representatives  
18 from public utilities or electric utilities in  
19 areas not serviced by an Independent Sys-  
20 tem Operator or a Regional Transmission  
21 Organization; and

22 (iv) not fewer than 2 representatives  
23 from private and nonprofit associations  
24 with expertise in the development, deploy-

1           ment, and use of advanced energy tech-  
2           nologies.

3           (C) REPORTS.—Not later than 18 months  
4           after the date of enactment of this Act, and  
5           every 2 years thereafter for 10 years, the Advi-  
6           sory Committee shall submit to the Committee  
7           on Energy and Natural Resources of the Senate  
8           and the Committee on Energy and Commerce  
9           of the House of Representatives a report on the  
10          Initiative, including the findings or rec-  
11          ommendations of the Advisory Committee with  
12          respect to the matters described in clauses (i)  
13          through (vii) of subparagraph (A).

14          (b) ADVANCED ENERGY TECHNOLOGY AND GRID  
15          SERVICES PROGRAM.—

16           (1) IN GENERAL.—Not later than 180 days  
17           after the date of enactment of this Act, the Sec-  
18           retary shall establish a competitive financial assist-  
19           ance program, to be known as the “Advanced En-  
20           ergy Technology and Grid Services Program”, under  
21           which the Secretary shall enter into Federal finan-  
22           cial assistance agreements with eligible entities de-  
23           scribed in paragraph (2) for the purpose of increas-  
24           ing the market penetration of advanced energy tech-

1 nology through advanced research and development  
2 and pilot demonstrations of—

3 (A) software upgrades, including upgrades  
4 to the software platforms used to operate  
5 wholesale energy markets;

6 (B) updated power system planning;

7 (C) new power system (including power  
8 market) modeling platforms;

9 (D) cybersecurity and physical security up-  
10 grades; and

11 (E) resilience upgrades.

12 (2) ELIGIBLE ENTITIES DESCRIBED.—An eligi-  
13 ble entity referred to in paragraph (1) is—

14 (A) a grid operator;

15 (B) a State public utility commission;

16 (C) an energy cooperative;

17 (D) a municipality;

18 (E) an electric utility;

19 (F) a gas utility; or

20 (G) a State energy office.

21 (3) ELIGIBLE ACTIVITIES.—The Secretary may  
22 enter into a financial assistance agreement under  
23 this subsection for—

24 (A) software upgrades by grid operators;

1 (B) new power system (including power  
2 market) modeling platforms;

3 (C) enhancements to cybersecurity safe-  
4 guards; or

5 (D) updated power system (including  
6 power market) planning, updated power system  
7 (including power market) modeling, or updated  
8 reliability planning and modeling by grid opera-  
9 tors.

10 (4) COST SHARING.—In awarding Federal fi-  
11 nancial assistance (including grants, loans, and any  
12 other form of financial assistance) to fund eligible  
13 activities under this subsection, the Secretary shall  
14 require cost sharing in accordance with section 988  
15 of the Energy Policy Act of 2005 (42 U.S.C.  
16 16352).

17 (5) COORDINATION.—In carrying out the Ad-  
18 vanced Energy Technology and Grid Services Pro-  
19 gram established under this subsection, the Sec-  
20 retary, to the maximum extent practicable, shall co-  
21 ordinate with existing programs of the Department  
22 of Energy that focus on grid modernization efforts.

23 **SEC. 5104. ADVANCED ENERGY AND GRID EFFICIENCY**  
24 **STUDIES AND REPORT.**

25 (a) STUDIES.—

- 1           (1) ADVANCED ENERGY STUDY.—The Sec-  
2           retary, in coordination with the Commission, shall  
3           carry out a study of the costs and benefits to con-  
4           sumers of updating power system planning, mod-  
5           eling, and operational practices, including reliability-  
6           related planning, and energy market participation  
7           rules on advanced energy technologies and resources,  
8           including distributed energy technologies and re-  
9           sources, such as—
- 10                   (A) energy storage technologies;
  - 11                   (B) energy efficiency and transmission effi-  
12           ciency technologies;
  - 13                   (C) distributed solar and wind energy gen-  
14           eration;
  - 15                   (D) fuel cells;
  - 16                   (E) smart thermostats and smart building  
17           technologies;
  - 18                   (F) demand response technologies, includ-  
19           ing natural gas demand response technologies;
  - 20                   (G) advanced metering technologies;
  - 21                   (H) electric vehicles and electric vehicle  
22           charging infrastructure;
  - 23                   (I) any aggregation of the distributed en-  
24           ergy technologies and resources described in  
25           subparagraph (A) or (C); and

1           (J) any other advanced energy tech-  
2 nologies, as determined by the Secretary.

3           (2) GRID EFFICIENCY STUDY.—

4           (A) IN GENERAL.—The Secretary, in co-  
5 ordination with the Commission, shall carry out  
6 a study of the barriers and opportunities for  
7 advanced energy technologies that provide in-  
8 creased, more efficient, or more effective deliv-  
9 ery over the existing transmission network.

10          (B) REQUIREMENTS.—The study under  
11 subparagraph (A) shall include—

12           (i) an examination of—

13               (I) the reliability, resilience, and  
14 economic benefits of technologies such  
15 as power flow control, topology opti-  
16 mization, and dynamic line ratings;

17               (II) the costs, benefits, and chal-  
18 lenges associated with deployment of  
19 the advanced energy technologies de-  
20 scribed in subparagraph (A); and

21               (III) the impact of grid efficiency  
22 improvements on wholesale and retail  
23 electricity rates; and

24           (ii) an analysis of the role of financial  
25 and regulatory incentives in the deploy-

1                   ment of advanced energy technologies, as  
2                   determined by the Secretary.

3           (b) REPORT.—Not later than 18 months after the  
4 date of enactment of this Act, the Secretary shall submit  
5 to the Committee on Energy and Natural Resources of  
6 the Senate and the Committee on Energy and Commerce  
7 of the House of Representatives a report describing the  
8 results of the studies under paragraphs (1) and (2) of sub-  
9 section (a).

10                   **PART 2—TRANSMISSION PLANNING**

11           **SEC. 5111. INTERREGIONAL TRANSMISSION PLANNING RE-**  
12                   **PORT.**

13           Not later than 6 months after the date of enactment  
14 of this Act, the Secretary of Energy shall submit to Con-  
15 gress a report that—

16                   (1) examines the effectiveness of interregional  
17 transmission planning processes for identifying  
18 transmission projects across regions that provide  
19 economic, reliability, or operational benefits, taking  
20 into consideration the public interest, the integrity of  
21 markets, and the protection of consumers;

22                   (2) evaluates the current architecture of re-  
23 gional electricity grids (including international trans-  
24 mission connections of such grids) that together

1       comprise the Nation’s electricity grid, with respect  
2       to—

3               (A) potential growth in renewable energy  
4               generation, including energy generation from  
5               offshore wind;

6               (B) potential growth in electricity demand;  
7               and

8               (C) retirement of existing electricity gen-  
9               eration assets;

10       (3) analyzes—

11               (A) the range of benefits that interregional  
12               transmission provides;

13               (B) the impact of basing transmission  
14               project approvals on a comprehensive assess-  
15               ment of the multiple benefits provided;

16               (C) synchronization of processes described  
17               in paragraph (1) among neighboring regions;

18               (D) how often interregional transmission  
19               planning should be completed;

20               (E) whether voltage, size, or cost require-  
21               ments should be a factor in the approval of  
22               interregional transmission projects;

23               (F) cost allocation methodologies for inter-  
24               regional transmission projects; and



1 (G) current barriers and challenges to con-  
2 struction of interregional transmission projects;  
3 and

4 (4) identifies potential changes, based on the  
5 analysis under paragraph (3), to the processes de-  
6 scribed in paragraph (1) to ensure the most effi-  
7 cient, cost effective, and broadly beneficial trans-  
8 mission projects are selected for construction.

9 **SEC. 5112. INTERREGIONAL TRANSMISSION PLANNING**  
10 **RULEMAKING.**

11 (a) IN GENERAL.—Not later than 6 months after the  
12 date of the enactment of this section, the Federal Energy  
13 Regulatory Commission (hereinafter in this section re-  
14 ferred to as “the Commission”) shall initiate a rulemaking  
15 to increase the effectiveness of the interregional trans-  
16 mission planning process.

17 (b) ASSESSMENT.—In conducting the rulemaking  
18 under subsection (a), the Commission shall assess—

19 (1) the effectiveness of interregional trans-  
20 mission planning processes for identifying trans-  
21 mission planning solutions that provide economic, re-  
22 liability, operation, and public policy benefits, taking  
23 into consideration—

24 (A) the public interest;

25 (B) the integrity of markets; and

1 (C) the protection of consumers; and

2 (2) proposed changes to the processes described  
3 in paragraph (1) to ensure that efficient, cost-effective,  
4 and broadly beneficial transmission solutions  
5 are selected for construction, taking into consideration—  
6

7 (A) the public interest;

8 (B) the integrity of markets;

9 (C) the protection of consumers; and

10 (D) the range of benefits that interregional  
11 transmission provides.

12 (c) EMPHASIS.—In conducting the rulemaking under  
13 subsection (a), the Commission shall develop rules that  
14 emphasize—

15 (1) the need for a solution to secure approval  
16 based on a comprehensive assessment of the multiple  
17 benefits the solution is expected to provide;

18 (2) that interregional benefit analyses made be-  
19 tween multiple regions should not be subject to reas-  
20 sessment by a single regional entity;

21 (3) the importance of synchronizing the plan-  
22 ning processes between regions that neighbor one  
23 another, including using one timeline with a single  
24 set of needs, input assumptions, and benefit metrics;

1           (4) that evaluation of long-term scenarios  
2 should align with the expected life of an inter-  
3 regional transmission solution;

4           (5) that transmission planning authorities  
5 should allow for the identification and joint evalua-  
6 tion between regions of alternative proposals;

7           (6) that the interregional transmission planning  
8 process should take place not less frequently than  
9 once every 3 years;

10          (7) the elimination of arbitrary voltage, size, or  
11 cost requirements for an interregional transmission  
12 solution; and

13          (8) cost allocation methodologies that reflect  
14 the multiple benefits provided by an interregional  
15 transmission solution.

16          (d) **TIMING.**—Not later than 18 months after the  
17 date of the enactment of this section, the Commission  
18 shall complete the rulemaking initiated under subsection  
19 (a).

20          (e) **DEFINITIONS.**—In this section:

21           (1) **INTERREGIONAL BENEFIT ANALYSIS.**—The  
22 term “interregional benefit analysis” means the  
23 identification and evaluation of the estimated bene-  
24 fits of interregional transmission facilities in two or  
25 more neighboring transmission planning regions to

1 meet the needs for transmission system reliability,  
2 resilience, economic, and public policy requirements.

3 (2) INTERREGIONAL TRANSMISSION PLANNING  
4 PROCESS.—The term “interregional transmission  
5 planning process” means an evaluation of trans-  
6 mission needs established by public utility trans-  
7 mission providers in two or more neighboring trans-  
8 mission planning regions that are jointly evaluated  
9 by those regions.

10 (3) INTERREGIONAL TRANSMISSION SOLU-  
11 TION.—The term “interregional transmission solu-  
12 tion” means an interregional transmission facility  
13 that is evaluated by two or more neighboring trans-  
14 mission planning regions and determined by each of  
15 those regions for the ability of the project to effi-  
16 ciently or cost effectively meet regional transmission  
17 needs or to provide substantial benefits that are not  
18 addressed in either of the region’s regional planning  
19 processes.

20 (4) TRANSMISSION PLANNING AUTHORITY.—  
21 The term “transmission planning authority” means  
22 the public utility transmission provider within a  
23 transmission planning region that is required to cre-  
24 ate a regional transmission plan that identifies

1 transmission facilities and nontransmission alter-  
2 natives needed to meet regional needs.

3 (5) TRANSMISSION PLANNING REGIONS.—The  
4 term “transmission planning regions” means the  
5 transmission planning regions recognized by the  
6 Commission as compliant with the final rule entitled  
7 “Transmission Planning and Cost Allocation by  
8 Transmission Owning and Operating Public Utili-  
9 ties” located at part 35 of title 18, Code of Federal  
10 Regulations (or any successor regulation).

## 11 **Subtitle B—State Energy Security** 12 **Plans**

### 13 **SEC. 5201. STATE ENERGY SECURITY PLANS.**

14 (a) IN GENERAL.—Part D of title III of the Energy  
15 Policy and Conservation Act (42 U.S.C. 6321 et seq.) is  
16 amended by adding at the end the following:

### 17 **“SEC. 367. STATE ENERGY SECURITY PLANS.**

18 “(a) IN GENERAL.—Federal financial assistance  
19 made available to a State under this part may be used  
20 for the implementation, review, and revision of a State en-  
21 ergy security plan that assesses the State’s existing cir-  
22 cumstances and proposes methods to strengthen the abil-  
23 ity of the State, in consultation with owners and operators  
24 of energy infrastructure in such State, to—

1           “(1) secure the energy infrastructure of the  
2 State against all physical and cybersecurity threats;

3           “(2) mitigate the risk of energy supply interrup-  
4 tions to the State and enhance the response to, and  
5 recovery from, energy disruptions; and

6           “(3) ensure the State has a reliable, secure, and  
7 resilient energy infrastructure.

8           “(b) CONTENTS OF PLAN.—A State energy security  
9 plan described in subsection (a) shall—

10           “(1) address all fuels, including petroleum  
11 products, other liquid fuels, coal, electricity, and nat-  
12 ural gas, as well as regulated and unregulated en-  
13 ergy providers;

14           “(2) provide a State energy profile, including  
15 an assessment of energy production, distribution,  
16 and end-use;

17           “(3) address potential hazards to each energy  
18 sector or system, including physical threats and cy-  
19 bersecurity threats and vulnerabilities;

20           “(4) provide a risk assessment of energy infra-  
21 structure and cross-sector interdependencies;

22           “(5) provide a risk mitigation approach to en-  
23 hance reliability and end-use resilience; and

24           “(6) address multi-State, Indian Tribe, and re-  
25 gional coordination planning and response, and to

1 the extent practicable, encourage mutual assistance  
2 in cyber and physical response plans.

3 “(c) COORDINATION.—In developing a State energy  
4 security plan under this section, the energy office of the  
5 State shall, to the extent practicable, coordinate with—

6 “(1) the public utility or service commission of  
7 the State;

8 “(2) energy providers from the private sector;  
9 and

10 “(3) other entities responsible for maintaining  
11 fuel or electric reliability.

12 “(d) FINANCIAL ASSISTANCE.—A State is not eligible  
13 to receive Federal financial assistance under this part, for  
14 any purpose, for a fiscal year unless the Governor of such  
15 State submits to the Secretary, with respect to such fiscal  
16 year—

17 “(1) a State energy security plan described in  
18 subsection (a) that meets the requirements of sub-  
19 section (b); or

20 “(2) after an annual review of the State energy  
21 security plan by the Governor—

22 “(A) any necessary revisions to such plan;

23 or

24 “(B) a certification that no revisions to  
25 such plan are necessary.

1       “(e) TECHNICAL ASSISTANCE.—Upon request of the  
2 Governor of a State, the Secretary may provide informa-  
3 tion and technical assistance, and other assistance, in the  
4 development, implementation, or revision of a State energy  
5 security plan.

6       “(f) SUNSET.—This section shall expire on October  
7 31, 2024.”.

8       (b) TECHNICAL AND CONFORMING AMENDMENTS.—

9           (1) CONFORMING AMENDMENTS.—Section 363  
10 of the Energy Policy and Conservation Act (42  
11 U.S.C. 6323) is amended—

12                   (A) by redesignating subsection (f) as sub-  
13 section (e); and

14                   (B) by striking subsection (e).

15           (2) TECHNICAL AMENDMENT.—Section  
16 366(3)(B)(i) of the Energy Policy and Conservation  
17 Act (42 U.S.C. 6326(3)(B)(i)) is amended by strik-  
18 ing “approved under section 367”.

19           (3) REFERENCE.—The item relating to “De-  
20 partment of Energy—Energy Conservation” in title  
21 II of the Department of the Interior and Related  
22 Agencies Appropriations Act, 1985 (42 U.S.C.  
23 6323a) is amended by striking “sections 361  
24 through 366” and inserting “sections 361 through  
25 367”.



1           (4) TABLE OF SECTIONS.—The table of sections  
2           for part D of title III of the Energy Policy and Con-  
3           servation Act is amended by adding at the end the  
4           following:

“Sec. 367. State energy security plans.”.

5                           **Subtitle C—Research and**  
6                           **Development**

7                           **PART 1—BETTER ENERGY STORAGE**

8                           **TECHNOLOGY**

9           **SEC. 5301. ENERGY STORAGE.**

10           (a) IN GENERAL.—The United States Energy Stor-  
11           age Competitiveness Act of 2007 (42 U.S.C. 17231) is  
12           amended—

13                       (1) by redesignating subsections (l) through (p)  
14                       as subsections (p) through (t), respectively; and

15                       (2) by inserting after subsection (k) the fol-  
16                       lowing:

17           “(l) ENERGY STORAGE RESEARCH AND DEVELOP-  
18           MENT PROGRAM.—

19                       “(1) IN GENERAL.—Not later than 180 days  
20                       after the date of enactment of this subsection, the  
21                       Secretary shall establish a research and development  
22                       program for energy storage systems, components,  
23                       and materials across multiple program offices of the  
24                       Department.

1           “(2) REQUIREMENTS.—In carrying out the pro-  
2           gram under paragraph (1), the Secretary shall—

3                   “(A) coordinate across all relevant pro-  
4                   gram offices throughout the Department, in-  
5                   cluding the Office of Electricity, the Office of  
6                   Energy Efficiency and Renewable Energy, the  
7                   Advanced Research Projects Agency – Energy,  
8                   the Office of Science, and the Office of Cyberse-  
9                   curity, Energy Security, and Emergency Re-  
10                  sponse;

11                  “(B) adopt long-term cost, performance,  
12                  and demonstration targets for different types of  
13                  energy storage systems and for use in a variety  
14                  of regions, including rural areas;

15                  “(C) incorporate considerations of sustain-  
16                  ability, sourcing, recycling, reuse, and disposal  
17                  of materials, including critical elements, in the  
18                  design of energy storage systems;

19                  “(D) identify energy storage duration  
20                  needs;

21                  “(E) analyze the need for various types of  
22                  energy storage to improve electric grid resil-  
23                  ience and reliability; and

24                  “(F) support research and development of  
25                  advanced manufacturing technologies that have

1 the potential to improve United States competi-  
2 tiveness in energy storage manufacturing.

3 “(3) STRATEGIC PLAN.—

4 “(A) IN GENERAL.—No later than 180  
5 days after the date of enactment of this sub-  
6 section, the Secretary shall develop a 5-year  
7 strategic plan identifying research, development,  
8 demonstration, and commercial application  
9 goals for the program in accordance with this  
10 section. The Secretary shall submit this plan to  
11 the Committee on Science, Space, and Tech-  
12 nology of the House of Representatives and the  
13 Committee on Energy and Natural Resources of  
14 the Senate.

15 “(B) CONTENTS.—The strategic plan sub-  
16 mitted under subparagraph (A) shall—

17 “(i) identify programs at the Depart-  
18 ment related to energy storage systems  
19 that support the research and development  
20 activities described in paragraph (4), and  
21 the demonstration projects under sub-  
22 section (m); and

23 “(ii) include timelines for the accom-  
24 plishment of goals developed under the  
25 plan.

1           “(C) UPDATES TO PLAN.—Not less fre-  
2           quently than once every 3 years, the Secretary  
3           shall submit to the Committee on Science,  
4           Space, and Technology of the House of Rep-  
5           resentatives and the Committee on Energy and  
6           Natural Resources of the Senate an updated  
7           version of the plan under subparagraph (A).

8           “(4) RESEARCH AND DEVELOPMENT.—In car-  
9           rying out the program established in paragraph (1),  
10          the Secretary shall focus on developing—

11           “(A) energy storage systems that can store  
12           energy and deliver stored energy for a minimum  
13           of 6 hours in duration to balance electricity  
14           needs over the course of a single day;

15           “(B) long-duration energy storage systems  
16           that can store energy and deliver stored energy  
17           for 10 to 100 hours in duration; and

18           “(C) energy storage systems that can store  
19           energy and deliver stored energy over several  
20           months and address seasonal scale variations in  
21           supply and demand.

22           “(5) TESTING AND VALIDATION.—The Sec-  
23           retary shall support the standardized testing and  
24           validation of energy storage systems under the pro-  
25           gram through collaboration with 1 or more National

1 Laboratories, including the development of meth-  
2 odologies to independently validate energy storage  
3 technologies by—

4 “(A) performance of energy storage sys-  
5 tems on the electric grid, including—

6 “(i) when appropriate, testing of ap-  
7 plication-driven charge and discharge pro-  
8 tocols;

9 “(ii) evaluation of power capacity and  
10 energy output;

11 “(iii) degradation of the energy stor-  
12 age systems from cycling and aging;

13 “(iv) safety; and

14 “(v) reliability testing under grid duty  
15 cycles; and

16 “(B) prediction of lifetime metrics.

17 “(6) COORDINATION.—In carrying out the pro-  
18 gram established in paragraph (1), the Secretary  
19 shall coordinate with—

20 “(A) programs and offices that aim to in-  
21 crease domestic manufacturing and production  
22 of energy storage systems, such as those within  
23 the Department and within the National Insti-  
24 tute of Standards and Technology;

1           “(B) other Federal agencies that are car-  
2           rying out initiatives to increase energy reli-  
3           ability through the development of energy stor-  
4           age systems, including the Department of De-  
5           fense; and

6           “(C) other stakeholders working to ad-  
7           vance the development of commercially viable  
8           energy storage systems.

9           “(7) TECHNICAL ASSISTANCE PROGRAM.—

10           “(A) IN GENERAL.—The Secretary shall  
11           provide technical assistance for commercial ap-  
12           plication of energy storage technologies to eligi-  
13           ble entities.

14           “(B) TECHNICAL ASSISTANCE.—Technical  
15           assistance provided under this paragraph—

16           “(i) may include assistance with—

17           “(I) assessment of relevant tech-  
18           nical and geographic characteristics;

19           “(II) interconnection of elec-  
20           tricity storage systems with the elec-  
21           tric grid; and

22           “(III) engineering design; and

23           “(ii) may not include assistance relat-  
24           ing to modification of Federal, State, or

1 local regulations or policies with respect to  
2 energy storage systems.

3 “(C) APPLICATIONS.—

4 “(i) IN GENERAL.—The Secretary  
5 shall seek applications for technical assist-  
6 ance under the program—

7 “(I) on a competitive basis; and

8 “(II) on a periodic basis, but not  
9 less frequently than once every 12  
10 months.

11 “(ii) PRIORITIES.—In selecting eligi-  
12 ble entities for technical assistance for  
13 commercial applications, the Secretary  
14 shall give priority to eligible entities with  
15 projects that have the greatest potential  
16 for—

17 “(I) strengthening the reliability  
18 and resilience of the electric grid to  
19 the impact of extreme weather events,  
20 power grid failures, and interruptions  
21 in supply of electricity;

22 “(II) reducing the cost of energy  
23 storage systems; or

24 “(III) facilitating the use of net  
25 zero emission energy resources.

1           “(8) PROGRAM DEFINED.—In this subsection  
2           (except in paragraph (9)), the term ‘program’ means  
3           the research and development program established  
4           under paragraph (1).

5           “(9) TECHNICAL ASSISTANCE GRANT PRO-  
6           GRAM.—

7           “(A) IN GENERAL.—The Secretary shall  
8           establish a technical assistance grant program  
9           (referred to in this subsection as the ‘program’)  
10          to award grants to eligible entities so that enti-  
11          ties may seek technical assistance outside of the  
12          Department of Energy to identify, evaluate,  
13          plan, design, and develop processes to procure  
14          energy storage systems.

15          “(B) TECHNICAL ASSISTANCE.—

16                 “(i) IN GENERAL.—Grants for tech-  
17                 nical assistance may be used to obtain  
18                 technical assistance with one or more of  
19                 the following activities relating to energy  
20                 storage systems:

21                         “(I) Identification of opportuni-  
22                         ties to use energy storage systems.

23                         “(II) Assessment of technical and  
24                         economic characteristics.

25                         “(III) Utility interconnection.



1                   “(IV) Permitting and siting  
2 issues.

3                   “(V) Business planning and fi-  
4 nancial analysis.

5                   “(VI) Engineering design.

6                   “(VII) Carrying out initial as-  
7 sessment to identify net system bene-  
8 fits of using energy storage systems.

9                   “(VIII) Obtaining guidance relat-  
10 ing to methods to assess energy stor-  
11 age in long-term resource planning  
12 and resource procurement.

13                   “(IX) Carrying out studies to as-  
14 sess the cost-benefit ratio of energy  
15 storage systems.

16                   “(X) Obtaining guidance on com-  
17 plying with state and local regulatory  
18 technical standards, including siting  
19 and permitting standards.

20                   “(ii) EXCLUSION.—The grants for  
21 technical assistance described in subpara-  
22 graph (A) shall not be used for assistance  
23 relating to modification of Federal, State,  
24 or local regulations or policies relating to  
25 energy storage systems.

1 “(C) APPLICATIONS.—

2 “(i) IN GENERAL.—An eligible entity  
3 desiring grants for technical assistance  
4 under the program shall submit to the Sec-  
5 retary an application at such time, in such  
6 manner, and containing such information  
7 as the Secretary may require.

8 “(ii) APPLICATION PROCESS.—The  
9 Secretary shall seek applications for tech-  
10 nical assistance grants under the pro-  
11 gram—

12 “(I) on a competitive basis; and

13 “(II) on a periodic basis, but not  
14 less frequently than once every 12  
15 months.

16 “(D) PRIORITIES.—In selecting eligible en-  
17 tities for grants under the program, the Sec-  
18 retary shall give priority to eligible entities with  
19 projects that have the greatest potential for—

20 “(i) strengthening the reliability of en-  
21 ergy infrastructure and the resilience of  
22 energy infrastructure to the effects of ex-  
23 treme weather events, power grid failures,  
24 and interruptions in supply of power;

1           “(ii) reducing the cost of energy stor-  
2           age systems;

3           “(iii) facilitating the use of renewable  
4           energy resources;

5           “(iv) minimizing environmental im-  
6           pact, including regulated air pollutants and  
7           greenhouse gas emissions;

8           “(v) improving the feasibility of  
9           microgrids or island-mode operation, par-  
10          ticularly in rural areas, including rural  
11          areas with high energy costs; and

12          “(vi) maximizing local job creation.

13          “(E) RULES AND PROCEDURES.—

14           “(i) RULES.—Not later than 180 days  
15           after the date of enactment of this Act, the  
16           Secretary shall, by rule, establish proce-  
17           dures for carrying out the program.

18           “(ii) GRANTS.—Not later than 120  
19           days after the date on which the Secretary  
20           establishes procedures for the program  
21           under subparagraph (A), the Secretary  
22           shall issue grants under this subsection.

23          “(F) REPORTS.—The Secretary shall sub-  
24          mit to Congress and make available to the pub-  
25          lic—

1 “(i) not less frequently than once  
2 every 2 years, a report describing the per-  
3 formance of the program under this sub-  
4 section, including a synthesis and analysis  
5 of any information the Secretary requires  
6 grant recipients to provide to the Secretary  
7 as a condition of receiving a grant; and

8 “(ii) on termination of the program  
9 under this subsection, an assessment of the  
10 success of, and education provided by, the  
11 measures carried out by eligible entities  
12 under the program.

13 “(10) DEPARTMENT OF ENERGY WORK-  
14 SHOPS.—The Secretary shall hold one or more work-  
15 shops during each of calendar years 2021 and 2023  
16 to facilitate the sharing, across the Department of  
17 Energy, the States, local and Tribal governments,  
18 industry, and the academic research community, of  
19 research developments and new technical knowledge  
20 gained in carrying out this subsection.”.

21 (b) ENERGY STORAGE DEMONSTRATION PRO-  
22 GRAM.—The United States Energy Storage Competitive-  
23 ness Act of 2007 (42 U.S.C. 17231), as amended, is fur-  
24 ther amended by inserting after subsection (l), as added  
25 by subsection (a), the following:

1       “(m) ENERGY STORAGE DEMONSTRATION PRO-  
2 GRAM.—

3           “(1) ESTABLISHMENT.—The Secretary shall es-  
4 tablish a competitive grant program for the dem-  
5 onstration of energy storage systems, as identified  
6 by the Secretary, that use either—

7                   “(A) a single system; or

8                   “(B) aggregations of multiple systems.

9           “(2) SELECTION REQUIREMENTS.—In selecting  
10 eligible entities to receive a grant under this section,  
11 the Secretary shall, to the maximum extent prac-  
12 ticable—

13                   “(A) ensure regional diversity among eligi-  
14 ble entities that receive the grants, including  
15 participation by rural States and small States;

16                   “(B) ensure that specific projects selected  
17 for grants—

18                           “(i) expand on the existing technology  
19 demonstration programs of the Depart-  
20 ment of Energy; and

21                           “(ii) are designed to achieve one or  
22 more of the objectives described in para-  
23 graph (3);

24                   “(C) give consideration to proposals from  
25 eligible entities for securing energy storage

1 through competitive procurement or contract  
2 for service; and

3 “(D) prioritize projects that leverage  
4 matching funds from non-Federal sources.

5 “(3) OBJECTIVES.—Each demonstration project  
6 selected for a grant under paragraph (1) shall in-  
7 clude one or more of the following objectives:

8 “(A) To improve the security of critical in-  
9 frastructure and emergency response systems.

10 “(B) To improve the reliability of the  
11 transmission and distribution system, particu-  
12 larly in rural areas, including high energy cost  
13 rural areas.

14 “(C) To optimize transmission or distribu-  
15 tion system operation and power quality to  
16 defer or avoid costs of replacing or upgrading  
17 electric grid infrastructure, including trans-  
18 formers and substations.

19 “(D) To supply energy at peak periods of  
20 demand on the electric grid or during periods of  
21 significant variation of electric grid supply or  
22 demand.

23 “(E) To reduce peak loads of homes and  
24 businesses, particularly to defer or avoid invest-  
25 ments in new electric grid capacity.

1           “(F) To advance power conversion systems  
2           to make the systems smarter, more efficient,  
3           able to communicate with other inverters, and  
4           able to control voltage.

5           “(G) To provide ancillary services for grid  
6           stability and management.

7           “(H) To integrate one or more energy re-  
8           sources, including renewable energy resources,  
9           at the source or away from the source.

10          “(I) To increase the feasibility of  
11          microgrids or island-mode operation.

12          “(J) To enable the use of stored energy in  
13          forms other than electricity to support the nat-  
14          ural gas system and other industrial processes.

15          “(4) RESTRICTION ON USE OF FUNDS.—Any el-  
16          igible entity that receives a grant under paragraph  
17          (1) may only use the grant to fund programs relat-  
18          ing to the demonstration of energy storage systems  
19          connected to the electric grid, or that provides bi-di-  
20          rectional energy storage capable of providing back-  
21          up energy in the event of grid outages, including en-  
22          ergy storage systems sited behind a customer rev-  
23          enue meter.

24          “(5) COST SHARING.—In carrying out this sec-  
25          tion, the Secretary shall require cost sharing under

1 this section in accordance with section 988 of the  
2 Energy Policy Act of 2005 (42 U.S.C. 16352).

3 “(6) NO PROJECT OWNERSHIP INTEREST.—The  
4 United States shall hold no equity or other owner-  
5 ship interest in an energy storage system for which  
6 a grant is provided under paragraph (1).

7 “(7) RULES AND PROCEDURES; AWARDING OF  
8 GRANTS.—

9 “(A) RULES AND PROCEDURES.—Not later  
10 than 180 days after the date of enactment of  
11 this subsection, the Secretary shall adopt rules  
12 and procedures for carrying out the grant pro-  
13 gram under subsection (m).

14 “(B) AWARDING OF GRANTS.—Not later  
15 than 1 year after the date on which the rules  
16 and procedures under paragraph (A) are estab-  
17 lished, the Secretary shall award the initial  
18 grants provided under this section.

19 “(8) REPORTS.—The Secretary shall submit to  
20 Congress and make publicly available—

21 “(A) not less frequently than once every 2  
22 years for the duration of the grant program  
23 under subsection (m), a report describing the  
24 performance of the grant program, including a  
25 synthesis and analysis of any information the



1 Secretary requires grant recipients to provide to  
2 the Secretary as a condition of receiving a  
3 grant; and

4 “(B) on termination of the grant program  
5 under subsection (m), an assessment of the suc-  
6 cess of, and education provided by, the meas-  
7 ures carried out by grant recipients under the  
8 grant program.

9 “(9) PROGRAM DEFINED.—In this subsection,  
10 the term ‘program’ means the demonstration pro-  
11 gram established under paragraph (1).”.

12 (c) AUTHORIZATION OF APPROPRIATIONS.—The  
13 United States Energy Storage Competitiveness Act of  
14 2007 (42 U.S.C. 17231) is amended, in subsection (t) (as  
15 redesignated by subsection (a)(1))—

16 (1) in paragraph (5), by striking “and” at the  
17 end;

18 (2) in paragraph (6), by striking the period at  
19 the end and inserting “;”; and

20 (3) by adding at the end the following:

21 “(7) the research and development program for  
22 energy storage systems under subsection (l)—

23 “(A) \$65,100,000 for fiscal year 2021;

24 “(B) \$68,355,000 for fiscal year 2022;

25 “(C) \$71,773,000 for fiscal year 2023;

1 “(D) \$75,362,000 for fiscal year 2024;

2 and

3 “(E) \$79,130,000 for fiscal year 2025; and

4 “(8) the demonstration program for energy  
5 storage systems under subsection (m), \$50,000,000  
6 for each of fiscal years 2021 through 2025.”.

7 **SEC. 5302. CRITICAL MINERAL RECYCLING AND REUSE RE-**  
8 **SEARCH, DEVELOPMENT, AND DEMONSTRA-**  
9 **TION PROGRAM.**

10 The United States Energy Storage Competitiveness  
11 Act of 2007 (42 U.S.C. 17231) is amended by inserting  
12 after subsection (m), as added by section 5301(b) of this  
13 Act, the following:

14 “(n) **CRITICAL MINERAL RECYCLING AND REUSE**  
15 **RESEARCH, DEVELOPMENT, AND DEMONSTRATION PRO-**  
16 **GRAM.—**

17 “(1) **DEFINITIONS.—**In this subsection:

18 “(A) **CRITICAL MINERAL.—**The term ‘crit-  
19 ical mineral’ means any of a class of chemical  
20 elements that have a high risk of a supply dis-  
21 ruption and are critical to one or more new, en-  
22 ergy-related technologies such that a shortage  
23 of such element would significantly inhibit  
24 large-scale deployment of technologies that  
25 store energy.

1           “(B) RECYCLING.—The term ‘recycling’  
2           means the separation of critical minerals em-  
3           bedded within an energy storage system  
4           through physical or chemical means and reuse  
5           of those separated critical minerals in other  
6           technologies.

7           “(2) ESTABLISHMENT.—Not later than 180  
8           days after the date of enactment of this subsection,  
9           the Secretary shall establish a research, develop-  
10          ment, and demonstration program of recycling of en-  
11          ergy storage systems containing critical minerals.

12          “(3) RESEARCH, DEVELOPMENT, AND DEM-  
13          ONSTRATION.—In carrying out the program, the  
14          Secretary may focus research, development, and  
15          demonstration activities on—

16                 “(A) technologies, process improvements,  
17                 and design optimizations that facilitate and  
18                 promote recycling, including—

19                         “(i) improvement of efficiency and  
20                         rates of collection of products and scrap  
21                         containing critical minerals from con-  
22                         sumer, industrial, and other waste streams;

23                         “(ii) separation and sorting of compo-  
24                         nent materials in energy storage systems  
25                         containing critical minerals, including im-

1           proving the recyclability of such energy  
2           storage systems;

3           “(iii) safe storage of energy storage  
4           systems, including reducing fire risk;

5           “(iv) safe transportation of energy  
6           storage systems and components; and

7           “(v) development of technologies to  
8           advance energy storage recycling facility  
9           infrastructure, including integrated recy-  
10          cling facilities that can process multiple  
11          materials;

12          “(B) research and development of tech-  
13          nologies that mitigate emissions and environ-  
14          mental impacts that arise from recycling, in-  
15          cluding disposal of toxic reagents and byprod-  
16          ucts related to recycling processes;

17          “(C) research and development of tech-  
18          nologies to enable recycling of critical materials  
19          from batteries in electric vehicles;

20          “(D) research on and analysis of non-tech-  
21          nical barriers to improving the transportation of  
22          energy storage systems containing critical min-  
23          erals; and

24          “(E) research on technologies and methods  
25          to enable the safe disposal of energy storage

1 systems containing critical minerals, including  
2 waste materials and components recovered dur-  
3 ing the recycling process.

4 “(4) REPORT TO CONGRESS.—Not later than 2  
5 years after the date of enactment of this subsection,  
6 and every 3 years thereafter, the Secretary shall  
7 submit to the Committee on Science, Space, and  
8 Technology of the House of Representatives and the  
9 Committee on Energy and Natural Resources of the  
10 Senate a report summarizing the activities, findings,  
11 and progress of the program.

12 “(o) DEFINITIONS.—For purposes of subsections (l),  
13 (m), and (n), the following definitions apply:

14 “(1) ENERGY STORAGE SYSTEM.—The term  
15 ‘energy storage system’ means equipment or facili-  
16 ties relating to the electric grid that are capable of  
17 absorbing and converting energy, as applicable, stor-  
18 ing the energy for a period of time, and dispatching  
19 the energy, and that—

20 “(A) use mechanical, electrochemical, bio-  
21 chemical, or thermal processes, to convert and  
22 store energy that was generated at an earlier  
23 time for use at a later time;

24 “(B) use mechanical, electrochemical, bio-  
25 chemical, or thermal processes to convert and

1 store energy generated from mechanical proc-  
2 esses that would otherwise be wasted for deliv-  
3 ery at a later time; or

4 “(C) convert and store energy in an elec-  
5 tric, thermal, or gaseous state for consumption  
6 at a later time in a manner that avoids the  
7 need to use electricity or other fuel sources at  
8 that later time, as is offered by grid-enabled  
9 water heaters, building heaters or coolers, elec-  
10 tric vehicles, mini-pumped hydroelectric facili-  
11 ties, electrolysis processes that make hydrogen  
12 for transportation or industrial needs, or any  
13 other load shaping mechanism that includes en-  
14 ergy storage.

15 “(2) ELIGIBLE ENTITY.—The term ‘eligible en-  
16 tity’ means—

17 “(A) a State, territory, or possession of the  
18 United States;

19 “(B) a State energy office (as defined in  
20 section 124(a) of the Energy Policy Act of 2005  
21 (42 U.S.C. 15821(a)));

22 “(C) a tribal organization (as defined in  
23 section 3765 of title 38, United States Code);

1           “(D) an institution of higher education (as  
2 defined in section 101 of the Higher Education  
3 Act of 1965 (20 U.S.C. 1001));

4           “(E) an electric utility, including—

5                   “(i) a rural electric cooperative;

6                   “(ii) a political subdivision of a State,  
7 such as a municipally owned electric util-  
8 ity, or any agency, authority, corporation,  
9 or instrumentality of one or more State po-  
10 litical subdivisions; and

11                   “(iii) an investor-owned utility; and

12           “(F) a private energy storage company  
13 that is a small business concern (as defined in  
14 section 3 of the Small Business Act (15 U.S.C.  
15 632)).

16           “(3) ISLAND MODE.—The term ‘island mode’  
17 means a mode in which a distributed generator or  
18 energy storage system continues to power a location  
19 in the absence of electric power from the primary  
20 source.

21           “(4) MICROGRID.—The term ‘microgrid’ means  
22 an integrated energy system consisting of inter-  
23 connected loads and distributed energy resources, in-  
24 cluding generators and energy storage systems, with-  
25 in clearly defined electrical boundaries that—

1           “(A) acts as a single controllable entity  
2           with respect to the electric grid;

3           “(B) can connect to, and disconnect from,  
4           the electric grid to operate in both grid-con-  
5           nected mode and island mode.

6           “(5) NATIONAL LABORATORY.—The term ‘na-  
7           tional laboratory’ has the meaning given the term in  
8           section 2 of the Energy Policy Act of 2005 (42  
9           U.S.C. 15801).”.

10   **PART 2—GRID MODERNIZATION RESEARCH AND**  
11                                   **DEVELOPMENT**

12   **SEC. 5321. SMART GRID REGIONAL DEMONSTRATION INI-**  
13                                   **TIATIVE.**

14           Section 1304 of the Energy Independence and Secu-  
15   rity Act of 2007 (42 U.S.C. 17384) is amended—

16           (1) in subsection (a), by inserting “research,  
17           development, and demonstration” before “program”;

18           (2) in subsection (b)—

19                           (A) by amending paragraph (1) to read as  
20           follows:

21           “(1) IN GENERAL.—The Secretary shall estab-  
22           lish a smart grid regional demonstration initiative  
23           (referred to in this subsection as the ‘Initiative’)  
24           composed of demonstration projects focused on cost-  
25           effective, advanced technologies for use in power grid



1 sensing, communications, analysis, power flow con-  
2 trol, visualization, distribution automation, industrial  
3 control systems, dynamic line rating systems, grid  
4 redesign, and the integration of distributed energy  
5 resources.”; and

6 (B) in paragraph (2)—

7 (i) in subparagraph (D), by striking  
8 “and” at the end;

9 (ii) in subparagraph (E), by striking  
10 the period and inserting “; and”; and

11 (iii) by inserting at the end the fol-  
12 lowing:

13 “(F) to encourage the commercial applica-  
14 tion of advanced distribution automation tech-  
15 nologies that exert intelligent control over elec-  
16 trical grid functions at the distribution level to  
17 improve system resilience.”.

18 **SEC. 5322. SMART GRID MODELING, VISUALIZATION, ARCHI-**  
19 **TECTURE, AND CONTROLS.**

20 Title XIII of the Energy Independence and Security  
21 Act of 2007 (42 U.S.C. 17381 et seq.) is amended by in-  
22 serting after section 1304 the following:

1 **“SEC. 1304a. SMART GRID MODELING, VISUALIZATION, AR-**  
2 **CHITECTURE, AND CONTROLS.**

3 “(a) IN GENERAL.—Not later than 180 days after  
4 the enactment of this section, the Secretary shall establish  
5 a program of research, development, demonstration, and  
6 commercial application on electric grid modeling, sensing,  
7 visualization, architecture development, and advanced op-  
8 eration and controls.

9 “(b) MODELING RESEARCH AND DEVELOPMENT.—  
10 The Secretary shall support development of models of  
11 emerging technologies and systems to facilitate the secure  
12 and reliable design, planning, and operation of the electric  
13 grid for use by industry stakeholders. In particular, the  
14 Secretary shall support development of—

15 “(1) models to analyze and predict the effects  
16 of adverse physical and cyber events on the electric  
17 grid;

18 “(2) coupled models of electrical, physical, and  
19 cyber systems;

20 “(3) models of existing and emerging tech-  
21 nologies being deployed on the electric grid due to  
22 projected changes in the electric generation mix and  
23 loads, for a variety of regional characteristics; and

24 “(4) integrated models of the communications,  
25 transmission, distribution, and other interdependent

1 systems for existing, new, and emerging tech-  
2 nologies.

3 “(c) SITUATIONAL AWARENESS RESEARCH AND DE-  
4 VELOPMENT.—

5 “(1) IN GENERAL.—The Secretary shall sup-  
6 port development of computational tools and tech-  
7 nologies to improve sensing, monitoring, and visual-  
8 ization of the electric grid for real-time situational  
9 awareness and decision support tools that enable im-  
10 proved operation of the power system, including util-  
11 ity, non-utility, and customer grid-connected assets,  
12 for use by industry partners.

13 “(2) DATA USE.—In developing visualization  
14 capabilities under this section, the Secretary shall  
15 develop tools for industry stakeholders to use to ana-  
16 lyze data collected from advanced measurement and  
17 monitoring technologies, including data from phasor  
18 measurement units and advanced metering units.

19 “(3) SEVERE EVENTS.—The Secretary shall  
20 prioritize enhancing cyber and physical situational  
21 awareness of the electric grid during adverse man-  
22 made and naturally-occurring events.

23 “(d) ARCHITECTURE.—The Secretary shall conduct  
24 research in collaboration with industry stakeholders to de-  
25 velop model grid architectures to assist with wide-area

1 transmission and distribution planning that incorporate  
2 expected changes to the modern electric grid. In sup-  
3 porting the development of model grid architectures, the  
4 Secretary shall—

5           “(1) analyze a variety of grid architecture sce-  
6 narios that range from minor upgrades to existing  
7 transmission grid infrastructure to scenarios that in-  
8 volve the replacement of significant portions of exist-  
9 ing transmission grid infrastructure;

10           “(2) analyze the effects of the increasing pro-  
11 liferation of renewable and other zero emissions en-  
12 ergy generation sources, increasing use of distrib-  
13 uted resources owned by non-utility entities, and the  
14 use of digital and automated controls not managed  
15 by grid operators;

16           “(3) include a variety of new and emerging dis-  
17 tribution grid technologies, including distributed en-  
18 ergy resources, electric vehicle charging stations, dis-  
19 tribution automation technologies, energy storage,  
20 and renewable energy sources;

21           “(4) analyze the effects of local load balancing  
22 and other forms of decentralized control;

23           “(5) analyze the effects of changes to grid ar-  
24 chitectures resulting from modernizing electric grid  
25 systems, including communications, controls, mar-

1       kets, consumer choice, emergency response, elec-  
2       trification, and cybersecurity concerns; and

3               “(6) develop integrated grid architectures that  
4       incorporate system resilience for cyber, physical, and  
5       communications systems.

6       “(e) OPERATION AND CONTROLS RESEARCH AND  
7       DEVELOPMENT.—The Secretary shall conduct research to  
8       develop improvements to the operation and controls of the  
9       electric grid, in coordination with industry partners. Such  
10      activities shall include—

11              “(1) a training facility or facilities to allow grid  
12      operators to gain operational experience with ad-  
13      vanced grid control concepts and technologies;

14              “(2) development of cost-effective advanced op-  
15      eration and control concepts and technologies, such  
16      as adaptive islanding, dynamic line rating systems,  
17      power flow controllers, network topology optimiza-  
18      tion, smart circuit breakers, intelligent load shed-  
19      ding, and fault-tolerant control system architectures;

20              “(3) development of real-time control concepts  
21      using artificial intelligence and machine learning for  
22      improved electric grid resilience; and

23              “(4) utilization of advanced data analytics in-  
24      cluding load forecasting, power flow modeling, equip-

1       ment failure prediction, resource optimization, risk  
2       analysis, and decision analysis.

3       “(f) INTEROPERABILITY RESEARCH AND DEVELOP-  
4       MENT.—The Secretary shall conduct research and devel-  
5       opment on tools and technologies that improve the inter-  
6       operability and compatibility of new and emerging compo-  
7       nents, technologies, and systems with existing electric grid  
8       infrastructure.

9       “(g) UNDERGROUND TRANSMISSION AND DISTRIBUTION  
10      LINES.—In carrying out the program under sub-  
11      section (a), the Secretary shall support research and devel-  
12      opment on underground transmission and distribution  
13      lines. This shall include research on—

14             “(1) methods for lowering the costs of under-  
15             ground transmission and distribution lines, including  
16             through novel installation techniques and materials  
17             considerations;

18             “(2) techniques to improve the lifespan of un-  
19             derground transmission and distribution lines;

20             “(3) wireless sensors to improve safety of un-  
21             derground transmission and distribution lines and to  
22             predict, identify, detect, and transmit information  
23             about degradation and faults; and

24             “(4) methods for improving the resilience and  
25             reliability of underground transmission and distribu-

1       tion lines, including by mitigating the impact of  
2       flooding, storm surge, and seasonal climate cycles on  
3       degradation of and damage to underground trans-  
4       mission and distribution lines.

5       “(h) COMPUTING RESOURCES AND DATA COORDINA-  
6       TION RESEARCH AND DEVELOPMENT.—In carrying out  
7       this section, the Secretary shall—

8               “(1) leverage existing computing resources at  
9       the National Laboratories;

10              “(2) develop voluntary standards for data  
11       taxonomies and communication protocols in coordi-  
12       nation with public and private sector stakeholders;  
13       and

14              “(3) comply with section 5327 of the Clean  
15       Economy Jobs and Innovation Act.

16       “(i) INFORMATION SHARING.—None of the activities  
17       authorized in this section shall require private entities to  
18       share information or data with the Secretary.

19       “(j) RESILIENCE.—In this section, the term ‘resil-  
20       ience’ means the ability to withstand and reduce the mag-  
21       nitude or duration of disruptive events, which includes the  
22       capability to anticipate, absorb, adapt to, or rapidly re-  
23       cover from such an event, including from deliberate at-  
24       tacks, accidents, and naturally occurring threats or inci-  
25       dents.”.

1 **SEC. 5323. HYBRID ENERGY SYSTEMS.**

2 Title XIII of the Energy Independence and Security  
3 Act of 2007 (42 U.S.C. 17381 et seq.), as amended, is  
4 amended by adding at the end the following:

5 **“SEC. 1310. HYBRID ENERGY SYSTEMS.**

6 “(a) IN GENERAL.—Not later than 180 days after  
7 the enactment of this section, the Secretary shall establish  
8 a research, development, and demonstration program to  
9 develop cost-effective hybrid energy systems, including—

10 “(1) development of computer modeling to de-  
11 sign different configurations of hybrid energy sys-  
12 tems and to optimize system operation;

13 “(2) research on system integration needed to  
14 plan, design, build, and operate hybrid energy sys-  
15 tems, including interconnection requirements with  
16 the electric grid;

17 “(3) development of hybrid energy systems for  
18 various applications, including—

19 “(A) thermal energy generation and stor-  
20 age for buildings and manufacturing;

21 “(B) electricity storage coupled with en-  
22 ergy generation;

23 “(C) desalination;

24 “(D) production of liquid and gaseous  
25 fuels; and



1           “(E) production of chemicals such as am-  
2           monia and ethylene;

3           “(4) development of testing facilities for hybrid  
4           energy systems; and

5           “(5) research on incorporation of various tech-  
6           nologies for hybrid energy systems, including nuclear  
7           energy, renewable energy, storage, and carbon cap-  
8           ture, utilization, and sequestration technologies.

9           “(b) STRATEGIC PLAN.—

10           “(1) IN GENERAL.—Not later than 1 year after  
11           the date of the enactment of this section, the Sec-  
12           retary shall submit to the Committee on Science,  
13           Space, and Technology of the House of Representa-  
14           tives and the Committee on Energy and Natural Re-  
15           sources of the Senate a strategic plan that identifies  
16           opportunities, challenges, and standards needed for  
17           the development and commercial application of hy-  
18           brid energy systems. The strategic plan shall in-  
19           clude—

20           “(A) analysis of the potential benefits of  
21           development of hybrid electric systems on the  
22           electric grid;

23           “(B) analysis of the potential contributions  
24           of hybrid energy systems to different grid archi-  
25           tecture scenarios;

1           “(C) research and development goals for  
2           various hybrid energy systems, including those  
3           identified in subsection (a);

4           “(D) assessment of policy and market bar-  
5           riers to the adoption of hybrid energy systems;

6           “(E) analysis of the technical and eco-  
7           nomic feasibility of adoption of different hybrid  
8           energy systems; and

9           “(F) a 10-year roadmap to guide the pro-  
10          gram established under subsection (a).

11          “(2) UPDATES.—Not less than once every 3  
12          years for the duration of this research program, the  
13          Secretary shall submit an updated version of the  
14          strategic plan to the Committee on Science, Space,  
15          and Technology of the House of Representatives and  
16          the Committee on Energy and Natural Resources of  
17          the Senate.

18          “(c) PROGRAM IMPLEMENTATION.—In carrying out  
19          the research, development, demonstration, and commercial  
20          application aims of section, the Secretary shall—

21                 “(1) implement the recommendations set forth  
22                 in the strategic plan in subsection (b);

23                 “(2) coordinate across all relevant program of-  
24                 fices at the Department, including—

1                   “(A) the Office of Energy Efficiency and  
2                   Renewable Energy;

3                   “(B) the Office of Nuclear Energy; and

4                   “(C) the Office of Fossil Energy;

5                   “(3) leverage existing programs and resources  
6                   of the Department;

7                   “(4) prioritize activities that accelerate the de-  
8                   velopment of integrated electricity generation, stor-  
9                   age, and distribution systems with net zero green-  
10                  house gas emissions; and

11                  “(5) comply with section 5326 of the Clean  
12                  Economy Jobs and Innovation Act.

13                  “(d) HYBRID ENERGY SYSTEM DEFINED.—The term  
14                  ‘hybrid energy system’ means a system composed of 2 or  
15                  more co-located or jointly operated sub-systems of energy  
16                  generation, energy storage, or other energy technologies.”.

17                  **SEC. 5324. GRID INTEGRATION RESEARCH AND DEVELOP-**  
18                  **MENT.**

19                  (a) INTEGRATING DISTRIBUTED ENERGY RE-  
20                  SOURCES ONTO THE ELECTRIC GRID.—Section 925(a) of  
21                  the Energy Policy Act of 2005 (42 U.S.C. 16215) is  
22                  amended—

23                         (1) by redesignating paragraphs (10) and (11)  
24                         as paragraphs (12) and (13), respectively; and

1           (2) by inserting after paragraph (9) the fol-  
 2           lowing:

3           “(10) the development of cost-effective tech-  
 4           nologies that enable two-way information and power  
 5           flow between distributed energy resources and the  
 6           electric grid;

7           “(11) the development of technologies and con-  
 8           cepts that enable interoperability between distributed  
 9           energy resources and other behind-the-meter devices  
 10          and the electric grid;”.

11          (b) INTEGRATING RENEWABLE ENERGY ONTO THE  
 12          ELECTRIC GRID.—Subtitle C of title IX of the Energy  
 13          Policy Act of 2005 (42 U.S.C. 16231 et seq.) is amended  
 14          by adding at the end the following:

15          **“SEC. 936. RESEARCH AND DEVELOPMENT INTO INTE-**  
 16                               **GRATING RENEWABLE ENERGY ONTO THE**  
 17                               **ELECTRIC GRID.**

18          “(a) IN GENERAL.—Not later than 180 days after  
 19          the enactment of this section, the Secretary shall establish  
 20          a research, development, and demonstration program on  
 21          technologies that enable integration of renewable energy  
 22          generation sources onto the electric grid across multiple  
 23          program offices of the Department. The program shall in-  
 24          clude—

1           “(1) forecasting for predicting generation from  
2 variable renewable energy sources;

3           “(2) development of cost-effective low-loss, long-  
4 distance transmission lines; and

5           “(3) development of cost-effective advanced  
6 technologies for variable renewable generation  
7 sources to provide grid services.

8           “(b) COORDINATION.—In carrying out this program,  
9 the Secretary shall—

10           “(1) coordinate across all relevant program of-  
11 fices at the Department to achieve the goals estab-  
12 lished in this section, including the Office of Elec-  
13 tricity; and

14           “(2) comply with section 5326 of the Clean  
15 Economy Jobs and Innovation Act.

16           “(c) ADOPTION OF TECHNOLOGIES.—In carrying out  
17 this section, the Secretary shall consider barriers to adop-  
18 tion and commercial application of technologies that en-  
19 able integration of renewable energy sources onto the elec-  
20 tric grid, including cost and other economic barriers, and  
21 shall coordinate with relevant entities to reduce these bar-  
22 riers.”.

23           (c) INTEGRATING ELECTRIC VEHICLES ONTO THE  
24 ELECTRIC GRID.—Subtitle B of title I of the Energy Inde-

1 pence and Security Act of 2007 (42 U.S.C. 17011 et  
2 seq.) is amended by adding at the end the following:

3 **“SEC. 137. RESEARCH AND DEVELOPMENT INTO INTE-**  
4 **GRATING ELECTRIC VEHICLES ONTO THE**  
5 **ELECTRIC GRID.**

6 “(a) IN GENERAL.—The Secretary shall establish a  
7 research, development, and demonstration program to ad-  
8 vance the integration of electric vehicles, including plug-  
9 in hybrid electric vehicles, onto the electric grid.

10 “(b) VEHICLES-TO-GRID INTEGRATION ASSESSMENT  
11 REPORT.—Not later than 1 year after the enactment of  
12 this section, the Secretary shall submit to the Committee  
13 on Science, Space, and Technology of the House of Rep-  
14 resentatives and the Committee on Energy and Natural  
15 Resources of the Senate a report on the results of a study  
16 that examines the research, development, and demonstra-  
17 tion opportunities, challenges, and standards needed for  
18 integrating electric vehicles onto the electric grid.

19 “(1) REPORT REQUIREMENTS.—The report  
20 shall include—

21 “(A) an evaluation of the use of electric ve-  
22 hicles to maintain the reliability of the electric  
23 grid, including—

1           “(i) the use of electric vehicles for de-  
2           mand response, load shaping, emergency  
3           power, and frequency regulation; and

4           “(ii) the potential for the reuse of  
5           spent electric vehicle batteries for sta-  
6           tionary grid storage;

7           “(B) the impact of grid integration on  
8           electric vehicles, including—

9           “(i) the impact of bi-directional elec-  
10          tricity flow on battery degradation; and

11          “(ii) the implications of the use of  
12          electric vehicles for grid services on origi-  
13          nal equipment manufacturer warranties;

14          “(C) the impacts to the electric grid of in-  
15          creased penetration of electric vehicles, includ-  
16          ing—

17          “(i) the distribution grid infrastruc-  
18          ture needed to support an increase in  
19          charging capacity;

20          “(ii) strategies for integrating electric  
21          vehicles onto the distribution grid while  
22          limiting infrastructure upgrades;

23          “(iii) the changes in electricity de-  
24          mand over a 24-hour cycle due to electric  
25          vehicle charging behavior;

1           “(iv) the load increases expected from  
2           electrifying the transportation sector;

3           “(v) the potential for customer incen-  
4           tives and other managed charging stations  
5           strategies to shift charging off-peak;

6           “(vi) the technology needed to achieve  
7           bi-directional power flow on the distribu-  
8           tion grid; and

9           “(vii) the implementation of smart  
10          charging techniques;

11          “(D) research on the standards needed to  
12          integrate electric vehicles with the grid, includ-  
13          ing communications systems, protocols, and  
14          charging stations, in collaboration with the Na-  
15          tional Institute for Standards and Technology;

16          “(E) the cybersecurity challenges and  
17          needs associated with electrifying the transpor-  
18          tation sector; and

19          “(F) an assessment of the feasibility of  
20          adopting technologies developed under the pro-  
21          gram established under subsection (a) at De-  
22          partment facilities.

23          “(2) RECOMMENDATIONS.—As part of the Ve-  
24          hicles-to-Grid Integration Assessment Report, the  
25          Secretary shall develop a 10-year roadmap to guide



1 the research, development, and demonstration pro-  
2 gram to integrate electric vehicles onto the electric  
3 grid.

4 “(3) CONSULTATION.—In developing this re-  
5 port, the Secretary shall consult with relevant stake-  
6 holders, including—

7 “(A) electric vehicle manufacturers;

8 “(B) electric utilities;

9 “(C) public utility commissions;

10 “(D) vehicle battery manufacturers;

11 “(E) electric vehicle supply equipment  
12 manufacturers;

13 “(F) charging infrastructure manufactur-  
14 ers;

15 “(G) the National Laboratories; and

16 “(H) other Federal agencies, as the Sec-  
17 retary determines appropriate.

18 “(4) UPDATES.—The Secretary shall update  
19 the report required under this section every 3 years  
20 for the duration of the program under section (a)  
21 and shall submit the updated report to the Com-  
22 mittee on Science, Space, and Technology of the  
23 House of Representatives and the Committee on En-  
24 ergy and Natural Resources of the Senate.

1       “(c) PROGRAM IMPLEMENTATION.—In carrying out  
2 the research, development, demonstration, and commercial  
3 application aims of section, the Secretary shall—

4               “(1) implement the recommendations set forth  
5 in the report in subsection (b);

6               “(2) coordinate across all relevant program of-  
7 fices at the Department to achieve the goals estab-  
8 lished in this section, including the Office of Elec-  
9 tricity; and

10              “(3) comply with section 5326 of the Clean  
11 Economy Jobs and Innovation Act.

12       “(d) TESTING CAPABILITIES.—The Secretary shall  
13 coordinate with the National Laboratories to develop test-  
14 ing capabilities for the evaluation, rapid prototyping, and  
15 optimization of technologies enabling integration of elec-  
16 tric vehicles onto the electric grid.”.

17       (d) RESEARCH AND DEVELOPMENT ON INTEGRATING  
18 BUILDINGS ONTO THE ELECTRIC GRID.—Subtitle B of  
19 title IV of the Energy Independence and Security Act of  
20 2007 (42 U.S.C. 17081 et seq.) is amended by adding at  
21 the end the following:

22       **“SEC. 426. ADVANCED INTEGRATION OF BUILDINGS ONTO**  
23               **THE ELECTRIC GRID.**

24       “(a) BUILDINGS-TO-GRID INTEGRATION REPORT.—  
25 Not later than 1 year after the enactment of this section,

1 the Secretary shall submit to the Committee on Science,  
2 Space, and Technology of the House of Representatives  
3 and the Committee on Energy and Natural Resources of  
4 the Senate a report on the results of a study that examines  
5 the research, development, and demonstration opportuni-  
6 ties, challenges, and standards needed to enable compo-  
7 nents of commercial and residential buildings to serve as  
8 dynamic energy loads on and resources for the electric  
9 grid.

10           “(1) REPORT REQUIREMENTS.—The report  
11 shall include—

12                   “(A) an assessment of the technologies  
13 needed to enable building components as dy-  
14 namic loads on and resources for the electric  
15 grid, including how such technologies can be—

16                           “(i) incorporated into new commercial  
17 and residential buildings; and

18                           “(ii) retrofitted in older buildings;

19                   “(B) guidelines for the design of new  
20 buildings and building components to enable  
21 modern grid interactivity and improve energy  
22 efficiency;

23                   “(C) an assessment of barriers to the  
24 adoption by building owners of advanced tech-

1           nologies enabling greater integration of building  
2           components onto the electric grid; and

3           “(D) an assessment of the feasibility of  
4           adopting advanced building technologies at De-  
5           partment facilities.

6           “(2) RECOMMENDATIONS.—As part of the re-  
7           port, the Secretary shall develop a 10-year roadmap  
8           to guide the research, development, and demonstra-  
9           tion program to enable components of commercial  
10          and residential buildings to serve as dynamic energy  
11          loads on and resources for the electric grid.

12          “(3) UPDATES.—The Secretary shall update  
13          the report required under this section every 3 years  
14          for the duration of the program under subsection (a)  
15          and shall submit the updated report to the Com-  
16          mittee on Science, Space, and Technology of the  
17          House of Representatives and the Committee on En-  
18          ergy and Natural Resources of the Senate.

19          “(b) PROGRAM IMPLEMENTATION.—In carrying out  
20          this section, the Secretary shall—

21                 “(1) implement the recommendations from the  
22                 report in subsection (a);

23                 “(2) coordinate across all relevant program of-  
24                 fices at the Department to achieve the goals estab-

1 lished in this section, including the Office of Elec-  
2 tricity; and

3 “(3) comply with section 5326 of the Clean  
4 Economy Jobs and Innovation Act.”.

5 **SEC. 5325. INDUSTRY ALLIANCE.**

6 Title XIII of the Energy Independence and Security  
7 Act of 2007 (42 U.S.C. 17381 et seq.), as amended, is  
8 amended by adding at the end the following:

9 **“SEC. 1311. INDUSTRY ALLIANCE.**

10 “(a) **IN GENERAL.**—Not later than 180 days after  
11 the enactment of this section, the Secretary shall establish  
12 an advisory committee (to be known as the ‘Industry Alli-  
13 ance’) to advise the Secretary on the authorization of re-  
14 search, development, and demonstration projects under  
15 sections 1304 and 1304a.

16 “(b) **MEMBERSHIP.**—The Industry Alliance shall be  
17 composed of members selected by the Secretary that, as  
18 a group, are broadly representative of United States elec-  
19 tric grid research, development, infrastructure, operations,  
20 and manufacturing expertise.

21 “(c) **RESPONSIBILITY.**—The Secretary shall annually  
22 solicit from the Industry Alliance—

23 “(1) comments to identify grid modernization  
24 technology needs;

1           “(2) an assessment of the progress of the re-  
2           search activities on grid modernization; and

3           “(3) assistance in annually updating grid mod-  
4           ernization technology roadmaps.”.

5 **SEC. 5326. COORDINATION OF EFFORTS.**

6           In carrying out the amendments made by this part,  
7           the Secretary shall coordinate with relevant entities to the  
8           maximum extent practicable, including—

9           (1) electric utilities;

10           (2) private sector entities;

11           (3) representatives of all sectors of the electric  
12           power industry;

13           (4) transmission organizations;

14           (5) transmission owners and operators;

15           (6) distribution organizations;

16           (7) distribution asset owners and operators;

17           (8) State, tribal, local, and territorial govern-  
18           ments and regulatory authorities;

19           (9) academic institutions;

20           (10) the National Laboratories;

21           (11) other Federal agencies;

22           (12) nonprofit organizations;

23           (13) the Federal Energy Regulatory Commis-  
24           sion;

- 1           (14) the North American Reliability Corpora-  
2           tion;  
3           (15) independent system operators; and  
4           (16) programs and program offices at the De-  
5           partment.

6 **SEC. 5327. TECHNICAL AMENDMENTS; AUTHORIZATION OF**  
7           **APPROPRIATIONS.**

8           (a) TECHNICAL AMENDMENTS.—

9           (1) ENERGY INDEPENDENCE AND SECURITY  
10          ACT OF 2007.—Section 1(b) of the Energy Inde-  
11          pendence and Security Act of 2007 is amended in  
12          the table of contents—

13                   (A) by inserting the following after the  
14                   item related to section 136:

                  “Sec. 137. Research and development into integrating electric vehicles onto the  
                                  electric grid.”;

15                   (B) by inserting the following after the  
16                   item related to section 425:

                  “Sec. 426. Advanced integration of buildings onto the electric grid.”;

17                   (C) by inserting the following after the  
18                   item related to section 1304:

                  “Sec. 1304a. Smart grid modeling, visualization, architecture, and controls.”;  
                                  and

19                   (D) by inserting the following after the  
20                   item related to section 1309:

                  “Sec. 1310. Hybrid energy systems.

                  “Sec. 1311. Industry Alliance.”.

1           (2) ENERGY POLICY ACT OF 2005.—Section  
2           1(b) of the Energy Policy Act of 2005 is amended  
3           in the table of contents by inserting the following  
4           after the item related to section 935:

          “Sec. 936. Research and development into integrating renewable energy onto  
          the electric grid.”.

5           (b) AUTHORIZATION OF APPROPRIATIONS.—There  
6           are authorized to be appropriated—

7           (1) to carry out sections 5325 and 5326 and  
8           the amendments made by sections 5321 and 5322 of  
9           this part—

10                   (A) \$175,000,000 for fiscal year 2021;

11                   (B) \$180,000,000 for fiscal year 2022;

12                   (C) \$185,000,000 for fiscal year 2023;

13                   (D) \$190,000,000 for fiscal year 2024;

14                   and

15                   (E) \$199,500,000 for fiscal year 2025;

16           (2) to carry out section 5323 of this part—

17                   (A) \$21,000,000 for fiscal year 2021;

18                   (B) \$22,050,000 for fiscal year 2022;

19                   (C) \$23,153,000 for fiscal year 2023;

20                   (D) \$24,310,000 for fiscal year 2024; and

21                   (E) \$25,525,000 for fiscal year 2025; and

22           (3) to carry out section 5324 of this part—

23                   (A) \$52,500,000 for fiscal year 2021;

24                   (B) \$55,152,000 for fiscal year 2022;



- 1 (C) \$57,882,000 for fiscal year 2023;  
2 (D) \$60,775,000 for fiscal year 2024; and  
3 (E) \$63,814,000 for fiscal year 2025.

4 **PART 3—GRID SECURITY RESEARCH AND**  
5 **DEVELOPMENT**

6 **SEC. 5341. AMENDMENT TO ENERGY INDEPENDENCE AND**  
7 **SECURITY ACT OF 2007.**

8 (a) IN GENERAL.—Title XIII of the Energy Inde-  
9 pendence and Security Act of 2007 (42 U.S.C. 17381 et  
10 seq.), as amended by this Act, is further amended by add-  
11 ing at the end the following:

12 **“SEC. 1312. ENERGY SECTOR SECURITY RESEARCH, DEVEL-**  
13 **OPMENT, AND DEMONSTRATION PROGRAM.**

14 “(a) IN GENERAL.—The Secretary, in coordination  
15 with appropriate Federal agencies, the Electricity Sub-  
16 sector Coordinating Council, the Electric Reliability Orga-  
17 nization, State, tribal, local, and territorial governments,  
18 the private sector, and other relevant stakeholders, shall  
19 carry out a research, development, and demonstration pro-  
20 gram to protect the electric grid and energy systems, in-  
21 cluding assets connected to the distribution grid, from  
22 cyber and physical attacks by increasing the cyber and  
23 physical security capabilities of the energy sector and ac-  
24 celerating the development of relevant technologies and  
25 tools.

1       “(b) DEPARTMENT OF ENERGY.—As part of the ini-  
2 tiative described in subsection (a), the Secretary shall  
3 award research, development, and demonstration grants  
4 to—

5               “(1) identify cybersecurity risks to the elec-  
6 tricity sector, energy systems, and energy infrastruc-  
7 ture;

8               “(2) develop methods and tools to rapidly detect  
9 cyber intrusions and cybersecurity incidents, includ-  
10 ing through the use of data and big data analytics  
11 techniques, such as intrusion detection, and security  
12 information and event management systems, to vali-  
13 date and verify system behavior;

14               “(3) assess emerging cybersecurity capabilities  
15 that could be applied to energy systems and develop  
16 technologies that integrate cybersecurity features  
17 and procedures into the design and development of  
18 existing and emerging grid technologies, including  
19 renewable energy, storage, and demand-side manage-  
20 ment technologies;

21               “(4) identify existing vulnerabilities in intel-  
22 ligent electronic devices, advanced analytics systems,  
23 and information systems;

1           “(5) work with relevant entities to develop tech-  
2 nologies or concepts that build or retrofit cybersecu-  
3 rity features and procedures into—

4           “(A) information and energy management  
5 system devices, components, software, firmware,  
6 and hardware, including distributed control and  
7 management systems, and building manage-  
8 ment systems;

9           “(B) data storage systems, data manage-  
10 ment systems, and data analysis processes;

11           “(C) automated- and manually-controlled  
12 devices and equipment for monitoring and sta-  
13 bilizing the electric grid;

14           “(D) technologies used to synchronize time  
15 and develop guidance for operational contin-  
16 gency plans when time synchronization tech-  
17 nologies, are compromised;

18           “(E) power system delivery and end user  
19 systems and devices that connect to the grid,  
20 including—

21           “(i) meters, phasor measurement  
22 units, and other sensors;

23           “(ii) distribution automation tech-  
24 nologies, smart inverters, and other grid  
25 control technologies;

1           “(iii) distributed generation, energy  
2           storage, and other distributed energy tech-  
3           nologies;

4           “(iv) demand response technologies;

5           “(v) home and building energy man-  
6           agement and control systems;

7           “(vi) electric and plug-in hybrid vehi-  
8           cles and electric vehicle charging systems;  
9           and

10          “(vii) other relevant devices, software,  
11          firmware, and hardware; and

12          “(F) the supply chain of electric grid man-  
13          agement system components;

14          “(6) develop technologies that improve the  
15          physical security of information systems, including  
16          remote assets;

17          “(7) integrate human factors research into the  
18          design and development of advanced tools and proc-  
19          esses for dynamic monitoring, detection, protection,  
20          mitigation, response, and cyber situational aware-  
21          ness;

22          “(8) evaluate and understand the potential con-  
23          sequences of practices used to maintain the cyberse-  
24          curity of information systems and intelligent elec-  
25          tronic devices;

1           “(9) develop or expand the capabilities of exist-  
2           ing cybersecurity test beds to simulate impacts of  
3           cyber attacks and combined cyber-physical attacks  
4           on information systems and electronic devices, in-  
5           cluding by increasing access to existing and emerg-  
6           ing test beds for cooperative utilities, utilities owned  
7           by a political subdivision of a State, such as municipi-  
8           pally-owned electric utilities, and other relevant  
9           stakeholders; and

10           “(10) develop technologies that reduce the cost  
11           of implementing effective cybersecurity technologies  
12           and tools, including updates to these technologies  
13           and tools, in the energy sector.

14           “(c) NATIONAL SCIENCE FOUNDATION.—The Na-  
15           tional Science Foundation, in coordination with other Fed-  
16           eral agencies, shall through its cybersecurity research and  
17           development programs—

18           “(1) support basic research to advance knowl-  
19           edge, applications, technologies, and tools to  
20           strengthen the cybersecurity of information systems  
21           that support the electric grid and energy systems,  
22           including interdisciplinary research in—

23           “(A) evolutionary systems, theories, mathe-  
24           matics, and models;

1           “(B) economic and financial theories,  
2           mathematics, and models; and

3           “(C) big data analytical methods, mathe-  
4           matics, computer coding, and algorithms; and

5           “(2) support cybersecurity education and train-  
6           ing focused on information systems for the electric  
7           grid and energy workforce, including through the  
8           Advanced Technological Education program, the  
9           Cybercorps program, graduate research fellowships,  
10          and other appropriate programs.

11 **“SEC. 1313. GRID RESILIENCE AND EMERGENCY RESPONSE.**

12          “(a) IN GENERAL.—Not later than 180 days after  
13 the enactment of this section, the Secretary, in coordina-  
14 tion with appropriate Federal agencies, shall establish a  
15 research, development, and demonstration program to en-  
16 hance resilience and strengthen emergency response and  
17 management pertaining to the energy sector.

18          “(b) GRANTS.—The Secretary shall award grants to  
19 eligible entities under subsection (c) on a competitive basis  
20 to conduct research and development with the purpose of  
21 improving the resilience and reliability of electric grid by—

22           “(1) developing methods to improve community  
23           and governmental preparation for and emergency re-  
24           sponse to large-area, long-duration electricity inter-  
25           ruptions, including through the use of energy effi-

1       ciency, storage, and distributed generation tech-  
2       nologies;

3             “(2) developing tools to help utilities and com-  
4       munities ensure the continuous delivery of electricity  
5       to critical facilities;

6             “(3) developing tools to improve coordination  
7       between utilities and relevant Federal agencies to  
8       enable communication, information-sharing, and sit-  
9       uational awareness in the event of a physical or  
10      cyber-attack on the electric grid;

11            “(4) developing technologies and capabilities to  
12      withstand and address the current and projected im-  
13      pact of the changing climate on energy sector infra-  
14      structure, including extreme weather events other  
15      natural disasters, and wildfires;

16            “(5) developing technologies capable of early  
17      detection of malfunctioning electrical equipment on  
18      the transmission and distribution grid, including de-  
19      tection of spark ignition causing wildfires and risks  
20      of vegetation contact;

21            “(6) assessing upgrades and additions needed  
22      to energy sector infrastructure due to projected  
23      changes in the energy generation mix and energy de-  
24      mand;

1           “(7) upgrading tools used to estimate the costs  
2 of outages longer than 24 hours; and

3           “(8) developing tools and technologies to assist  
4 with the planning, safe execution of, and safe and  
5 timely restoration of power after emergency power  
6 shut offs, such as those conducted to reduce risks of  
7 wildfires started by grid infrastructure.

8           “(c) CONCURRENT AND CO-LOCATED DISASTERS.—  
9 In carrying out the program under subsection (a), the Sec-  
10 retary shall support research and development on tools,  
11 techniques, and technologies for improving electric grid  
12 and energy sector safety and resilience in the event of mul-  
13 tiple simultaneous or co-located weather or climate events  
14 leading to extreme conditions, such as extreme wind,  
15 wildfires, and extreme heat.

16           “(d) ELIGIBLE ENTITIES.—The entities eligible to  
17 receive grants under this section include—

18           “(1) an institution of higher education, includ-  
19 ing a historically Black college or university and a  
20 minority-serving institution.

21           “(2) a nonprofit organization;

22           “(3) a National Laboratory;

23           “(4) a unit of State, local, or tribal government;

24           “(5) an electric utility or electric cooperative;

25           “(6) a retail service provider of electricity;



1 “(7) a private commercial entity;

2 “(8) a partnership or consortium of 2 or more  
3 entities described in subparagraphs (1) through (7);  
4 and

5 “(9) any other entities the Secretary deems ap-  
6 propriate.

7 “(e) RELEVANT ACTIVITIES.—Grants awarded under  
8 subsection (b) shall include funding for research and de-  
9 velopment activities related to the purpose described in  
10 subsection (b), such as—

11 “(1) development of technologies to use distrib-  
12 uted energy resources, such as solar photovoltaics,  
13 energy storage systems, electric vehicles, and  
14 microgrids, to improve grid and critical end-user re-  
15 siliience;

16 “(2) analysis of non-technical barriers to great-  
17 er integration and use of technologies on the dis-  
18 tribution grid;

19 “(3) analysis of past large-area, long-duration  
20 electricity interruptions to identify common elements  
21 and best practices for electricity restoration, mitiga-  
22 tion, and prevention of future disruptions;

23 “(4) development of advanced monitoring, ana-  
24 lytics, operation, and controls of electric grid sys-  
25 tems to improve electric grid resilience;

1           “(5) analysis of technologies, methods, and con-  
2           cepts that can improve community resilience and  
3           survivability of frequent or long-duration power out-  
4           ages;

5           “(6) development of methodologies to maintain  
6           cybersecurity during restoration of energy sector in-  
7           frastructure and operation;

8           “(7) development of advanced power flow con-  
9           trol systems and components to improve electric grid  
10          resilience; and

11          “(8) any other relevant activities determined by  
12          the Secretary.

13          “(f) TECHNICAL ASSISTANCE.—

14                 “(1) IN GENERAL.—The Secretary, in consulta-  
15                 tion with relevant Federal agencies, shall provide  
16                 technical assistance to eligible entities for the com-  
17                 mercial application of technologies to improve the re-  
18                 silience of the electric grid and commercial applica-  
19                 tion of technologies to help entities develop plans for  
20                 preventing and recovering from various power out-  
21                 age scenarios at the local, regional, and State level.

22                 “(2) TECHNICAL ASSISTANCE PROGRAM.—The  
23                 commercial application technical assistance program  
24                 established in paragraph (1) shall include assistance  
25                 to eligible entities for—

1           “(A) the commercial application of tech-  
2 nologies developed from the grant program es-  
3 tablished in subsection (b), including coopera-  
4 tive utilities and utilities owned by a political  
5 subdivision of a State, such as municipally-  
6 owned electric utilities;

7           “(B) the development of methods to  
8 strengthen or otherwise mitigate adverse im-  
9 pacts on electric grid infrastructure against  
10 natural hazards;

11           “(C) the use of Department data and mod-  
12 eling tools for various purposes;

13           “(D) a resource assessment and analysis of  
14 future demand and distribution requirements,  
15 including development of advanced grid archi-  
16 tectures and risk analysis;

17           “(E) the development of tools and tech-  
18 nologies to coordinate data across relevant enti-  
19 ties to promote resilience and wildfire preven-  
20 tion in the planning, design, construction, oper-  
21 ation, and maintenance of transmission infra-  
22 structure;

23           “(F) analysis to predict the likelihood of  
24 extreme weather events to inform the planning,  
25 design, construction, operation, and mainte-

1 nance of transmission infrastructure in con-  
2 sultation with the National Oceanic and Atmos-  
3 pheric Administration; and

4 “(G) the commercial application of rel-  
5 evant technologies, such as distributed energy  
6 resources, microgrids, or other energy tech-  
7 nologies, to establish backup power for users or  
8 facilities affected by emergency power shutoffs.

9 “(3) ELIGIBLE ENTITIES.—The entities eligible  
10 to receive technical assistance for commercial appli-  
11 cation of technologies under this section include—

12 “(A) representatives of all sectors of the  
13 electric power industry, including electric utili-  
14 ties, trade organizations, and transmission and  
15 distribution system organizations, owners, and  
16 operators;

17 “(B) State and local governments and reg-  
18 ulatory authorities, including public utility com-  
19 missions;

20 “(C) tribal and Alaska Native govern-  
21 mental entities;

22 “(D) partnerships among entities under  
23 subparagraphs (A) through (C);

24 “(E) regional partnerships; and

1           “(F) any other entities the Secretary  
2           deems appropriate.

3           “(4) AUTHORITY.—Nothing in this section shall  
4           authorize the Secretary to require any entity to  
5           adopt any model, tool, technology, plan, analysis, or  
6           assessment.

7   **“SEC. 1314. BEST PRACTICES AND GUIDANCE DOCUMENTS**  
8           **FOR ENERGY SECTOR CYBERSECURITY RE-**  
9           **SEARCH.**

10          “(a) IN GENERAL.—The Secretary, in coordination  
11          with appropriate Federal agencies, the Electricity Sub-  
12          sector Coordinating Council, standards development orga-  
13          nizations, State, tribal, local, and territorial governments,  
14          the private sector, public utility commissions, and other  
15          relevant stakeholders, shall coordinate the development of  
16          guidance documents for research, development, and dem-  
17          onstration activities to improve the cybersecurity capabili-  
18          ties of the energy sector through participating agencies.  
19          As part of these activities, the Secretary, in consultation  
20          with relevant Federal agencies, shall—

21                  “(1) facilitate stakeholder involvement to up-  
22                  date—

23                          “(A) the Roadmap to Achieve Energy De-  
24                          livery Systems Cybersecurity;

1           “(B) the Cybersecurity Procurement Lan-  
2 guage for Energy Delivery Systems, including  
3 developing guidance for—

4           “(i) contracting with third parties to  
5 conduct vulnerability testing for informa-  
6 tion systems used across the energy pro-  
7 duction, delivery, storage, and end use sys-  
8 tems;

9           “(ii) contracting with third parties  
10 that utilize transient devices to access in-  
11 formation systems; and

12           “(iii) managing supply chain risks;  
13 and

14           “(C) the Electricity Subsector Cybersecu-  
15 rity Capability Maturity Model, including the  
16 development of metrics to measure changes in  
17 cybersecurity readiness; and

18           “(2) develop voluntary guidance to improve dig-  
19 ital forensic analysis capabilities, including—

20           “(A) developing standardized terminology  
21 and monitoring processes; and

22           “(B) utilizing human factors research to  
23 develop more effective procedures for logging  
24 incident events; and

1           “(3) develop a mechanism to anonymize, aggre-  
2           gate, and share the testing results from cybersecu-  
3           rity test beds to facilitate technology improvements  
4           by public and private sector researchers.

5           “(b) BEST PRACTICES.—The Secretary, in collabora-  
6           tion with the Director of the National Institute of Stand-  
7           ards and Technology, the Director of the Cybersecurity  
8           and Infrastructure Security Agency, and other appropriate  
9           Federal agencies, shall convene relevant stakeholders and  
10          facilitate the development of—

11           “(1) consensus-based best practices to improve  
12          cybersecurity for—

13           “(A) emerging energy technologies;

14           “(B) distributed generation and storage  
15          technologies, and other distributed energy re-  
16          sources;

17           “(C) electric vehicles and electric vehicle  
18          charging stations; and

19           “(D) other technologies and devices that  
20          connect to the electric grid;

21           “(2) recommended cybersecurity designs and  
22          technical requirements that can be used by the pri-  
23          vate sector to design and build interoperable cyber-  
24          security features into technologies that connect to

1 the electric grid, including networked devices and  
2 components on distribution systems; and

3 “(3) technical analysis that can be used by the  
4 private sector in developing best practices for test  
5 beds and test bed methodologies that will enable re-  
6 producible testing of cybersecurity protections for in-  
7 formation systems, electronic devices, and other rel-  
8 evant components, software, and hardware across  
9 test beds.

10 “(c) REGULATORY AUTHORITY.—None of the activi-  
11 ties authorized in this section shall be construed to author-  
12 ize regulatory actions. Additionally, the voluntary stand-  
13 ards developed under this section shall not duplicate or  
14 conflict with mandatory reliability standards.

15 **“SEC. 1315. VULNERABILITY TESTING AND TECHNICAL AS-**  
16 **SISTANCE TO IMPROVE CYBERSECURITY.**

17 “The Secretary shall—

18 “(1) coordinate with appropriate Federal agen-  
19 cies and energy sector asset owners and operators,  
20 leveraging the research facilities and expertise of the  
21 National Laboratories, to assist entities in devel-  
22 oping testing capabilities by—

23 “(A) utilizing a range of methods to iden-  
24 tify vulnerabilities in physical and cyber sys-  
25 tems;



1           “(B) developing cybersecurity risk assess-  
2           ment tools and providing analyses and rec-  
3           ommendations to participating stakeholders;  
4           and

5           “(C) working with appropriate Federal  
6           agencies and stakeholders to develop methods to  
7           share anonymized and aggregated test results  
8           to assist relevant stakeholders in the energy  
9           sector, researchers, and the private sector to  
10          advance cybersecurity efforts, technologies, and  
11          tools;

12          “(2) in coordination with appropriate Federal  
13          agencies, collaborate with relevant stakeholders, in-  
14          cluding public utility commissions, to—

15                 “(A) identify information, research, staff  
16                 training, and analytical tools needed to evaluate  
17                 cybersecurity issues and challenges in the en-  
18                 ergy sector; and

19                 “(B) facilitate the sharing of information  
20                 and the development of tools identified under  
21                 subparagraph (A);

22          “(3) coordinate with tribal governments to iden-  
23          tify information, research, and analysis tools needed  
24          by tribal governments to increase the cybersecurity  
25          of energy assets within their jurisdiction.

1 **“SEC. 1316. EDUCATION AND WORKFORCE TRAINING RE-**  
2 **SEARCH AND STANDARDS.**

3 “(a) IN GENERAL.—The Secretary shall support the  
4 development of an energy sector cybersecurity workforce  
5 through a program that—

6 “(1) facilitates collaboration between under-  
7 graduate and graduate students, researchers at the  
8 National Laboratories, and the civilian energy sec-  
9 tor;

10 “(2) prioritizes science and technology in areas  
11 relevant to the mission of the Department of Energy  
12 through the design and application of cybersecurity  
13 technologies for the energy sector;

14 “(3) develops, or facilitates private sector devel-  
15 opment of, voluntary cybersecurity training and re-  
16 training standards, lessons, and recommendations  
17 for the energy sector that minimize duplication of  
18 cybersecurity compliance training programs; and

19 “(4) maintains a public database of energy sec-  
20 tor cybersecurity education, training, and certifi-  
21 cation programs.

22 “(b) GRID RESILIENCE TECHNOLOGY TRAINING.—  
23 The Secretary shall support the development of the grid  
24 workforce through a training program that prioritizes ac-  
25 tivities that enhance the resilience of the electric grid and  
26 energy sector infrastructure, including training on the use

1 of tools, technologies, and methods developed under the  
2 grant program established in section 1313(b).

3 “(c) COLLABORATION.—In carrying out the program  
4 authorized in subsection (a) and (b), the Secretary shall  
5 coordinate with appropriate Federal agencies and leverage  
6 programs and activities carried out across the Department  
7 of Energy, other relevant Federal agencies, institutions of  
8 higher education, and other appropriate entities best suit-  
9 ed to provide national leadership on cybersecurity and grid  
10 resilience-related issues.

11 **“SEC. 1317. INTERAGENCY COORDINATION AND STRATEGIC**  
12 **PLAN FOR ENERGY SECTOR CYBERSECURITY**  
13 **RESEARCH.**

14 “(a) DUTIES.—The Secretary, in coordination with  
15 appropriate Federal agencies and the Energy Sector Gov-  
16 ernment Coordinating Council, shall—

17 “(1) review the most recent versions of the  
18 Roadmap to Achieve Energy Delivery Systems Cy-  
19 bersecurity and the Multi-Year Program Plan for  
20 Energy Sector Cybersecurity to identify crosscutting  
21 energy sector cybersecurity research needs and op-  
22 portunities for collaboration among Federal agencies  
23 and other relevant stakeholders;

1           “(2) identify interdisciplinary research, tech-  
2           nology, and tools that can be applied to cybersecu-  
3           rity challenges in the energy sector;

4           “(3) identify technology transfer opportunities  
5           to accelerate the development and commercial appli-  
6           cation of novel cybersecurity technologies, systems,  
7           and processes in the energy sector; and

8           “(4) develop a coordinated Interagency Stra-  
9           tegic Plan for research to advance cybersecurity ca-  
10          pabilities used in the energy sector that builds on  
11          the Roadmap to Achieve Energy Delivery Systems in  
12          Cybersecurity and the Multi-Year Program Plan for  
13          Energy Sector Cybersecurity.

14          “(b) INTERAGENCY STRATEGIC PLAN.—

15                 “(1) SUBMITTAL.—The Interagency Strategic  
16                 Plan developed under subsection (a)(4) shall be sub-  
17                 mitted to Congress and made public within 12  
18                 months after the date of enactment of this section.

19                 “(2) CONTENTS.—The Interagency Strategic  
20                 Plan shall include—

21                         “(A) an analysis of how existing cybersecu-  
22                         rity research efforts across the Federal Govern-  
23                         ment are advancing the goals of the Roadmap  
24                         to Achieve Energy Delivery Systems Cybersecu-

1 rity and the Multi-Year Program Plan for En-  
2 ergy Sector Cybersecurity;

3 “(B) recommendations for research areas  
4 that may advance the cybersecurity of the en-  
5 ergy sector;

6 “(C) an overview of existing and proposed  
7 public and private sector research efforts that  
8 address the topics outlined in paragraph (3);  
9 and

10 “(D) an overview of needed support for  
11 workforce training in cybersecurity for the en-  
12 ergy sector.

13 “(3) CONSIDERATIONS.—In developing the  
14 Interagency Strategic Plan, the Secretary, in coordi-  
15 nation with appropriate Federal agencies and the  
16 Energy Sector Government Coordinating Council,  
17 shall consider—

18 “(A) opportunities for human factors re-  
19 search to improve the design and effectiveness  
20 of cybersecurity devices, technologies, tools,  
21 processes, and training programs;

22 “(B) contributions of other disciplines to  
23 the development of innovative cybersecurity pro-  
24 cedures, devices, components, technologies, and  
25 tools;

1           “(C) opportunities for technology transfer  
2           programs to facilitate private sector develop-  
3           ment of cybersecurity procedures, devices, com-  
4           ponents, technologies, and tools for the energy  
5           sector; and

6           “(D) broader applications of the work done  
7           by relevant Federal agencies to advance the cy-  
8           bersecurity of information systems and data  
9           analytics systems for the energy sector.

10          “(c) PARTICIPATION.—For the purposes of carrying  
11          out this section, the Energy Sector Government Coordi-  
12          nating Council shall include representatives from Federal  
13          agencies with expertise in the energy sector, information  
14          systems, data analytics, cyber and physical systems, engi-  
15          neering, human factors research, human-machine inter-  
16          faces, high performance computing, big data and data  
17          analytics, or other disciplines considered appropriate by  
18          the Council Chair.

19          **“SEC. 1318. REPORT TO CONGRESS.**

20          “(a) STUDY.—The Secretary, in collaboration with  
21          appropriate Federal agencies and energy sector stake-  
22          holders, in order to provide recommendations for addi-  
23          tional research, development, demonstration, and commer-  
24          cial application activities, shall—

1           “(1) analyze physical and cyber attacks on in-  
2           frastructure related to energy functions in the en-  
3           ergy sector and identify cost-effective opportunities  
4           to improve physical and cyber security for such in-  
5           frastructure; and

6           “(2) examine the risks associated with increas-  
7           ing penetration of digital technologies in grid net-  
8           works, particularly on the distribution grid.

9           “(b) CONTENT.—The study shall—

10           “(1) analyze processes, operational procedures,  
11           and other factors common among cyber attacks;

12           “(2) identify areas where human behavior plays  
13           a critical role in maintaining or compromising the  
14           security of a system;

15           “(3) recommend—

16           “(A) changes to the design of devices,  
17           human-machine interfaces, technologies, tools,  
18           processes, or procedures to optimize security  
19           that do not require a change in human behav-  
20           ior; and

21           “(B) training techniques to increase the  
22           capacity of employees to actively identify, pre-  
23           vent, or neutralize the impact of cyber attacks;

24           “(4) evaluate existing engineering and technical  
25           design criteria and guidelines that incorporate

1 human factors research findings, and recommend  
2 criteria and guidelines for cybersecurity tools that  
3 can be used to develop display systems for cyberse-  
4 curity monitoring, such as alarms, user-friendly dis-  
5 plays, and layouts;

6 “(5) evaluate the cybersecurity risks and bene-  
7 fits of various design and architecture options for  
8 energy sector systems, networked grid systems and  
9 components, and automation systems, including con-  
10 sideration of—

11 “(A) designs that include both digital and  
12 analog control devices and technologies;

13 “(B) different communication technologies  
14 used to transfer information and data between  
15 control system devices, technologies, and system  
16 operators;

17 “(C) automated and human-in-the-loop de-  
18 vices and technologies;

19 “(D) programmable versus nonprogram-  
20 mable devices and technologies;

21 “(E) increased redundancy using dissimilar  
22 cybersecurity technologies; and

23 “(F) grid architectures that use autono-  
24 mous functions to limit control vulnerabilities;  
25 and



1           “(6) recommend methods or metrics to docu-  
2           ment changes in risks associated with system de-  
3           signs and architectures.

4           “(c) CONSULTATION.—In conducting the study, the  
5           Secretary shall consult with energy sector stakeholders,  
6           academic researchers, the private sector, and other rel-  
7           evant stakeholders.

8           “(d) REPORT.—Not later than 24 months after the  
9           date of enactment of this section, the Secretary shall sub-  
10          mit the study to the Committee on Science, Space, and  
11          Technology of the House of Representatives and the Com-  
12          mittee on Energy and Natural Resources of the Senate.

13       **“SEC. 1319. DEFINITIONS.**

14          “For purposes of sections 1312 through 1318:

15               “(1) BIG DATA.—The term ‘big data’ means  
16               datasets that require advanced analytical methods  
17               for their transformation into useful information.

18               “(2) HISTORICALLY BLACK COLLEGE OR UNI-  
19               VERSITY.—The term ‘historically Black college or  
20               university’ has the meaning given the term ‘part B  
21               institution’ in section 322(2) of the Higher Edu-  
22               cation Act of 1965 (29 U.S.C. 106(2)).

23               “(3) HUMAN FACTORS RESEARCH.—The term  
24               ‘human factors research’ means research on human  
25               performance in social and physical environments,

1 and on the integration and interaction of humans  
2 with physical systems and computer hardware and  
3 software.

4 “(4) HUMAN-MACHINE INTERFACES.—The term  
5 ‘human-machine interfaces’ means technologies that  
6 present information to an operator or user about the  
7 state of a process or system, or accept human in-  
8 structions to implement an action, including visual-  
9 ization displays such as a graphical user interface.

10 “(5) MINORITY-SERVING INSTITUTION.—The  
11 term ‘minority-serving institution’ means an eligible  
12 institution under section 371(a) of the Higher Edu-  
13 cation Act of 1965 (20 U.S.C. 1067q(a)).

14 “(6) NATIONAL LABORATORY.—The term ‘na-  
15 tional laboratory’ has the meaning given the term in  
16 section 2 of the Energy Policy Act of 2005 (42  
17 U.S.C. 15801).

18 “(7) SECURITY VULNERABILITY.—The term  
19 ‘security vulnerability’ has the meaning given the  
20 term in section 102 of the Cybersecurity Information  
21 Sharing Act of 2015 (6 U.S.C. 1501).

22 “(8) TRANSIENT DEVICES.—The term ‘tran-  
23 sient devices’ means removable media, including  
24 floppy disks, compact disks, USB flash drives, exter-

1       nal hard drives, mobile devices, and other devices  
2       that utilize wireless connections.”.

3       (b) AUTHORIZATION OF APPROPRIATIONS.—There  
4       are authorized to be appropriated to carry out the amend-  
5       ments made by subsection (a)—

6             (1) \$150,000,000 for fiscal year 2021;

7             (2) \$157,500,000 for fiscal year 2022;

8             (3) \$165,375,000 for fiscal year 2023;

9             (4) \$173,645,000 for fiscal year 2024; and

10            (5) \$182,325,000 for fiscal year 2025.

11 **SEC. 5342. CRITICAL INFRASTRUCTURE RESEARCH AND**  
12 **CONSTRUCTION.**

13       (a) IN GENERAL.—The Secretary of Energy shall  
14       carry out a program of research, development, and dem-  
15       onstration of technologies and tools to help ensure the re-  
16       silience and security of critical infrastructure.

17       (b) COORDINATION.—In carrying out the program  
18       under subsection (a), the Secretary shall leverage expertise  
19       and resources of and coordinate with—

20             (1) relevant programs and activities across the  
21       Department of Energy; and

22             (2) other relevant Federal agencies.

23       (c) ENERGY SECTOR CRITICAL INFRASTRUCTURE  
24       TEST FACILITY.—In carrying out the program under sub-  
25       section (a), the Secretary, in consultation with other ap-

1 appropriate Federal agencies, shall establish and operate an  
2 Energy Sector Critical Infrastructure Test Facility (re-  
3 ferred to in this section as the “Test Facility”) that allows  
4 for scalable physical and cyber performance testing to be  
5 conducted on industry-scale energy sector critical infra-  
6 structure systems. This facility shall include a focus on—

7 (1) cybersecurity test beds; and

8 (2) electric grid test beds.

9 (d) SELECTION.—The Secretary shall select the Test  
10 Facility under this section on a competitive, merit-re-  
11 viewed basis. The Secretary shall consider applications  
12 from National Laboratories, institutions of higher edu-  
13 cation, multi-institutional collaborations, and other appro-  
14 priate entities.

15 (e) DURATION.—The Test Facility established under  
16 this section shall receive support for a period of not more  
17 than 5 years, subject to the availability of appropriations.

18 (f) RENEWAL.—Upon the expiration of any period of  
19 support of the Test Facility, the Secretary may renew sup-  
20 port for the Test Facility, on a merit-reviewed basis, for  
21 a period of not more than 5 years.

22 (g) TERMINATION.—Consistent with the existing au-  
23 thorities of the Department, the Secretary may terminate  
24 the Test Facility for cause during the performance period.

1           (h) CRITICAL INFRASTRUCTURE DEFINED.—The  
2 term “critical infrastructure” means infrastructure that  
3 the Secretary determines to be vital to socioeconomic ac-  
4 tivities such that, if destroyed or damaged, such destruc-  
5 tion or damage could cause substantial disruption to such  
6 socioeconomic activities.

7           (i) CRITICAL INFRASTRUCTURE AND MICROGRID RE-  
8 SEARCH PROGRAM.—The Secretary shall establish a re-  
9 search, development, and demonstration program to im-  
10 prove the energy resilience of critical infrastructure, in-  
11 cluding through the use of microgrids, during extreme  
12 weather events including extreme heat and wildfires. This  
13 program shall focus on developing technologies that—

14                 (1) improve the energy resilience and meet the  
15 power needs of critical infrastructure, including  
16 through the use of microgrids, renewable energy, en-  
17 ergy efficiency, and on-site storage;

18                 (2) improve the energy efficiency of critical in-  
19 frastructure;

20                 (3) decrease the size and cost of on-site backup  
21 generators for critical infrastructure;

22                 (4) provide on-site back-up power with renew-  
23 able and low-carbon liquid fuels; and

24                 (5) ensure the safe power up and power down  
25 of critical infrastructure when necessary, as well as

1 the transfer to backup sources of power for uninter-  
 2 rupted electricity supply, including the use of  
 3 microgrids.

4 **SEC. 5343. CONFORMING AMENDMENT.**

5 Section 1(b) of the Energy Independence and Secu-  
 6 rity Act of 2007 is amended in the table of contents by  
 7 adding after the matter relating to section 1311 (as added  
 8 by this Act) the following:

“Sec. 1312. Energy sector security research, development, and demonstration program.

“Sec. 1313. Grid resilience and emergency response.

“Sec. 1314. Best practices and guidance documents for energy sector cybersecurity research.

“Sec. 1315. Vulnerability testing and technical assistance to improve cybersecurity.

“Sec. 1316. Education and workforce training research and standards.

“Sec. 1317. Interagency coordination and strategic plan for energy sector cybersecurity research.

“Sec. 1318. Report to Congress.

“Sec. 1319. Definitions.”.

9 **Subtitle D—Tribal Energy**

10 **SEC. 5401. INDIAN ENERGY.**

11 (a) DEFINITION OF INDIAN LAND.—Section 2601(2)  
 12 of the Energy Policy Act of 1992 (25 U.S.C. 3501(2))  
 13 is amended—

14 (1) in subparagraph (B)(iii), by striking “and”;

15 (2) in subparagraph (C), by striking “land.”

16 and inserting “land;”; and

17 (3) by adding at the end the following subpara-  
 18 graphs:

19 “(D) any land located in a census tract in  
 20 which the majority of residents are Natives (as

1 defined in section 3(b) of the Alaska Native  
2 Claims Settlement Act (43 U.S.C. 1602(b));  
3 and

4 “(E) any land located in a census tract in  
5 which the majority of residents are persons who  
6 are enrolled members of a federally recognized  
7 Tribe or village.”.

8 (b) REDUCTION OF COST SHARE.—Section  
9 2602(b)(5) of the Energy Policy Act of 1992 (25 U.S.C.  
10 3502(b)(5)) is amended by adding at the end the following  
11 subparagraphs:

12 “(D) The Secretary of Energy may reduce any  
13 applicable cost share required of an Indian tribe,  
14 intertribal organization, or tribal energy development  
15 organization in order to receive a grant under this  
16 subsection to not less than 10 percent if the Indian  
17 tribe, intertribal organization, or tribal energy devel-  
18 opment organization meets criteria developed by the  
19 Secretary of Energy, including financial need.

20 “(E) Section 988 of the Energy Policy Act of  
21 2005 (42 U.S.C. 16352) shall not apply to assist-  
22 ance provided under this subsection.”.

23 (c) AUTHORIZATION.—Section 2602(b)(7) of the En-  
24 ergy Policy Act of 1992 (25 U.S.C. 3502(b)(7)) is amend-  
25 ed by striking “\$20,000,000 for each of fiscal years 2006

1 through 2016” and inserting “\$30,000,000 for each of fis-  
2 cal years 2021 through 2025”.

3 **SEC. 5402. REPORT ON ELECTRICITY ACCESS AND RELI-**  
4 **ABILITY.**

5 (a) ASSESSMENT.—The Secretary of Energy shall  
6 conduct an assessment of the status of access to electricity  
7 by households residing in Tribal communities or on Indian  
8 land, and the reliability of electric service available to  
9 households residing in Tribal communities or on Indian  
10 land, as compared to the status of access to and reliability  
11 of electricity within neighboring States or within the State  
12 in which Indian land is located.

13 (b) CONSULTATION.—The Secretary of Energy shall  
14 consult with Indian Tribes, Tribal organizations, the  
15 North American Electricity Reliability Corporation, and  
16 the Federal Energy Regulatory Commission in the devel-  
17 opment and conduct of the assessment under subsection  
18 (a). Indian Tribes and Tribal organizations shall have the  
19 opportunity to review and make recommendations regard-  
20 ing the development of the assessment and the findings  
21 of the assessment, prior to the submission of the report  
22 under subsection (c).

23 (c) REPORT.—Not later than 18 months after the  
24 date of enactment of this Act, the Secretary of Energy  
25 shall submit to the Committee on Energy and Commerce



1 of the House of Representatives and the Committee on  
2 Energy and Natural Resources of the Senate a report on  
3 the results of the assessment conducted under subsection  
4 (a), which shall include—

5           (1) a description of generation, transmission,  
6           and distribution assets available to provide electricity  
7           to households residing in Tribal communities or on  
8           Indian land;

9           (2) a survey of the retail and wholesale prices  
10          of electricity available to households residing in  
11          Tribal communities or on Indian land;

12          (3) a description of participation of Tribal  
13          members in the electric utility workforce, including  
14          the workforce for construction and maintenance of  
15          renewable energy resources and distributed energy  
16          resources;

17          (4) the percentage of households residing in  
18          Tribal communities or on Indian land that do not  
19          have access to electricity;

20          (5) the potential of distributed energy resources  
21          to provide electricity to households residing in Tribal  
22          communities or on Indian land;

23          (6) the potential for tribally-owned electric utili-  
24          ties or electric utility assets to participate in or ben-  
25          efit from regional electricity markets;

1 (7) a description of the barriers to providing ac-  
2 cess to electric service to households residing in  
3 Tribal communities or on Indian land; and

4 (8) recommendations to improve access to and  
5 reliability of electric service for households residing  
6 in Tribal communities or on Indian land.

7 (d) DEFINITIONS.—In this section:

8 (1) TRIBAL MEMBER.—The term “Tribal mem-  
9 ber” means a person who is an enrolled member of  
10 a federally recognized Tribe or village.

11 (2) TRIBAL COMMUNITY.—The term “Tribal  
12 community” means a community in a United States  
13 census tract in which the majority of residents are  
14 persons who are enrolled members of a federally rec-  
15 ognized Tribe or village.

## 16 **Subtitle E—Utility Resilience and** 17 **Reliability**

### 18 **SEC. 5501. RELIABILITY OF BULK-POWER SYSTEM IN** 19 **CHANGING CONDITIONS.**

20 (a) IN GENERAL.—Not later than 1 year after the  
21 date of enactment of this paragraph, the Electric Reli-  
22 ability Organization shall file with the Federal Energy  
23 Regulatory Commission a proposed reliability standard,  
24 under section 215(d) of the Federal Power Act (16 U.S.C.

1 824o(d)), that addresses the reliability of the bulk-power  
2 system and suggestions for how to—

3 (1) prepare for and adapt to changing condi-  
4 tions; and

5 (2) withstand and rapidly recover from disrup-  
6 tions, including disruptions caused by extreme  
7 weather conditions.

8 (b) REGIONAL DIFFERENCES.—The proposed reli-  
9 ability standard filed under subsection (a) shall take into  
10 account regional differences.

11 (c) DEFINITIONS.—In this section, the terms “bulk-  
12 power system”, “Electric Reliability Organization”, and  
13 “reliability standard” have the meanings given those  
14 terms in section 215 of the Federal Power Act (16 U.S.C.  
15 824o).

16 **SEC. 5502. ELECTRIC GRID RESILIENCE EDUCATION PRO-**  
17 **GRAM.**

18 (a) IN GENERAL.—Not later than 1 year after the  
19 date of enactment of this section, the Secretary of Energy  
20 shall establish a program to provide information and rec-  
21 ommendations to States and electric utilities on how to  
22 improve the resilience of electric grids in regards to cli-  
23 mate change and extreme weather events.

24 (b) ELECTRIC UTILITY DEFINED.—In this section,  
25 the term “electric utility” has the meaning given such

1 term in section 3 of the Federal Power Act (16 U.S.C.  
2 796).

3 **SEC. 5503. REPORT ON PLANNED ELECTRIC POWER OUT-**  
4 **AGES DUE TO EXTREME WEATHER CONDI-**  
5 **TIONS.**

6 Not later than 1 year after the date of enactment  
7 of this section, the Secretary of Energy shall submit to  
8 Congress a report, and publish such report on the website  
9 of the Department of Energy, that provides recommenda-  
10 tions on how to minimize the need for, effects of, and du-  
11 ration of, planned electric power outages that are due to  
12 extreme weather conditions, including such conditions  
13 under which the National Weather Service issues a red  
14 flag warning.

15 **TITLE VI—TRANSPORTATION**  
16 **Subtitle A—Diesel Emissions**  
17 **Reduction**

18 **SEC. 6101. REAUTHORIZATION OF DIESEL EMISSIONS RE-**  
19 **DUCTION PROGRAM.**

20 Section 797(a) of the Energy Policy Act of 2005 (42  
21 U.S.C. 16137(a)) is amended by striking “\$100,000,000  
22 for each of fiscal years 2012 through 2016” and inserting  
23 “\$500,000,000 for each of fiscal years 2021 through  
24 2025”.

1           **Subtitle B—Clean School Bus**  
2                           **Program**

3 **SEC. 6201. REAUTHORIZATION OF CLEAN SCHOOL BUS PRO-**  
4                           **GRAM.**

5           (a) DEFINITIONS.—

6                 (1) ALTERNATIVE FUEL.—Section 741(a)(2) of  
7           the Energy Policy Act of 2005 (42 U.S.C. 16091(a))  
8           is amended—

9                         (A) in subparagraph (B), by striking “or”  
10           after the semicolon;

11                        (B) in subparagraph (C), by striking the  
12           period at the end and inserting “; or”; and

13                        (C) by adding at the end the following new  
14           subparagraph:

15                                 “(D) electricity.”.

16                 (2) CLEAN SCHOOL BUS.—Paragraph (3) of  
17           section 741(a) of the Energy Policy Act of 2005 (42  
18           U.S.C. 16091(a)) is amended to read as follows:

19                         “(3) CLEAN SCHOOL BUS.—The term ‘clean  
20           school bus’ means—

21                                 “(A) a school bus (as the term ‘schoolbus’  
22           is defined in section 30125(a) of title 49,  
23           United States Code) that—

24   “(i) is operated solely on an alter-  
25           native fuel; and

1                   “(ii) meets or exceeds Federal vehicle  
2                   emission standards for medium-duty pas-  
3                   senger vehicles applicable to the model  
4                   year in which the school bus is manufac-  
5                   tured; or

6                   “(B) a zero-emission school bus.”.

7                   (3) OTHER DEFINITIONS.—Section 741(a) of  
8                   the Energy Policy Act of 2005 (42 U.S.C.  
9                   16091(a)), as amended, is further amended—

10                   (A) by redesignating paragraphs (4), (5),  
11                   and (6) as paragraphs (5), (9), and (10), re-  
12                   spectively;

13                   (B) by inserting after paragraph (3) the  
14                   following:

15                   “(4) COMMUNITY OF COLOR.—The term ‘com-  
16                   munity of color’ means any geographically distinct  
17                   area the population of color of which is higher than  
18                   the average population of color of the State in which  
19                   the community is located.”;

20                   (C) by inserting after paragraph (5), as re-  
21                   designated, the following:

22                   “(6) INDIGENOUS COMMUNITY.—The term ‘in-  
23                   digenous community’ means—

24                   “(A) a federally recognized Indian Tribe;

25                   “(B) a State-recognized Indian Tribe;

1           “(C) an Alaska Native or Native Hawaiian  
2           community or organization; and

3           “(D) any other community of indigenous  
4           people, including communities in other coun-  
5           tries.

6           “(7) LOW INCOME.—The term ‘low income’  
7           means an annual household income equal to, or less  
8           than, the greater of—

9           “(A) an amount equal to 80 percent of the  
10          median income of the area in which the house-  
11          hold is located, as reported by the Department  
12          of Housing and Urban Development; and

13          “(B) 200 percent of the Federal poverty  
14          line.

15          “(8) LOW-INCOME COMMUNITY.—The term  
16          ‘low-income community’ means any census block  
17          group in which 30 percent or more of the population  
18          are individuals with low income.”; and

19                 (D) by adding at the end the following:

20          “(11) ZERO-EMISSION SCHOOL BUS.—The term  
21          ‘zero-emission school bus’ means a school bus (as  
22          the term ‘schoolbus’ is defined in section 30125(a)  
23          of title 49, United States Code) with a drivetrain  
24          that produces, under any possible operational mode  
25          or condition, zero exhaust emission of—

1           “(A) any air pollutant that is listed pursu-  
2           ant to section 108(a) of the Clean Air Act (42  
3           U.S.C. 7407(a)) (or any precursor to such an  
4           air pollutant); or

5           “(B) any greenhouse gas.”.

6           (b) PROGRAM FOR RETROFIT OR REPLACEMENT OF  
7           CERTAIN EXISTING SCHOOL BUSES WITH CLEAN  
8           SCHOOL BUSES.—

9           (1) NATIONAL GRANT, REBATE, AND LOAN PRO-  
10          GRAMS.—

11           (A) IN GENERAL.—Section 741(b)(1)(A) of  
12           the Energy Policy Act of 2005 (42 U.S.C.  
13           16091(b)(1)(A)) is amended by inserting after  
14           “awarding grants” the following: “, rebates,  
15           and low-cost revolving loans, as determined by  
16           the Administrator, including through contracts  
17           pursuant to subsection (d),”.

18           (B) CONFORMING CHANGES.—Section 741  
19           of the Energy Policy Act of 2005 (42 U.S.C.  
20           16091) is amended—

21           (i) in subsection (a)(4)(B), by striking  
22           “grant funds” and inserting “award  
23           funds”;



- 1 (ii) in subsection (b)(1)(B), by strik-  
2 ing “awarding grants” each place it ap-  
3 pears and inserting “making awards”;
- 4 (iii) in the heading of subsection  
5 (b)(2), by striking “GRANT APPLICATIONS”  
6 and inserting “AWARD APPLICATIONS”;
- 7 (iv) in subsection (b)(2)(A), by strik-  
8 ing “grant applications” and inserting  
9 “award applications”;
- 10 (v) in subsection (b)(3)(A), by strik-  
11 ing “grant” and insert “award”;
- 12 (vi) and (b)(4)—
- 13 (I) in the paragraph heading, by  
14 striking “GRANTS” and inserting  
15 “AWARDS”; and
- 16 (II) by striking “award grants”  
17 and inserting “make awards”;
- 18 (vii) in subsection (b)(7)—
- 19 (I) by striking “grant awards”  
20 and inserting “awards”; and
- 21 (II) by striking “grant funding”  
22 and inserting “funding”;
- 23 (viii) in subsection (b)(8)(A)(ii)—
- 24 (I) in subclauses (I) and (II), by  
25 striking “grant applications” each

1 place it appears and inserting “award  
2 applications”; and

3 (II) in subclause (III)—

4 (aa) by striking “grants  
5 awarded” and inserting “awards  
6 made”; and

7 (bb) by striking “grant re-  
8 cipients” and inserting “award  
9 recipients”; and

10 (ix) in subsection (c)(3)—

11 (I) in subparagraph (A)—

12 (aa) by striking “grant re-  
13 cipients” and inserting “award  
14 recipients”; and

15 (bb) by striking “grants”  
16 and inserting “awards”; and

17 (II) in subparagraph (C), by  
18 striking “grant program” and insert-  
19 ing “award program”.

20 (2) PRIORITY OF AWARD APPLICATIONS.—Sec-  
21 tion 741(b)(2) of the Energy Policy Act of 2005 (42  
22 U.S.C. 16091(b)(2)) is amended—

23 (A) in subparagraph (A)—

24 (i) by striking “1977” and inserting  
25 “2007”; and

1 (ii) by inserting before the period at  
2 the end “with clean school buses”; and

3 (B) by amending subparagraph (B) to read  
4 as follows:

5 “(B) RETROFITTING.—In the case of  
6 award applications to retrofit school buses, the  
7 Administrator shall give highest priority to ap-  
8 plicants that propose to retrofit school buses  
9 manufactured before model year 2010 to be-  
10 come clean school buses.”.

11 (3) USE OF SCHOOL BUS FLEET.—Section  
12 741(b)(3)(B) of the Energy Policy Act of 2005 (42  
13 U.S.C. 16091(b)(3)(B)) is amended by inserting  
14 “charged,” after “operated,”.

15 (4) REPLACEMENT AWARDS.—Paragraph (5) of  
16 section 741(b) of the Energy Policy Act of 2005 (42  
17 U.S.C. 16091(b)) is amended to read as follows:

18 “(5) REPLACEMENT AWARDS.—In the case of  
19 awards to replace school buses—

20 “(A) the Administrator may make awards  
21 for up to—

22 “(i) 100 percent of the replacement  
23 costs for clean school buses that are zero-  
24 emission school buses; and

1                   “(ii) 60 percent of the replacement  
2                   costs for other eligible clean school buses;  
3                   and

4                   “(B) such replacement costs may include  
5                   the costs of acquiring the clean school buses  
6                   and charging and fueling infrastructure.”.

7                   (5) ULTRA LOW-SULFUR DIESEL FUEL.—Sec-  
8                   tion 741(b) of the Energy Policy Act of 2005 (42  
9                   U.S.C. 16091(b)) is amended—

10                   (A) by striking paragraph (6); and

11                   (B) by redesignating paragraph (7) as  
12                   paragraph (6).

13                   (6) SCRAPPAGE.—Section 741(b) of the Energy  
14                   Policy Act of 2005 (42 U.S.C. 16091(b)) is further  
15                   amended by inserting after paragraph (6), as reded-  
16                   signed, the following new paragraph:

17                   “(7) SCRAPPAGE.—In the case of an award  
18                   under this section for the replacement of a school  
19                   bus or a retrofit including installation of a new en-  
20                   gine, the Administrator shall require the recipient of  
21                   the award to verify that the replaced bus, or the en-  
22                   gine of a retrofitted bus that was removed, was re-  
23                   turned to the supplier for remanufacturing to a  
24                   more stringent set of engine emissions standards or  
25                   for scrappage.”.

1           (c) EDUCATION.—Paragraph (1) of section 741(c) of  
2 the Energy Policy Act of 2005 (42 U.S.C. 16091(c)) is  
3 amended to read as follows:

4           “(1) IN GENERAL.—Not later than 90 days  
5 after the date of enactment of the Clean Economy  
6 Jobs and Innovation Act, the Administrator shall de-  
7 velop an education outreach program to promote and  
8 explain the award program under subsection (b).”.

9           (d) CONTRACT PROGRAMS; ADMINISTRATIVE  
10 COSTS.—Section 741 of the Energy Policy Act of 2005  
11 (42 U.S.C. 16091) is amended—

12           (1) by redesignating subsection (d) as sub-  
13 section (f); and

14           (2) by inserting after subsection (c) the fol-  
15 lowing new subsections:

16           “(d) CONTRACT PROGRAMS.—

17           “(1) AUTHORITY.—In addition to the use of  
18 contracting authority otherwise available to the Ad-  
19 ministrator, the Administrator may enter into con-  
20 tracts with eligible contractors described in para-  
21 graph (2) for awarding rebates and low-cost revolv-  
22 ing loans pursuant to subsection (b)(1).

23           “(2) ELIGIBLE CONTRACTORS.—A contractor is  
24 an eligible contractor described in this paragraph if

1 the contractor is a for-profit, not-for-profit, or non-  
2 profit entity that has the capacity—

3 “(A) to sell clean school buses or equip-  
4 ment to, or to arrange financing for, individuals  
5 or entities that own a school bus or fleet of  
6 school buses; or

7 “(B) to upgrade school buses or their  
8 equipment with verified or Environmental Pro-  
9 tection Agency-certified engines or technologies,  
10 or to arrange financing for such upgrades.

11 “(e) ADMINISTRATIVE COSTS.—The Administrator  
12 may not use, for the administrative costs of carrying out  
13 this section, more than one percent of the amounts made  
14 available to carry out this section for any fiscal year.”.

15 (e) AUTHORIZATION OF APPROPRIATIONS.—Sub-  
16 section (f), as redesignated, of section 741 of the Energy  
17 Policy Act of 2005 (42 U.S.C. 16091) is amended to read  
18 as follows:

19 “(f) AUTHORIZATION OF APPROPRIATIONS.—There  
20 is authorized to be appropriated to the Administrator to  
21 carry out this section, to remain available until expended,  
22 \$130,000,000 for each of fiscal years 2021 through 2025,  
23 of which—

24 “(1) not less than \$100,000,000 for each such  
25 fiscal year shall be used for awards under this sec-

1 tion to eligible recipients proposing to replace school  
2 buses with zero-emission school buses; and

3 “(2) not less than \$52,000,000 for each such  
4 fiscal year shall be used for awards under this sec-  
5 tion to eligible recipients proposing to replace or ret-  
6 rofit school buses to serve a community of color, in-  
7 digenous community, low-income community, or any  
8 community located in an air quality area designated  
9 pursuant to section 107 of the Clean Air Act (42  
10 U.S.C. 7407) as nonattainment.”.

11 (f) TECHNICAL AMENDMENT TO STRIKE REDUN-  
12 DANT AUTHORIZATION.—The Safe, Accountable, Flexible,  
13 Efficient Transportation Equity Act: A Legacy for Users  
14 (commonly referred to as “SAFETEA-LU”) is amended  
15 by striking section 6015 (42 U.S.C. 16091a).

16 **Subtitle C—Clean Cities Coalition**  
17 **Program**

18 **SEC. 6301. CLEAN CITIES COALITION PROGRAM.**

19 (a) IN GENERAL.—The Secretary shall carry out a  
20 program to be known as the Clean Cities Coalition Pro-  
21 gram.

22 (b) PROGRAM ELEMENTS.—In carrying out the pro-  
23 gram under subsection (a), the Secretary shall—

24 (1) establish criteria for designating local and  
25 regional Clean Cities Coalitions;

1           (2) designate local and regional Clean Cities  
2 Coalitions that the Secretary determines meet the  
3 criteria established under paragraph (1);

4           (3) make awards to each designated Clean Cit-  
5 ies Coalition for administrative and program ex-  
6 penses of the coalition;

7           (4) make competitive awards to designated  
8 Clean Cities Coalitions for projects and activities de-  
9 scribed in subsection (c);

10          (5) provide technical assistance and training to  
11 designated Clean Cities Coalitions;

12          (6) provide opportunities for communication  
13 and sharing of best practices among designated  
14 Clean Cities Coalitions; and

15          (7) maintain, and make available to the public,  
16 a centralized database of information included in the  
17 reports submitted under subsection (d).

18          (c) PROJECTS AND ACTIVITIES.—Projects and activi-  
19 ties eligible for awards under subsection (b)(4) are  
20 projects and activities that reduce petroleum consumption,  
21 improve air quality, promote energy and economic secu-  
22 rity, and encourage deployment of a diverse, domestic sup-  
23 ply of alternative fuels in the transportation sector by—



1           (1) encouraging the purchase and use of alter-  
2           native fuel vehicles and alternative fuels, including  
3           by fleet managers;

4           (2) expediting the establishment of local, re-  
5           gional, and national infrastructure to fuel alternative  
6           fuel vehicles;

7           (3) advancing the use of other petroleum fuel  
8           reduction technologies and strategies;

9           (4) conducting outreach and education activities  
10          to advance the use of alternative fuels and alter-  
11          native fuel vehicles;

12          (5) providing training and technical assistance  
13          and tools to users that adopt petroleum fuel reduc-  
14          tion technologies; or

15          (6) collaborating with and training officials and  
16          first responders with responsibility for permitting  
17          and enforcing fire, building, and other safety codes  
18          related to the deployment and use of alternative  
19          fuels or alternative fuel vehicles.

20          (d) ANNUAL REPORT.—Each designated Clean Cities  
21          Coalition shall submit an annual report to the Secretary  
22          on the activities and accomplishments of the coalition.

23          (e) DEFINITIONS.—In this section:

1           (1) ALTERNATIVE FUEL.—The term “alter-  
2           native fuel” has the meaning given such term in sec-  
3           tion 32901 of title 49, United States Code.

4           (2) ALTERNATIVE FUEL VEHICLE.—The term  
5           “alternative fuel vehicle” means any vehicle that is  
6           capable of operating, partially or exclusively, on an  
7           alternative fuel.

8           (3) SECRETARY.—The term “Secretary” means  
9           the Secretary of Energy.

10          (f) FUNDING.—

11           (1) AUTHORIZATION OF APPROPRIATIONS.—  
12          There are authorized to be appropriated to carry out  
13          this section—

14                   (A) \$50,000,000 for fiscal year 2021;

15                   (B) \$60,000,000 for fiscal year 2022;

16                   (C) \$75,000,000 for fiscal year 2023;

17                   (D) \$90,000,000 for fiscal year 2024; and

18                   (E) \$100,000,000 for fiscal year 2025.

19           (2) ALLOCATIONS.—The Secretary shall allo-  
20          cate funds made available to carry out this section  
21          in each fiscal year as follows:

22                   (A) Thirty percent of such funds shall be  
23          distributed as awards under subsection (b)(3).

1           (B) Fifty percent of such funds shall be  
2 distributed as competitive awards under sub-  
3 section (b)(4).

4           (C) Twenty percent of such funds shall be  
5 used to carry out the duties of the Secretary  
6 under this section.

7           **Subtitle D—Renewable Fuel**  
8           **Standard Integrity**

9           **SEC. 6401. ANNUAL DEADLINE FOR PETITIONS BY SMALL**  
10           **REFINERIES FOR EXEMPTIONS FROM RE-**  
11           **NEWABLE FUEL REQUIREMENTS.**

12           (a) DEADLINE.—Notwithstanding any other provi-  
13 sion of law, petitions under section 211(o)(9) of the Clean  
14 Air Act (42 U.S.C. 7545(o)(9)) for an exemption from the  
15 requirements of section 211(o)(2) of such Act (42 U.S.C.  
16 7545(o)(2)) shall be submitted to the Administrator of the  
17 Environmental Protection Agency by June 1 of the year  
18 preceding the year when such requirements would other-  
19 wise be in effect.

20           (b) EFFECT OF FAILURE TO MEET DEADLINE.—If  
21 a petition described in subsection (a) is not submitted by  
22 the deadline specified in such subsection, the petition shall  
23 be ineligible for consideration or approval.

1 **SEC. 6402. INFORMATION IN PETITION SUBJECT TO PUBLIC**  
2 **DISCLOSURE.**

3 (a) IN GENERAL.—The information described in sub-  
4 section (b) in any submission to the Environmental Pro-  
5 tection Agency by any person, including a small refinery,  
6 with respect to a petition under section 211(o)(9)(B) of  
7 the Clean Air Act (42 U.S.C. 7545(o)(9)(B))—

8 (1) shall not be deemed to be a trade secret or  
9 confidential information; and

10 (2) shall be subject to public disclosure under  
11 section 552 of title 5, United States Code.

12 (b) DESCRIBED INFORMATION.—The information de-  
13 scribed in this subsection is—

14 (1) the name of the small refinery requesting  
15 an extension of an exemption;

16 (2) the number of gallons of renewable fuel that  
17 will not be contained in fuel pursuant to section  
18 211(o)(2) of the Clean Air Act (42 U.S.C.  
19 7545(o)(2)) as a result of the extension if the exten-  
20 sion is granted; and

21 (3) the compliance year for which the extension  
22 is requested.

23 (c) APPLICABILITY.—Subsection (a) applies only with  
24 respect to information submitted with respect to a petition  
25 under section 211(o)(9)(B) of the Clean Air Act (42

1 U.S.C. 7545(o)(9)(B)) for calendar year 2021 or a subse-  
2 quent calendar year.

### 3 **Subtitle E—EV Infrastructure**

#### 4 **SEC. 6501. DEFINITIONS.**

5 In this subtitle:

6 (1) **ELECTRIC VEHICLE SUPPLY EQUIPMENT.**—

7 The term “electric vehicle supply equipment” means  
8 any conductors, including ungrounded, grounded,  
9 and equipment grounding conductors, electric vehicle  
10 connectors, attachment plugs, and all other fittings,  
11 devices, power outlets, or apparatuses installed spe-  
12 cifically for the purpose of delivering energy to an  
13 electric vehicle.

14 (2) **SECRETARY.**—The term “Secretary” means  
15 the Secretary of Energy.

16 (3) **UNDERSERVED OR DISADVANTAGED COM-**  
17 **MUNITY.**—The term “underserved or disadvantaged  
18 community” means—

19 (A) a community located in a ZIP code  
20 that includes a census tract that is identified  
21 as—

22 (i) a low-income community; or

23 (ii) a community of color;

24 (B) a community in which climate change,  
25 pollution, or environmental destruction have ex-

1 acerbated systemic racial, regional, social, envi-  
2 ronmental, and economic injustices by dis-  
3 proportionately affecting indigenous peoples,  
4 communities of color, migrant communities,  
5 deindustrialized communities, depopulated rural  
6 communities, the poor, low-income workers,  
7 women, the elderly, the unhoused, people with  
8 disabilities, or youth; or

9 (C) any other community that the Sec-  
10 retary determines is disproportionately vulner-  
11 able to, or bears a disproportionate burden of,  
12 any combination of economic, social, and envi-  
13 ronmental stressors.

14 **SEC. 6502. ELECTRIC VEHICLE SUPPLY EQUIPMENT RE-**  
15 **BATE PROGRAM.**

16 (a) REBATE PROGRAM.—Not later than January 1,  
17 2022, the Secretary shall establish a rebate program to  
18 provide rebates for covered expenses associated with pub-  
19 licly accessible electric vehicle supply equipment (in this  
20 section referred to as the “rebate program”).

21 (b) REBATE PROGRAM REQUIREMENTS.—

22 (1) ELIGIBLE ENTITIES.—A rebate under the  
23 rebate program may be made to an individual, a  
24 State, local, Tribal, or Territorial government, a pri-

1 vate entity, a not-for-profit entity, a nonprofit entity,  
2 or a metropolitan planning organization.

3 (2) ELIGIBLE EQUIPMENT.—

4 (A) IN GENERAL.—Not later than 180  
5 days after the date of the enactment of this  
6 Act, the Secretary shall publish and maintain  
7 on the Department of Energy internet website  
8 a list of electric vehicle supply equipment that  
9 is eligible for the rebate program.

10 (B) UPDATES.—The Secretary may, by  
11 regulation, add to, or otherwise revise, the list  
12 of electric vehicle supply equipment under sub-  
13 paragraph (A) if the Secretary determines that  
14 such addition or revision will likely lead to—

15 (i) greater usage of electric vehicle  
16 supply equipment;

17 (ii) greater access to electric vehicle  
18 supply equipment by users; or

19 (iii) an improved experience for users  
20 of electric vehicle supply equipment, in-  
21 cluding accessibility in compliance with the  
22 Americans with Disabilities Act of 1990  
23 (42 U.S.C. 12101 et seq.).

24 (C) LOCATION REQUIREMENT.—To be eli-  
25 gible for the rebate program, the electric vehicle

1 supply equipment described in subparagraph

2 (A) shall be installed—

3 (i) in the United States;

4 (ii) on property—

5 (I) owned by the eligible entity  
6 under paragraph (1); or

7 (II) on which the eligible entity  
8 under paragraph (1) has authority to  
9 install electric vehicle supply equip-  
10 ment; and

11 (iii) at a location that is—

12 (I) a multi-unit housing struc-  
13 ture;

14 (II) a workplace;

15 (III) a commercial location; or

16 (IV) open to the public for a  
17 minimum of 12 hours per day;

18 (3) APPLICATION.—

19 (A) IN GENERAL.—An eligible entity under  
20 paragraph (1) may submit to the Secretary an  
21 application for a rebate under the rebate pro-  
22 gram. Such application shall include—

23 (i) the estimated cost of covered ex-  
24 penses to be expended on the electric vehi-



1 cle supply equipment that is eligible under  
2 paragraph (2);

3 (ii) the estimated installation cost of  
4 the electric vehicle supply equipment that  
5 is eligible under paragraph (2);

6 (iii) the global positioning system lo-  
7 cation, including the integer number of de-  
8 grees, minutes, and seconds, where such  
9 electric vehicle supply equipment is to be  
10 installed, and identification of whether  
11 such location is—

12 (I) a multi-unit housing struc-  
13 ture;

14 (II) a workplace;

15 (III) a commercial location; or

16 (IV) open to the public for a  
17 minimum of 12 hours per day;

18 (iv) the technical specifications of  
19 such electric vehicle supply equipment, in-  
20 cluding the maximum power voltage and  
21 amperage of such equipment;

22 (v) an identification of any existing  
23 electric vehicle supply equipment that—

24 (I) is available to the public for a  
25 minimum of 12 hours per day; and

1 (II) is not further than 50 miles  
2 from the global positioning system lo-  
3 cation identified under clause (iii);  
4 and  
5 (vi) any other information determined  
6 by the Secretary to be necessary for a com-  
7 plete application.

8 (B) REVIEW PROCESS.—The Secretary  
9 shall review an application for a rebate under  
10 the rebate program and approve an eligible en-  
11 tity under paragraph (1) to receive such rebate  
12 if the application meets the requirements of the  
13 rebate program under this subsection.

14 (C) NOTIFICATION TO ELIGIBLE ENTITY.—  
15 Not later than 1 year after the date on which  
16 the eligible entity under paragraph (1) applies  
17 for a rebate under the rebate program, the Sec-  
18 retary shall notify the eligible entity whether  
19 the eligible entity will be awarded a rebate  
20 under the rebate program following the submis-  
21 sion of additional materials required under  
22 paragraph (5).

23 (4) REBATE AMOUNT.—

24 (A) IN GENERAL.—Except as provided in  
25 subparagraph (B), the amount of a rebate made

1 under the rebate program for each charging  
2 unit shall be the lesser of—

3 (i) 75 percent of the applicable cov-  
4 ered expenses;

5 (ii) \$2,000 for covered expenses asso-  
6 ciated with the purchase and installation of  
7 non-networked level 2 charging equipment;

8 (iii) \$4,000 for covered expenses asso-  
9 ciated with the purchase and installation of  
10 networked level 2 charging equipment; or

11 (iv) \$100,000 for covered expenses as-  
12 sociated with the purchase and installation  
13 of networked direct current fast charging  
14 equipment.

15 (B) REBATE AMOUNT FOR REPLACEMENT  
16 EQUIPMENT.—A rebate made under the rebate  
17 program for replacement of pre-existing electric  
18 vehicle supply equipment at a single location  
19 shall be the lesser of—

20 (i) 75 percent of the applicable cov-  
21 ered expenses;

22 (ii) \$1,000 for covered expenses asso-  
23 ciated with the purchase and installation of  
24 non-networked level 2 charging equipment;

1 (iii) \$2,000 for covered expenses asso-  
2 ciated with the purchase and installation of  
3 networked level 2 charging equipment; or

4 (iv) \$25,000 for covered expenses as-  
5 sociated with the purchase and installation  
6 of networked direct current fast charging  
7 equipment.

8 (5) DISBURSEMENT OF REBATE.—

9 (A) IN GENERAL.—The Secretary shall  
10 disburse a rebate under the rebate program to  
11 an eligible entity under paragraph (1), following  
12 approval of an application under paragraph (3),  
13 if such entity submits the materials required  
14 under subparagraph (B).

15 (B) MATERIALS REQUIRED FOR DISBURSE-  
16 MENT OF REBATE.—Not later than one year  
17 after the date on which the eligible entity under  
18 paragraph (1) receives notice under paragraph  
19 (3)(C) that the eligible entity has been ap-  
20 proved for a rebate, such eligible entity shall  
21 submit to the Secretary the following—

22 (i) a record of payment for covered  
23 expenses expended on the installation of  
24 the electric vehicle supply equipment that  
25 is eligible under paragraph (2);

1           (ii) a record of payment for the elec-  
2           tric vehicle supply equipment that is eligi-  
3           ble under paragraph (2);

4           (iii) the global positioning system lo-  
5           cation of where such electric vehicle supply  
6           equipment was installed and identification  
7           of whether such location is—

8                   (I) a multi-unit housing struc-  
9                   ture;

10                   (II) a workplace;

11                   (III) a commercial location; or

12                   (IV) open to the public for a  
13                   minimum of 12 hours per day;

14           (iv) the technical specifications of the  
15           electric vehicle supply equipment that is el-  
16           igible under paragraph (2), including the  
17           maximum power voltage and amperage of  
18           such equipment; and

19           (v) any other information determined  
20           by the Secretary to be necessary.

21           (C) AGREEMENT TO MAINTAIN.—To be eli-  
22           gible for a rebate under the rebate program, an  
23           eligible entity under paragraph (1) shall enter  
24           into an agreement with the Secretary to main-  
25           tain the electric vehicle supply equipment that

1 is eligible under paragraph (2) in a satisfactory  
2 manner for not less than 5 years after the date  
3 on which the eligible entity under paragraph (1)  
4 receives the rebate under the rebate program.

5 (D) EXCEPTION.—The Secretary shall not  
6 disburse a rebate under the rebate program if  
7 materials submitted under subparagraph (B) do  
8 not meet the same global positioning system lo-  
9 cation and technical specifications for the elec-  
10 tric vehicle supply equipment that is eligible  
11 under paragraph (2) provided in an application  
12 under paragraph (3).

13 (6) MULTI-PORT CHARGERS.—An eligible entity  
14 under paragraph (1) shall be awarded a rebate  
15 under the rebate program for covered expenses relat-  
16 ing to the purchase and installation of a multi-port  
17 charger based on the number of publicly accessible  
18 charging ports, with each subsequent port after the  
19 first port being eligible for 50 percent of the full re-  
20 bate amount.

21 (7) NETWORKED DIRECT CURRENT FAST  
22 CHARGING.—Of amounts appropriated to carry out  
23 the rebate program, not more than 40 percent may  
24 be used for rebates of networked direct current fast  
25 charging equipment.

1           (8) HYDROGEN FUEL CELL REFUELING INFRA-  
2           STRUCTURE.—Hydrogen refueling equipment shall  
3           be eligible for a rebate under the rebate program as  
4           though it were networked direct current fast charg-  
5           ing equipment. All requirements related to public ac-  
6           cessibility of installed locations shall apply.

7           (9) REPORT.—Not later than 3 years after the  
8           first date on which the Secretary awards a rebate  
9           under the rebate program, the Secretary shall sub-  
10          mit to the Committee on Energy and Commerce of  
11          the House of Representatives and the Committee on  
12          Energy and Natural Resources of the Senate a re-  
13          port of the number of rebates awarded for electric  
14          vehicle supply equipment and hydrogen fuel cell re-  
15          fueling equipment in each of the location categories  
16          described in paragraph (2)(C)(iii).

17          (c) DEFINITIONS.—In this section:

18           (1) COVERED EXPENSES.—The term “covered  
19           expenses” means an expense that is associated with  
20           the purchase and installation of electric vehicle sup-  
21           ply equipment, including—

22                   (A) the cost of electric vehicle supply  
23                   equipment;

24                   (B) labor costs associated with the installa-  
25                   tion of such electric vehicle supply equipment,

1           only if wages for such labor are paid at rates  
2           not less than those prevailing on similar labor  
3           in the locality of installation, as determined by  
4           the Secretary of Labor under subchapter IV of  
5           chapter 31 of title 40, United States Code  
6           (commonly referred to as the “Davis-Bacon  
7           Act”);

8           (C) material costs associated with the in-  
9           stallation of such electric vehicle supply equip-  
10          ment, including expenses involving electrical  
11          equipment and necessary upgrades or modifica-  
12          tions to the electrical grid and associated infra-  
13          structure required for the installation of such  
14          electric vehicle supply equipment;

15          (D) permit costs associated with the instal-  
16          lation of such electric vehicle supply equipment;  
17          and

18          (E) the cost of an on-site energy storage  
19          system.

20          (2) ELECTRIC VEHICLE.—The term “electric  
21          vehicle” means a vehicle that derives all or part of  
22          its power from electricity.

23          (3) MULTI-PORT CHARGER.—The term “multi-  
24          port charger” means electric vehicle supply equip-



1       ment capable of charging more than one electric ve-  
2       hicle.

3           (4) LEVEL 2 CHARGING EQUIPMENT.—The  
4       term “level 2 charging equipment” means electric  
5       vehicle supply equipment that provides an alter-  
6       nating current power source at a minimum of 208  
7       volts.

8           (5) NETWORKED DIRECT CURRENT FAST  
9       CHARGING EQUIPMENT.—The term “networked di-  
10      rect current fast charging equipment” means electric  
11      vehicle supply equipment that provides a direct cur-  
12      rent power source at a minimum of 50 kilowatts and  
13      is enabled to connect to a network to facilitate data  
14      collection and access.

15      (d) AUTHORIZATION OF APPROPRIATIONS.—There is  
16      authorized to be appropriated to carry out this section  
17      \$100,000,000 for each of fiscal years 2021 through 2025.

18      **SEC. 6503. EXPANDING ACCESS TO ELECTRIC VEHICLES IN**

19                              **UNDERSERVED COMMUNITIES.**

20      (a) ASSESSMENT.—

21           (1) IN GENERAL.—

22                   (A) ASSESSMENT.—The Secretary shall  
23                   conduct an assessment of the state of, chal-  
24                   lenges to, and opportunities for the deployment  
25                   of electric vehicle charging infrastructure in un-

1           derserved or disadvantaged communities located  
2           in major urban areas and rural areas through-  
3           out the United States.

4           (B) REPORT.—Not later than 1 year after  
5           the date of the enactment of this Act, the Sec-  
6           retary shall submit to the Committee on Energy  
7           and Commerce of the House of Representatives  
8           and the Committee on Energy and Natural Re-  
9           sources of the Senate a report on the results of  
10          the assessment conducted under subparagraph  
11          (A), which shall—

12                   (i) describe the state of deployment of  
13                   electric vehicle charging infrastructure in  
14                   underserved or disadvantaged communities  
15                   located in major urban areas and rural  
16                   areas by providing—

17                           (I) the number of existing and  
18                           planned Level 2 charging stations and  
19                           DC FAST charging stations per cap-  
20                           ita in each State for charging individ-  
21                           ually owned light-duty and medium-  
22                           duty electric vehicles;

23                           (II) the number of existing and  
24                           planned Level 2 charging stations and  
25                           DC FAST charging stations for

1 charging public and private fleet elec-  
2 tric vehicles and medium- and heavy-  
3 duty electric equipment and electric  
4 vehicles;

5 (III) the number of Level 2  
6 charging stations and DC FAST  
7 charging stations installed in or avail-  
8 able to occupants of publicly owned  
9 and privately owned multi-unit dwell-  
10 ings;

11 (IV) information pertaining to  
12 policies, plans, and programs that cit-  
13 ies, States, utilities, and private enti-  
14 ties are using to encourage greater de-  
15 ployment and usage of electric vehi-  
16 cles and the associated electric vehicle  
17 charging infrastructure, including pro-  
18 grams to encourage deployment of  
19 charging stations available to resi-  
20 dents in publicly owned and privately  
21 owned multi-unit dwellings;

22 (V) information pertaining to  
23 ownership models for Level 2 charging  
24 stations and DC FAST charging sta-  
25 tions located in publicly owned and

1 privately owned residential multi-unit  
2 dwellings, commercial buildings, pub-  
3 lic and private parking areas, and  
4 curb-side locations; and

5 (VI) information pertaining to  
6 how charging stations are financed  
7 and the rates charged for the use of  
8 Level 2 charging stations and DC  
9 FAST charging stations;

10 (ii) describe the methodology used to  
11 obtain the information provided in the re-  
12 port;

13 (iii) identify the barriers to expanding  
14 deployment of electric vehicle charging in-  
15 frastructure in underserved or disadvan-  
16 taged communities in major urban areas  
17 and rural areas, including any challenges  
18 relating to such deployment in multi-unit  
19 dwellings;

20 (iv) compile and provide an analysis of  
21 the best practices and policies used by  
22 State and local governments and private  
23 entities to increase deployment of electric  
24 vehicle charging infrastructure in under-  
25 served or disadvantaged communities in

1 major urban areas and rural areas, includ-  
2 ing best practices with respect to—

3 (I) public outreach and engage-  
4 ment; and

5 (II) increasing deployment of  
6 electric vehicle charging infrastructure  
7 in publicly owned and privately owned  
8 multi-unit dwellings;

9 (v) enumerate and identify the num-  
10 ber of electric vehicle charging stations per  
11 capita at locations within each major  
12 urban area and rural area throughout the  
13 United States with detail at the level of  
14 ZIP Codes and census tracts; and

15 (vi) identify the potential for, and ob-  
16 stacles to, recruiting and entering into con-  
17 tracts with locally-owned small and dis-  
18 advantaged businesses, including women-  
19 and minority-owned businesses, to deploy  
20 electric vehicle charging infrastructure in  
21 underserved or disadvantaged communities  
22 in major urban areas and rural areas.

23 (2) FIVE-YEAR UPDATE ASSESSMENT.—Not  
24 later than 5 years after the date of the enactment  
25 of this Act, the Secretary shall—

1 (A) update the assessment conducted  
2 under paragraph (1)(A); and

3 (B) make public and submit to the Com-  
4 mittee on Energy and Commerce of the House  
5 of Representatives and the Committee on En-  
6 ergy and Natural Resources of the Senate a re-  
7 port, which shall—

8 (i) update the information required by  
9 paragraph (1)(B); and

10 (ii) include a description of case stud-  
11 ies and key lessons learned after the date  
12 on which the report under paragraph  
13 (1)(B) was submitted with respect to ex-  
14 panding the deployment of electric vehicle  
15 charging infrastructure in underserved or  
16 disadvantaged communities in major urban  
17 areas and rural areas.

18 (b) DEFINITIONS.—In this section:

19 (1) ELECTRIC VEHICLE CHARGING INFRA-  
20 STRUCTURE.—The term “electric vehicle charging  
21 infrastructure” means electric vehicle supply equip-  
22 ment and other physical assets that provide for the  
23 distribution of and access to electricity for the pur-  
24 pose of charging an electric vehicle or a plug-in hy-  
25 brid electric vehicle.

1           (2) MAJOR URBAN AREA.—The term “major  
2           urban area” means a metropolitan statistical area  
3           within the United States with an estimated popu-  
4           lation that is greater than or equal to 1,500,000.

5 **SEC. 6504. ENSURING PROGRAM BENEFITS FOR UNDER-**  
6                           **SERVED AND DISADVANTAGED COMMU-**  
7                           **NITIES.**

8           In carrying out this subtitle, and the amendments  
9           made by this subtitle, the Secretary shall provide, to the  
10          extent practicable access to electric vehicle charging infra-  
11          structure, address transportation needs, and provide im-  
12          proved air quality in underserved or disadvantaged com-  
13          munities.

14 **SEC. 6505. MODEL BUILDING CODE FOR ELECTRIC VEHI-**  
15                           **CLE SUPPLY EQUIPMENT.**

16          (a) REVIEW.—The Secretary shall review proposed or  
17          final model building codes for—

18               (1) integrating electric vehicle supply equipment  
19               into residential and commercial buildings that in-  
20               clude space for individual vehicle or fleet vehicle  
21               parking; and

22               (2) integrating onsite renewable power equip-  
23               ment and electric storage equipment (including elec-  
24               tric vehicle batteries to be used for electric storage)  
25               into residential and commercial buildings.

1 (b) TECHNICAL ASSISTANCE.—The Secretary shall  
2 provide technical assistance to stakeholders representing  
3 the building construction industry, manufacturers of elec-  
4 tric vehicles and electric vehicle supply equipment, State  
5 and local governments, and any other persons with rel-  
6 evant expertise or interests to facilitate understanding of  
7 the model code and best practices for adoption by jurisdic-  
8 tions.

9 **SEC. 6506. ELECTRIC VEHICLE SUPPLY EQUIPMENT CO-**  
10 **ORDINATION.**

11 (a) IN GENERAL.—Not later than 90 days after the  
12 date of enactment of this Act, the Secretary, acting  
13 through the Assistant Secretary of the Office of Electricity  
14 Delivery and Energy Reliability (including the Smart Grid  
15 Task Force), shall convene a group to assess progress in  
16 the development of standards necessary to—

17 (1) support the expanded deployment of electric  
18 vehicle supply equipment;

19 (2) develop an electric vehicle charging network  
20 to provide reliable charging for electric vehicles na-  
21 tionwide, taking into consideration range anxiety  
22 and the location of charging infrastructure to ensure  
23 an electric vehicle can travel throughout the United  
24 States without losing a charge; and



1           (3) ensure the development of such network will  
2           not compromise the stability and reliability of the  
3           electric grid.

4           (b) REPORT TO CONGRESS.—Not later than 1 year  
5           after the date of enactment of this Act, the Secretary shall  
6           provide to the Committee on Energy and Commerce of the  
7           House of Representatives and to the Committee on En-  
8           ergy and Natural Resources of the Senate a report con-  
9           taining the results of the assessment carried out under  
10          subsection (a) and recommendations to overcome any bar-  
11          riers to standards development or adoption identified by  
12          the group convened under such subsection.

13   **SEC. 6507. STATE CONSIDERATION OF ELECTRIC VEHICLE**  
14                                   **CHARGING.**

15          (a) CONSIDERATION AND DETERMINATION RESPECT-  
16          ING CERTAIN RATEMAKING STANDARDS.—Section 111(d)  
17          of the Public Utility Regulatory Policies Act of 1978 (16  
18          U.S.C. 2621(d)) is further amended by adding at the end  
19          the following:

20                   “(22) ELECTRIC VEHICLE CHARGING PRO-  
21                   GRAMS.—

22                                   “(A) IN GENERAL.—Each State shall con-  
23                   sider measures to promote greater electrifica-  
24                   tion of the transportation sector, including—

1           “(i) authorizing measures to stimulate  
2 investment in and deployment of electric  
3 vehicle supply equipment and to foster the  
4 market for electric vehicle charging;

5           “(ii) authorizing each electric utility  
6 of the State to recover from ratepayers any  
7 capital, operating expenditure, or other  
8 costs of the electric utility relating to load  
9 management, programs, or investments as-  
10 sociated with the integration of electric ve-  
11 hicle supply equipment into the grid; and

12           “(iii) allowing a person or agency that  
13 owns and operates an electric vehicle  
14 charging facility for the sole purpose of re-  
15 charging an electric vehicle battery to be  
16 excluded from regulation as an electric  
17 utility pursuant to section 3(4) when mak-  
18 ing electricity sales from the use of the  
19 electric vehicle charging facility, if such  
20 sales are the only sales of electricity made  
21 by the person or agency.

22           “(B) DEFINITION.—For purposes of this  
23 paragraph, the term ‘electric vehicle supply  
24 equipment’ means conductors, including  
25 ungrounded, grounded, and equipment ground-

1           ing conductors, electric vehicle connectors, at-  
2           tachment plugs, and all other fittings, devices,  
3           power outlets, or apparatuses installed specifi-  
4           cally for the purpose of delivering energy to an  
5           electric vehicle.”.

6           (b) OBLIGATIONS TO CONSIDER AND DETERMINE.—

7           (1) TIME LIMITATIONS.—Section 112(b) of the  
8           Public Utility Regulatory Policies Act of 1978 (16  
9           U.S.C. 2622(b)) is amended by adding at the end  
10          the following:

11           “(9)(A) Not later than 1 year after the date of  
12          enactment of this paragraph, each State regulatory  
13          authority (with respect to each electric utility for  
14          which it has ratemaking authority) and each non-  
15          regulated electric utility shall commence the consid-  
16          eration referred to in section 111, or set a hearing  
17          date for consideration, with respect to the standards  
18          established by paragraph (22) of section 111(d).

19           “(B) Not later than 2 years after the date of  
20          the enactment of this paragraph, each State regu-  
21          latory authority (with respect to each electric utility  
22          for which it has ratemaking authority), and each  
23          nonregulated electric utility, shall complete the con-  
24          sideration, and shall make the determination, re-  
25          ferred to in section 111 with respect to each stand-

1       ard established by paragraph (22) of section  
2       111(d).”.

3           (2) FAILURE TO COMPLY.—Section 112(c) of  
4       the Public Utility Regulatory Policies Act of 1978  
5       (16 U.S.C. 2622(c)) is amended by adding at the  
6       end the following: “In the case of the standard es-  
7       tablished by paragraph (22) of section 111(d), the  
8       reference contained in this subsection to the date of  
9       enactment of this Act shall be deemed to be a ref-  
10      erence to the date of enactment of that paragraph.”.

11          (3) PRIOR STATE ACTIONS.—Section 112 of the  
12      Public Utility Regulatory Policies Act of 1978 (16  
13      U.S.C. 2622) is amended by adding at the end the  
14      following:

15      “(i) PRIOR STATE ACTIONS.—Subsections (b) and  
16      (c) of this section shall not apply to the standard estab-  
17      lished by paragraph (22) of section 111(d) in the case of  
18      any electric utility in a State if, before the enactment of  
19      this subsection—

20          “(1) the State has implemented for such utility  
21          the standard concerned (or a comparable standard);

22          “(2) the State regulatory authority for such  
23          State or relevant nonregulated electric utility has  
24          conducted a proceeding to consider implementation

1 of the standard concerned (or a comparable stand-  
2 ard) for such utility;

3 “(3) the State legislature has voted on the im-  
4 plementation of such standard (or a comparable  
5 standard) for such utility; or

6 “(4) the State has taken action to implement  
7 incentives or other steps to strongly encourage the  
8 deployment of electric vehicles.”.

9 (4) PRIOR AND PENDING PROCEEDINGS.—Sec-  
10 tion 124 of the Public Utility Regulatory Policies  
11 Act of 1978 (16 U.S.C. 2634) is amended is amend-  
12 ed by adding at the end the following: “In the case  
13 of the standard established by paragraph (22) of  
14 section 111(d), the reference contained in this sec-  
15 tion to the date of the enactment of this Act shall  
16 be deemed to be a reference to the date of enact-  
17 ment of such paragraph (22).”.

18 **SEC. 6508. STATE ENERGY PLANS.**

19 (a) STATE ENERGY CONSERVATION PLANS.—Section  
20 362(d) of the Energy Policy and Conservation Act (42  
21 U.S.C. 6322(d)) is amended—

22 (1) in paragraph (16), by striking “; and” and  
23 inserting a semicolon;

24 (2) by redesignating paragraph (17) as para-  
25 graph (18); and

1           (3) by inserting after paragraph (16) the fol-  
2           lowing:

3           “(17) a State energy transportation plan devel-  
4           oped in accordance with section 368; and”.

5           (b) AUTHORIZATION OF APPROPRIATIONS.—Section  
6 365(f) of the Energy Policy and Conservation Act (42  
7 U.S.C. 6325(f)) is amended to read as follows:

8           “(f) AUTHORIZATION OF APPROPRIATIONS.—

9           “(1) STATE ENERGY CONSERVATION PLANS.—  
10          For the purpose of carrying out this part, there are  
11          authorized to be appropriated \$100,000,000 for each  
12          of fiscal years 2021 through 2025.

13          “(2) STATE ENERGY TRANSPORTATION  
14          PLANS.—In addition to the amounts authorized  
15          under paragraph (1), for the purpose of carrying out  
16          section 368, there are authorized to be appropriated  
17          \$25,000,000 for each of fiscal years 2021 through  
18          2025.”.

19          (c) STATE ENERGY TRANSPORTATION PLANS.—

20          (1) IN GENERAL.—Part D of title III of the  
21          Energy Policy and Conservation Act (42 U.S.C.  
22          6321 et seq.) is further amended by adding at the  
23          end the following:

1 **“SEC. 368. STATE ENERGY TRANSPORTATION PLANS.**

2 “(a) IN GENERAL.—The Secretary may provide fi-  
3 nancial assistance to a State to develop a State energy  
4 transportation plan, for inclusion in a State energy con-  
5 servation plan under section 362(d), to promote the elec-  
6 trification of the transportation system, reduced consump-  
7 tion of fossil fuels, and improved air quality.

8 “(b) DEVELOPMENT.—A State developing a State en-  
9 ergy transportation plan under this section shall carry out  
10 this activity through the State energy office that is respon-  
11 sible for developing the State energy conservation plan  
12 under section 362.

13 “(c) CONTENTS.—A State developing a State energy  
14 transportation plan under this section shall include in such  
15 plan a plan to—

16 “(1) deploy a network of electric vehicle supply  
17 equipment to ensure access to electricity for electric  
18 vehicles, including commercial vehicles, to an extent  
19 that such electric vehicles can travel throughout the  
20 State without running out of a charge; and

21 “(2) promote modernization of the electric grid,  
22 including through the use of renewable energy  
23 sources to power the electric grid, to accommodate  
24 demand for power to operate electric vehicle supply  
25 equipment and to utilize energy storage capacity

1 provided by electric vehicles, including commercial  
2 vehicles.

3 “(d) COORDINATION.—In developing a State energy  
4 transportation plan under this section, a State shall co-  
5 ordinate, as appropriate, with—

6 “(1) State regulatory authorities (as defined in  
7 section 3 of the Public Utility Regulatory Policies  
8 Act of 1978 (16 U.S.C. 2602));

9 “(2) electric utilities;

10 “(3) regional transmission organizations or  
11 independent system operators;

12 “(4) private entities that provide electric vehicle  
13 charging services;

14 “(5) State transportation agencies, metropoli-  
15 tan planning organizations, and local governments;

16 “(6) electric vehicle manufacturers;

17 “(7) public and private entities that manage ve-  
18 hicle fleets; and

19 “(8) public and private entities that manage  
20 ports, airports, or other transportation hubs.

21 “(e) TECHNICAL ASSISTANCE.—Upon request of the  
22 Governor of a State, the Secretary shall provide informa-  
23 tion and technical assistance in the development, imple-  
24 mentation, or revision of a State energy transportation  
25 plan.



1       “(f) ELECTRIC VEHICLE SUPPLY EQUIPMENT DE-  
2 FINED.—For purposes of this section, the term ‘electric  
3 vehicle supply equipment’ means conductors, including  
4 ungrounded, grounded, and equipment grounding conduc-  
5 tors, electric vehicle connectors, attachment plugs, and all  
6 other fittings, devices, power outlets, or apparatuses in-  
7 stalled specifically for the purpose of delivering energy to  
8 an electric vehicle.”.

9           (2) CONFORMING AMENDMENT.—The table of  
10 sections for part D of title III of the Energy Policy  
11 and Conservation Act is further amended by adding  
12 at the end the following:

“Sec. 368. State energy security plans.”.

13 **SEC. 6509. TRANSPORTATION ELECTRIFICATION.**

14 Section 131 of the Energy Independence and Security  
15 Act of 2007 (42 U.S.C. 17011) is amended—

16           (1) in subsection (a)(6)—

17                   (A) in subparagraph (A), by inserting “,  
18 including ground support equipment at ports”  
19 before the semicolon;

20                   (B) in subparagraph (E), by inserting  
21 “and vehicles” before the semicolon;

22                   (C) in subparagraph (H), by striking  
23 “and” at the end;

24                   (D) in subparagraph (I)—

1 (i) by striking “battery chargers,”;

2 and

3 (ii) by striking the period at the end

4 and inserting a semicolon; and

5 (E) by adding at the end the following:

6 “(J) installation of electric vehicle supply  
7 equipment for recharging plug-in electric drive  
8 vehicles, including such equipment that is acces-  
9 sible in rural and urban areas and in under-  
10 served or disadvantaged communities and such  
11 equipment for medium- and heavy-duty vehicles,  
12 including at depots and in-route locations;

13 “(K) multi-use charging hubs used for  
14 multiple forms of transportation;

15 “(L) medium- and heavy-duty vehicle  
16 smart charging management and refueling;

17 “(M) battery recycling and secondary use,  
18 including for medium- and heavy-duty vehicles;

19 and

20 “(N) sharing of best practices, and tech-  
21 nical assistance provided by the Department to  
22 public utilities commissions and utilities, for  
23 medium- and heavy-duty vehicle electrifica-  
24 tion.”;

25 (2) in subsection (b)—

1 (A) in paragraph (3)(A)(ii), by inserting “,  
2 components for such vehicles, and charging  
3 equipment for such vehicles” after “vehicles”;  
4 and

5 (B) in paragraph (6), by striking  
6 “\$90,000,000 for each of fiscal years 2008  
7 through 2012” and inserting “\$2,000,000,000  
8 for each of fiscal years 2021 through 2025”;  
9 (3) in subsection (c)—

10 (A) in the header, by striking “NEAR-  
11 TERM” and inserting “LARGE-SCALE”; and

12 (B) in paragraph (4), by striking  
13 “\$95,000,000 for each of fiscal years 2008  
14 through 2013” and inserting “\$2,500,000,000  
15 for each of fiscal years 2021 through 2025”;  
16 and

17 (4) by redesignating subsection (d) as sub-  
18 section (e) and inserting after subsection (c) the fol-  
19 lowing:

20 “(d) PRIORITY.—In providing grants under sub-  
21 sections (b) and (c), the Secretary shall give priority con-  
22 sideration to applications that contain a written assurance  
23 that all laborers and mechanics employed by contractors  
24 or subcontractors during construction, alteration, or re-  
25 pair that is financed, in whole or in part, by a grant pro-

1 vided under this section shall be paid wages at rates not  
2 less than those prevailing on similar construction in the  
3 locality, as determined by the Secretary of Labor in ac-  
4 cordance with sections 3141 through 3144, 3146, and  
5 3147 of title 40, United States Code (and the Secretary  
6 of Labor shall, with respect to the labor standards de-  
7 scribed in this clause, have the authority and functions  
8 set forth in Reorganization Plan Numbered 14 of 1950  
9 (5 U.S.C. App.) and section 3145 of title 40, United  
10 States Code).”.

11 **SEC. 6510. FEDERAL FLEETS.**

12 (a) **MINIMUM FEDERAL FLEET REQUIREMENT.**—  
13 Section 303 of the Energy Policy Act of 1992 (42 U.S.C.  
14 13212) is amended—

15 (1) in subsection (a), by adding at the end the  
16 following:

17 “(3) The Secretary, in consultation with the Adminis-  
18 trator of General Services, shall ensure that in acquiring  
19 medium- and heavy-duty vehicles for a Federal fleet, a  
20 Federal entity shall acquire zero emission vehicles to the  
21 maximum extent feasible.”;

22 (2) by striking subsection (b) and inserting the  
23 following:

24 “(b) **PERCENTAGE REQUIREMENTS.**—

25 “(1) **IN GENERAL.**—

1           “(A) LIGHT-DUTY VEHICLES.—Beginning  
2 in fiscal year 2025, 100 percent of the total  
3 number of light-duty vehicles acquired by a  
4 Federal entity for a Federal fleet shall be alter-  
5 native fueled vehicles, of which—

6                   “(i) at least 50 percent shall be zero  
7 emission vehicles or plug-in hybrids in fis-  
8 cal years 2025 through 2034;

9                   “(ii) at least 75 percent shall be zero  
10 emission vehicles or plug-in hybrids in fis-  
11 cal years 2035 through 2049; and

12                   “(iii) 100 percent shall be zero emis-  
13 sion vehicles in fiscal year 2050 and there-  
14 after.

15           “(B) MEDIUM- AND HEAVY-DUTY VEHI-  
16 CLES.—The following percentages of the total  
17 number of medium- and heavy-duty vehicles ac-  
18 quired by a Federal entity for a Federal fleet  
19 shall be alternative fueled vehicles:

20                   “(i) At least 20 percent in fiscal years  
21 2025 through 2029.

22                   “(ii) At least 30 percent in fiscal  
23 years 2030 through 2039.

24                   “(iii) At least 40 percent in fiscal  
25 years 2040 through 2049.

1                   “(iv) At least 50 percent in fiscal year  
2                   2050 and thereafter.

3                   “(2) EXCEPTION.—The Secretary, in consulta-  
4                   tion with the Administrator of General Services  
5                   where appropriate, may permit a Federal entity to  
6                   acquire for a Federal fleet a smaller percentage than  
7                   is required in paragraph (1) for a fiscal year, so long  
8                   as the aggregate percentage acquired for each class  
9                   of vehicle for all Federal fleets in the fiscal year is  
10                  at least equal to the required percentage.

11                  “(3) DEFINITIONS.—In this subsection:

12                  “(A) FEDERAL FLEET.—The term ‘Fed-  
13                  eral fleet’ means a fleet of vehicles that are cen-  
14                  trally fueled or capable of being centrally fueled  
15                  and are owned, operated, leased, or otherwise  
16                  controlled by or assigned to any Federal execu-  
17                  tive department, military department, Govern-  
18                  ment corporation, independent establishment,  
19                  or executive agency, the United States Postal  
20                  Service, the Congress, the courts of the United  
21                  States, or the Executive Office of the President.  
22                  Such term does not include—

23                         “(i) motor vehicles held for lease or  
24                         rental to the general public;

1 “(ii) motor vehicles used for motor ve-  
2 hicle manufacturer product evaluations or  
3 tests;

4 “(iii) law enforcement vehicles;

5 “(iv) emergency vehicles; or

6 “(v) motor vehicles acquired and used  
7 for military purposes that the Secretary of  
8 Defense has certified to the Secretary must  
9 be exempt for national security reasons.

10 “(B) FLEET.—The term ‘fleet’ means—

11 “(i) 20 or more light-duty vehicles, lo-  
12 cated in a metropolitan statistical area or  
13 consolidated metropolitan statistical area,  
14 as established by the Bureau of the Cen-  
15 sus, with a 1980 population of more than  
16 250,000; or

17 “(ii) 10 or more medium- or heavy-  
18 duty vehicles, located at a Federal facility  
19 or located in a metropolitan statistical area  
20 or consolidated metropolitan statistical  
21 area, as established by the Bureau of the  
22 Census, with a 1980 population of more  
23 than 250,000.”; and

24 (3) in subsection (f)(2)(B)—

25 (A) by striking “, either”; and

1 (B) in clause (i), by striking “or” and in-  
2 serting “and”.

3 (b) FEDERAL FLEET CONSERVATION REQUIRE-  
4 MENTS.—Section 400FF(a) of the Energy Policy and  
5 Conservation Act (42 U.S.C. 6374e) is amended—

6 (1) in paragraph (1)—

7 (A) by striking “18 months after the date  
8 of enactment of this section” and inserting “12  
9 months after the date of enactment of the  
10 Clean Economy Jobs and Innovation Act”;

11 (B) by striking “2010” and inserting  
12 “2022”; and

13 (C) by striking “and increase alternative  
14 fuel consumption” and inserting “, increase al-  
15 ternative fuel consumption, and reduce vehicle  
16 greenhouse gas emissions”; and

17 (2) by striking paragraph (2) and inserting the  
18 following:

19 “(2) GOALS.—The goals of the requirements  
20 under paragraph (1) are that each Federal agency  
21 shall—

22 “(A) reduce fleet-wide per-mile greenhouse  
23 gas emissions from agency fleet vehicles, rel-  
24 ative to a baseline of emissions in 2015, by—



1 “(i) not less than 30 percent by the  
2 end of fiscal year 2025;

3 “(ii) not less than 50 percent by the  
4 end of fiscal year 2030; and

5 “(iii) 100 percent by the end of fiscal  
6 year 2050; and

7 “(B) increase the annual percentage of al-  
8 ternative fuel consumption by agency fleet vehi-  
9 cles as a proportion of total annual fuel con-  
10 sumption by Federal fleet vehicles, to achieve—

11 “(i) 25 percent of total annual fuel  
12 consumption that is alternative fuel by the  
13 end of fiscal year 2025;

14 “(ii) 50 percent of total annual fuel  
15 consumption that is alternative fuel by the  
16 end of fiscal year 2035; and

17 “(iii) at least 85 percent of total an-  
18 nual fuel consumption that is alternative  
19 fuel by the end of fiscal year 2050.”.

20 **SEC. 6511. DOMESTIC MANUFACTURING CONVERSION**  
21 **GRANT PROGRAM.**

22 (a) HYBRID VEHICLES, ADVANCED VEHICLES, AND  
23 FUEL CELL BUSES.—Subtitle B of title VII of the Energy  
24 Policy Act of 2005 (42 U.S.C. 16061 et seq.) is amend-  
25 ed—

1 (1) in the subtitle header, by inserting “**Plug-**  
2 **In Electric Vehicles,**” before “**Hybrid Vehi-**  
3 **cles**”; and

4 (2) in part 1, in the part header, by striking  
5 “**HYBRID**” and inserting “**PLUG-IN ELECTRIC**”.

6 (b) PLUG-IN ELECTRIC VEHICLES.—Section 711 of  
7 the Energy Policy Act of 2005 (42 U.S.C. 16061) is  
8 amended to read as follows:

9 “**SEC. 711. PLUG-IN ELECTRIC VEHICLES.**

10 “The Secretary shall accelerate efforts, related to do-  
11 mestic manufacturing, that are directed toward the im-  
12 provement of batteries, power electronics, and other tech-  
13 nologies for use in plug-in electric vehicles.”.

14 (c) EFFICIENT HYBRID AND ADVANCED DIESEL VE-  
15 HICLES.—Section 712 of the Energy Policy Act of 2005  
16 (42 U.S.C. 16062) is amended—

17 (1) in subsection (a)—

18 (A) in paragraph (1), by inserting “, plug-  
19 in electric,” after “efficient hybrid”; and

20 (B) by amending paragraph (3) to read as  
21 follows:

22 “(3) PRIORITY.—Priority shall be given to—

23 “(A) the refurbishment or retooling of  
24 manufacturing facilities that have recently

1           ceased operation or would otherwise cease oper-  
2           ation in the near future; and

3           “(B) applications containing a written as-  
4           surance that—

5                   “(i) all laborers and mechanics em-  
6                   ployed by contractors or subcontractors  
7                   during construction, alteration, retooling,  
8                   or repair that is financed, in whole or in  
9                   part, by a grant under this subsection shall  
10                  be paid wages at rates not less than those  
11                  prevailing on similar construction in the lo-  
12                  cality, as determined by the Secretary of  
13                  Labor in accordance with sections 3141  
14                  through 3144, 3146, and 3147 of title 40,  
15                  United States Code;

16                  “(ii) all laborers and mechanics em-  
17                  ployed by the owner or operator of a man-  
18                  ufacturing facility that is financed, in  
19                  whole or in part, by a grant under this  
20                  subsection shall be paid wages at rates not  
21                  less than those prevailing on similar con-  
22                  struction in the locality, as determined by  
23                  the Secretary of Labor in accordance with  
24                  sections 3141 through 3144, 3146, and  
25                  3147 of title 40, United States Code; and

1                   “(iii) the Secretary of Labor shall,  
2                   with respect to the labor standards de-  
3                   scribed in this paragraph, have the author-  
4                   ity and functions set forth in Reorganiza-  
5                   tion Plan Numbered 14 of 1950 (5 U.S.C.  
6                   App.) and section 3145 of title 40, United  
7                   States Code.”; and

8                   (2) by striking subsection (c) and inserting the  
9                   following:

10                  “(c) COST SHARE AND GUARANTEE OF OPER-  
11                  ATION.—

12                   “(1) CONDITION.—A recipient of a grant under  
13                   this section shall pay the Secretary the full amount  
14                   of the grant if the facility financed in whole or in  
15                   part under this subsection fails to manufacture  
16                   goods for a period of at least 10 years after the com-  
17                   pletion of construction.

18                   “(2) COST SHARE.—Section 988(c) shall apply  
19                   to a grant made under this subsection.

20                  “(d) AUTHORIZATION OF APPROPRIATIONS.—There  
21                  is authorized to be appropriated to the Secretary to carry  
22                  out this section \$2.5 billion for each of fiscal years 2021  
23                  through 2025.

24                  “(e) PERIOD OF AVAILABILITY.—An award made  
25                  under this section after the date of enactment of this sub-

1 section shall only be available with respect to facilities and  
2 equipment placed in service before December 30, 2035.”.

3 (d) CONFORMING AMENDMENT.—The table of con-  
4 tents of the Energy Policy Act of 2005 is amended—

5 (1) in the item relating to subtitle B of title  
6 VII, by inserting “Plug-In Electric Vehicles,” before  
7 “Hybrid Vehicles”;

8 (2) in the item relating to part 1 of such sub-  
9 title, by striking “Hybrid” and inserting “Plug-In  
10 Electric”; and

11 (3) in the item relating to section 711, by strik-  
12 ing “Hybrid” and inserting “Plug-in electric”.

13 **SEC. 6512. ADVANCED TECHNOLOGY VEHICLES MANUFAC-**  
14 **TURING INCENTIVE PROGRAM.**

15 Section 136 of the Energy Independence and Security  
16 Act of 2007 (42 U.S.C. 17013) is amended—

17 (1) in subsection (a)—

18 (A) in paragraph (1)—

19 (i) by redesignating subparagraphs  
20 (A) through (C) as clauses (i) through  
21 (iii), respectively, and indenting appro-  
22 priately;

23 (ii) by striking “(1) ADVANCED TECH-  
24 NOLOGY VEHICLE.—” and all that follows

1 through “meets—” and inserting the fol-  
2 lowing:

3 “(1) ADVANCED TECHNOLOGY VEHICLE.—The  
4 term ‘advanced technology vehicle’ means—

5 “(A) an ultra efficient vehicle;

6 “(B) a light-duty vehicle or medium-duty  
7 passenger vehicle that—”;

8 (iii) in subparagraph (B)(i) (as so re-  
9 designated), by striking “the Bin 5 Tier  
10 II” and inserting “meets the Bin 160 Tier  
11 III”;

12 (iv) in subparagraph (B)(ii) (as so re-  
13 designated), by inserting “meets” before  
14 “any new”;

15 (v) by amending subparagraph (B)(iii)  
16 (as so redesignated) to read as follows:

17 “(iii)(I) for vehicles produced in model  
18 years 2021 through 2025, meets the appli-  
19 cable regulatory standards for emissions of  
20 greenhouse gases for model year 2021  
21 through 2025 vehicles promulgated by the  
22 Administrator of the Environmental Pro-  
23 tection Agency on October 15, 2012 (77  
24 Fed. Reg. 62624); or

1 “(II) emits zero emissions of green-  
2 house gases; or”; and

3 (vi) by adding at the end the fol-  
4 lowing:

5 “(C) a heavy-duty vehicle (excluding a me-  
6 dium-duty passenger vehicle) that—

7 “(i) complies early with and dem-  
8 onstrates achievement below the applicable  
9 regulatory standards for emissions of  
10 greenhouse gases for model year 2027 ve-  
11 hicles promulgated by the Administrator  
12 on October 25, 2016 (81 Fed. Reg.  
13 73478); or

14 “(ii) emits zero emissions of green-  
15 house gases.”;

16 (B) by striking paragraph (2) and redesign-  
17 ating paragraph (3) as paragraph (2);

18 (C) by striking paragraph (4) and insert-  
19 ing the following:

20 “(3) QUALIFYING COMPONENT.—The term  
21 ‘qualifying component’ means a material, technology,  
22 component, system, or subsystem in an advanced  
23 technology vehicle, including an ultra-efficient com-  
24 ponent.

1           “(4)   ULTRA-EFFICIENT    COMPONENT.—The  
2           term ‘ultra-efficient component’ means a component  
3           of an ultra efficient vehicle, including—

4                   “(A) fuel cell technology;

5                   “(B) battery technology, including a bat-  
6           tery cell, battery, battery management system,  
7           or thermal control system;

8                   “(C) an automotive semiconductor or com-  
9           puter;

10                  “(D) an electric motor, axle, or component;

11           and

12                  “(E) an advanced lightweight, high-  
13           strength, or high-performance material.”; and

14                  (D) in paragraph (5)—

15                   (i) in subparagraph (B), by striking

16           “or” at the end;

17                   (ii) in subparagraph (C), by striking

18           the period at the end and inserting “; or”;

19           and

20                   (iii) by adding at the end the fol-

21           lowing:

22                  “(D) at least 75 miles per gallon equiva-  
23           lent while operating as a hydrogen fuel cell elec-  
24           tric vehicle.”;



1           (2) by amending subsection (b) to read as fol-  
2           lows:

3           “(b) ADVANCED VEHICLES MANUFACTURING FACIL-  
4           ITY.—

5           “(1) IN GENERAL.—The Secretary shall provide  
6           facility funding awards under this section to ad-  
7           vanced technology vehicle manufacturers and compo-  
8           nent suppliers to pay not more than 50 percent of  
9           the cost of—

10                   “(A) reequipping, expanding, or estab-  
11                   lishing a manufacturing facility in the United  
12                   States to produce—

13                           “(i) advanced technology vehicles; or

14                           “(ii) qualifying components; and

15                   “(B) engineering integration performed in  
16                   the United States of advanced technology vehi-  
17                   cles and qualifying components.

18           “(2) ULTRA-EFFICIENT COMPONENTS COST  
19           SHARE.—Notwithstanding paragraph (1), a facility  
20           funding award under such paragraph may pay not  
21           more than 80 percent of the cost of a project to  
22           reequip, expand, or establish a manufacturing facil-  
23           ity in the United States to produce ultra-efficient  
24           components.”;

1           (3) in subsection (c), by striking “2020” and  
2 inserting “2030” each place it appears;

3           (4) in subsection (d)—

4                 (A) by amending paragraph (2) to read as  
5 follows:

6           “(2) APPLICATION.—An applicant for a loan  
7 under this subsection shall submit to the Secretary  
8 an application at such time, in such manner, and  
9 containing such information as the Secretary may  
10 require, including—

11                 “(A) a written assurance that—

12                         “(i) all laborers and mechanics em-  
13 ployed by contractors or subcontractors  
14 during construction, alteration, or repair,  
15 or at any manufacturing operation, that is  
16 financed, in whole or in part, by a loan  
17 under this section shall be paid wages at  
18 rates not less than those prevailing in a  
19 similar firm or on similar construction in  
20 the locality, as determined by the Sec-  
21 retary of Labor in accordance with sub-  
22 chapter IV of chapter 31 of title 40,  
23 United States Code; and

24                         “(ii) the Secretary of Labor shall,  
25 with respect to the labor standards de-

1           scribed in this paragraph, have the author-  
2           ity and functions set forth in Reorganiza-  
3           tion Plan Numbered 14 of 1950 (64 Stat.  
4           1267; 5 U.S.C. App.) and section 3145 of  
5           title 40, United States Code;

6           “(B) a disclosure of whether there has  
7           been any administrative merits determination,  
8           arbitral award or decision, or civil judgment, as  
9           defined in guidance issued by the Secretary of  
10          Labor, rendered against the applicant in the  
11          preceding 3 years for violations of applicable  
12          labor, employment, civil rights, or health and  
13          safety laws;

14          “(C) specific information regarding the ac-  
15          tions the applicant will take to demonstrate  
16          compliance with, and where possible exceedance  
17          of, requirements under applicable labor, employ-  
18          ment, civil rights, and health and safety laws,  
19          and actions the applicant will take to ensure  
20          that its direct suppliers demonstrate compliance  
21          with applicable labor, employment, civil rights,  
22          and health and safety laws; and

23          “(D) an estimate and description of the  
24          jobs and types of jobs to be retained or created  
25          by the project and the specific actions the appli-

1           cant will take to increase employment and re-  
2           tention of dislocated workers, veterans, individ-  
3           uals from low-income communities, women, mi-  
4           norities, and other groups underrepresented in  
5           manufacturing, and individuals with a barrier  
6           to employment.”;

7           (B) by amending paragraph (3) to read as  
8           follows:

9           “(3) SELECTION OF ELIGIBLE PROJECTS.—The  
10          Secretary shall select eligible projects to receive  
11          loans under this subsection in cases in which the  
12          Secretary determines—

13                 “(A) the loan recipient—

14                         “(i) has a reasonable prospect of re-  
15                         paying the principal and interest on the  
16                         loan;

17                         “(ii) will provide sufficient informa-  
18                         tion to the Secretary for the Secretary to  
19                         ensure that the qualified investment is ex-  
20                         pended efficiently and effectively; and

21                         “(iii) has met such other criteria as  
22                         may be established and published by the  
23                         Secretary; and

24                 “(B) the amount of the loan (when com-  
25                 bined with amounts available to the loan recipi-

1 ent from other sources) will be sufficient to  
2 carry out the project.”; and

3 (C) in paragraph (4)—

4 (i) in subparagraph (B)(i), by striking  
5 “; and” and inserting “; or”;

6 (ii) in subparagraph (C), by striking  
7 “; and” and inserting a semicolon;

8 (iii) in subparagraph (D), by striking  
9 the period at the end and inserting “;  
10 and”; and

11 (iv) by adding at the end the fol-  
12 lowing:

13 “(E) shall be subject to the condition that  
14 the loan is not subordinate to other financing.”;

15 (5) by amending subsection (e) to read as fol-  
16 lows:

17 “(e) REGULATIONS.—Not later than 6 months after  
18 the date of enactment of the Clean Economy Jobs and  
19 Innovation Act, the Secretary shall issue a final rule estab-  
20 lishing regulations to carry out this section.”;

21 (6) by amending subsection (f) to read as fol-  
22 lows:

23 “(f) FEES.—The Secretary shall charge and collect  
24 fees for loans under this section in amounts the Secretary  
25 determines are sufficient to cover applicable administra-

1 tive expenses (including any costs associated with third-  
2 party consultants engaged by the Secretary), which may  
3 not exceed \$100,000 or 10 basis points of the loan and  
4 may not be collected prior to financial closing.”;

5 (7) by amending subsection (g) to read as fol-  
6 lows:

7 “(g) PRIORITY.—The Secretary shall, in making  
8 awards or loans to those manufacturers that have existing  
9 facilities (which may be idle), give priority to those facili-  
10 ties that are or would be—

11 “(1) oldest or in existence for at least 20 years;

12 “(2) recently closed, or at risk of closure;

13 “(3) utilized primarily for the manufacture of  
14 medium-duty passenger vehicles or other heavy-duty  
15 vehicles that emit zero greenhouse gas emissions; or

16 “(4) utilized primarily for the manufacture of  
17 ultra-efficient components.”;

18 (8) in subsection (h)—

19 (A) in the header, by striking “AUTO-  
20 MOBILE” and inserting “ADVANCED TECH-  
21 NOLOGY VEHICLE”; and

22 (B) in paragraph (1)(B), by striking  
23 “automobiles, or components of automobiles”  
24 and inserting “advanced technology vehicles, or  
25 components of advanced technology vehicles”;

1           (9) by striking subsection (i) and redesignating  
2           subsection (j) as subsection (i); and

3           (10) by adding at the end the following:

4           “(j) COORDINATION.—In carrying out this section,  
5 the Secretary shall coordinate with relevant vehicle, bio-  
6 energy, and hydrogen and fuel cell demonstration project  
7 activities supported by the Department.

8           “(k) OUTREACH.—In carrying out this section, the  
9 Secretary shall—

10           “(1) provide assistance with the completion of  
11 applications for awards or loans under this section;  
12 and

13           “(2) conduct outreach, including through con-  
14 ferences and online programs, to disseminate infor-  
15 mation on awards and loans under this section to  
16 potential applicants.

17           “(l) REPORT.—Not later than 2 years after the date  
18 of the enactment of this subsection, and every 3 years  
19 thereafter, the Secretary shall submit to Congress a report  
20 on the status of projects supported by a loan under this  
21 section, including—

22           “(1) a list of projects receiving a loan under  
23 this section, including the loan amount and con-  
24 struction status of each such project;

1           “(2) the status of each project’s loan repay-  
2           ment, including future repayment projections;

3           “(3) data regarding the number of direct and  
4           indirect jobs retained, restored, or created by fi-  
5           nanced projects;

6           “(4) the number of new projects projected to  
7           receive a loan under this section in the next 2 years  
8           and the aggregate loan amount; and

9           “(5) any other metrics the Secretary finds ap-  
10          propriate.

11          “(m) AUTHORIZATION OF APPROPRIATIONS.—There  
12          are authorized to be appropriated to carry out this sec-  
13          tion—

14                 “(1) \$10,000,000 for each of fiscal years 2021  
15                 through 2025 to administer this section; and

16                 “(2) \$10,000,000 for fiscal year 2021, to re-  
17                 main available until expended, for administrative  
18                 costs associated with loans under this section that  
19                 are not covered by fees collected under subsection  
20                 (f).”.



1           **Subtitle F—Vehicles Used for**  
2                                   **Competition**

3   **SEC. 6601. TREATMENT OF VEHICLES NOT LEGAL FOR OP-**  
4                                   **ERATION ON A STREET OR HIGHWAY AND**  
5                                   **USED SOLELY FOR COMPETITION.**

6           (a) TREATMENT.—An action with respect to any de-  
7 vice or element of design referred to in paragraph (3) of  
8 section 203(a) of the Clean Air Act (42 U.S.C. 7522(a))  
9 shall not be treated as a prohibited act under such para-  
10 graph if the action is for the purpose of modifying a motor  
11 vehicle that is not legal for operation on a street or high-  
12 way and is to be used solely for competition.

13           (b) IMPLEMENTATION.—Not later than 18 months  
14 after the date of enactment of this Act, the Administrator  
15 of the Environmental Protection Agency shall promulgate  
16 final regulations as necessary to implement subsection (a).

17           **Subtitle G—Clean Refrigerated**  
18                                   **Vehicles Program**

19   **SEC. 6701. PILOT PROGRAM FOR THE ELECTRIFICATION OF**  
20                                   **CERTAIN REFRIGERATED VEHICLES.**

21           (a) ESTABLISHMENT OF PILOT PROGRAM.—The Ad-  
22 ministrator shall establish and carry out a pilot program  
23 to award funds, in the form of grants, rebates, and low-  
24 cost revolving loans, as determined appropriate by the Ad-

1 administrator, on a competitive basis, to eligible entities to  
2 carry out projects described in subsection (b).

3 (b) PROJECTS.—An eligible entity receiving an award  
4 of funds under subsection (a) may use such funds only  
5 for one or more of the following projects:

6 (1) TRANSPORT REFRIGERATION UNIT RE-  
7 PLACEMENT.—A project to retrofit a heavy-duty ve-  
8 hicle by replacing or retrofitting the existing diesel-  
9 powered transport refrigeration unit in such vehicle  
10 with an electric transport refrigeration unit and re-  
11 tiring the replaced unit for scrappage.

12 (2) SHORE POWER INFRASTRUCTURE.—A  
13 project to purchase and install shore power infra-  
14 structure or other equipment that enables transport  
15 refrigeration units to connect to electric power and  
16 operate without using diesel fuel.

17 (c) MAXIMUM AMOUNTS.—The amount of an award  
18 of funds under subsection (a) shall not exceed—

19 (1) for the costs of a project described in sub-  
20 section (b)(1), 75 percent of such costs; and

21 (2) for the costs of a project described in sub-  
22 section (b)(2), 55 percent of such costs.

23 (d) APPLICATIONS.—To be eligible to receive an  
24 award of funds under subsection (a), an eligible entity  
25 shall submit to the Administrator—

1           (1) a description of the air quality in the area  
2           served by the eligible entity, including a description  
3           of how the air quality is affected by diesel emissions  
4           from heavy-duty vehicles;

5           (2) a description of the project proposed by the  
6           eligible entity, including—

7                   (A) any technology to be used or funded by  
8                   the eligible entity; and

9                   (B) a description of the heavy-duty vehicle  
10                  or vehicles of the eligible entity, that will be ret-  
11                  rofitted, if any, including—

12                           (i) the number of such vehicles;

13                           (ii) the uses of such vehicles;

14                           (iii) the locations where such vehicles  
15                          dock for the purpose of loading or unload-  
16                          ing; and

17                           (iv) the routes driven by such vehicles,  
18                          including the times at which such vehicles  
19                          are driven;

20           (3) an estimate of the cost of the proposed  
21           project;

22           (4) a description of the age and expected life-  
23           time control of the equipment used or funded by the  
24           eligible entity; and

1           (5) provisions for the monitoring and  
2 verification of the project including to verify  
3 scrappage of replaced units.

4           (e) PRIORITY.—In awarding funds under subsection  
5 (a), the Administrator shall give priority to proposed  
6 projects that, as determined by the Administrator—

7           (1) maximize public health benefits;

8           (2) are the most cost-effective; and

9           (3) will serve the communities that are most  
10 polluted by diesel motor emissions, including com-  
11 munities that the Administrator identifies as being  
12 in either nonattainment or maintenance of the na-  
13 tional ambient air quality standards for a criteria  
14 pollutant, particularly for—

15           (A) ozone; and

16           (B) particulate matter.

17           (f) DATA RELEASE.—Not later than 120 days after  
18 the date on which an award of funds is made under this  
19 section, the Administrator shall publish on the website of  
20 the Environmental Protection Agency, on a downloadable  
21 electronic database, information with respect to such  
22 award of funds, including—

23           (1) the name and location of the recipient;

24           (2) the total amount of funds awarded;

1           (3) the intended use or uses of the awarded  
2 funds;

3           (4) the date on which the award of funds was  
4 approved;

5           (5) where applicable, an estimate of any air pol-  
6 lution or greenhouse gas emissions avoided as a re-  
7 sult of the project funded by the award; and

8           (6) any other data the Administrator deter-  
9 mines to be necessary for an evaluation of the use  
10 and effect of awarded funds provided under this sec-  
11 tion.

12 (g) REPORTS TO CONGRESS.—

13           (1) ANNUAL REPORT TO CONGRESS.—Not later  
14 than 1 year after the date of the establishment of  
15 the pilot program under this section, and annually  
16 thereafter until amounts made available to carry out  
17 this section are expended, the Administrator shall  
18 submit to Congress and make available to the public  
19 a report that describes, with respect to the applica-  
20 ble year—

21                   (A) the number of applications for awards  
22 of funds received under such program;

23                   (B) all awards of funds made under such  
24 program, including a summary of the data de-  
25 scribed in subsection (f);

1 (C) the estimated reduction of annual  
2 emissions of air pollutants regulated under sec-  
3 tion 109 of the Clean Air Act (42 U.S.C.  
4 7409), and the estimated reduction of green-  
5 house gas emissions, associated with the awards  
6 of funds made under such program;

7 (D) the number of awards of funds made  
8 under such program for projects in communities  
9 described in subsection (e)(3); and

10 (E) any other data the Administrator de-  
11 termines to be necessary to describe the imple-  
12 mentation, outcomes, or effectiveness of such  
13 program.

14 (2) FINAL REPORT.—Not later than 1 year  
15 after amounts made available to carry out this sec-  
16 tion are expended, or 5 years after the pilot program  
17 is established, whichever comes first, the Adminis-  
18 trator shall submit to Congress and make available  
19 to the public a report that describes—

20 (A) all of the information collected for the  
21 annual reports under paragraph (1);

22 (B) any benefits to the environment or  
23 human health that could result from the wide-  
24 spread application of electric transport refrig-  
25 eration units for short-haul transportation and

1 delivery of perishable goods or other goods re-  
2 quiring climate-controlled conditions, including  
3 in low-income communities and communities of  
4 color;

5 (C) any challenges or benefits that recipi-  
6 ents of awards of funds under such program re-  
7 ported with respect to the integration or use of  
8 electric transport refrigeration units and associ-  
9 ated technologies;

10 (D) an assessment of the national market  
11 potential for electric transport refrigeration  
12 units;

13 (E) an assessment of challenges and op-  
14 portunities for widespread deployment of elec-  
15 tric transport refrigeration units, including in  
16 urban areas; and

17 (F) recommendations for how future Fed-  
18 eral, State, and local programs can best support  
19 the adoption and widespread deployment of  
20 electric transport refrigeration units.

21 (h) DEFINITIONS.—In this section:

22 (1) ADMINISTRATOR.—The term “Adminis-  
23 trator” means the Administrator of the Environ-  
24 mental Protection Agency.

1           (2) DIESEL-POWERED TRANSPORT REFRIGERA-  
2           TION UNIT.—The term “diesel-powered transport re-  
3           frigeration unit” means a transport refrigeration  
4           unit that is powered by an independent diesel inter-  
5           nal combustion engine.

6           (3) ELECTRIC TRANSPORT REFRIGERATION  
7           UNIT.—The term “electric transport refrigeration  
8           unit” means a transport refrigeration unit in which  
9           the refrigeration or climate-control system is driven  
10          by an electric motor when connected to shore power  
11          infrastructure or other equipment that enables  
12          transport refrigeration units to connect to electric  
13          power, including all-electric transport refrigeration  
14          units, hybrid electric transport refrigeration units,  
15          and standby electric transport refrigeration units.

16          (4) ELIGIBLE ENTITY.—The term “eligible enti-  
17          ty” means—

18                 (A) a regional, State, local, or Tribal agen-  
19                 cy, or port authority, with jurisdiction over  
20                 transportation or air quality;

21                 (B) a nonprofit organization or institution  
22                 that—

23                         (i) represents or provides pollution re-  
24                         duction or educational services to persons  
25                         or organizations that own or operate



1 heavy-duty vehicles or fleets of heavy-duty  
2 vehicles; or

3 (ii) has, as its principal purpose, the  
4 promotion of air quality;

5 (C) an individual or entity that is the  
6 owner of record of a heavy-duty vehicle or a  
7 fleet of heavy-duty vehicles that operates for the  
8 transportation and delivery of perishable goods  
9 or other goods requiring climate-controlled con-  
10 ditions;

11 (D) an individual or entity that is the  
12 owner of record of a facility that operates as a  
13 warehouse or storage facility for perishable  
14 goods or other goods requiring climate-con-  
15 trolled conditions; or

16 (E) a hospital or public health institution  
17 that utilizes refrigeration for storage of perish-  
18 able goods or other goods requiring climate-con-  
19 trolled conditions.

20 (5) HEAVY-DUTY VEHICLE.—The term “heavy-  
21 duty vehicle” means—

22 (A) a commercial truck or van—

23 (i) used for the primary purpose of  
24 transporting perishable goods or other

1 goods requiring climate-controlled condi-  
2 tions; and

3 (ii) with a gross vehicle weight rating  
4 greater than 6,000 pounds; or

5 (B) an insulated cargo trailer used in  
6 transporting perishable goods or other goods re-  
7 quiring climate-controlled conditions when  
8 mounted on a semitrailer.

9 (6) SHORE POWER INFRASTRUCTURE.—The  
10 term “shore power infrastructure” means electrical  
11 infrastructure that provides power to the electric  
12 transport refrigeration unit of a heavy-duty vehicle  
13 when such vehicle is stationary on a property where  
14 such vehicle is parked or loaded, including a food  
15 distribution center or other location where heavy-  
16 duty vehicles congregate.

17 (7) TRANSPORT REFRIGERATION UNIT.—The  
18 term “transport refrigeration unit” means a climate-  
19 control system installed on a heavy-duty vehicle for  
20 the purpose of maintaining the quality of perishable  
21 goods or other goods requiring climate-controlled  
22 conditions.

23 (i) AUTHORIZATION OF APPROPRIATIONS.—

1           (1) IN GENERAL.—There is authorized to be  
2           appropriated to carry out this section \$10,000,000,  
3           to remain available until expended.

4           (2) ADMINISTRATIVE EXPENSES.—The Admin-  
5           istrator may use not more than 1 percent of  
6           amounts made available pursuant to paragraph (1)  
7           for administrative expenses to carry out this section.

## 8           **Subtitle H—Low-Carbon Fuels**

### 9           **SEC. 6801. STUDY BY NATIONAL ACADEMY OF SCIENCES.**

10          (a) IN GENERAL.—The Administrator of the Envi-  
11          ronmental Protection Agency, after consultation with the  
12          Secretary of Energy and the Secretary of Agriculture,  
13          shall seek to enter into an agreement with the National  
14          Academy of Sciences (or, if the Academy declines, another  
15          appropriate entity) under which the Academy (or other ap-  
16          propriate entity) agrees to—

17               (1) assess current methods for life cycle green-  
18               house gas emissions analyses for low-carbon trans-  
19               portation fuels in the United States; and

20               (2) develop a framework for assessing broader  
21               environmental implications of low-carbon transpor-  
22               tation fuels in addition to greenhouse gas emissions.

23          (b) TIMING OF AGREEMENT.—The Administrator  
24          shall seek to enter into the agreement described in sub-

1 section (a) not later than 60 days after the date of enact-  
2 ment of this Act.

3 (c) ASSESSMENT.—The assessment pursuant to sub-  
4 section (a)(1) shall examine methods for calculating life  
5 cycle greenhouse gas emissions associated with transpor-  
6 tation fuels (liquid and nonliquid), including—

7 (1) direct greenhouse gas emissions, including  
8 all stages of fuel and feedstock production, distribu-  
9 tion, and use; and

10 (2) potentially significant indirect greenhouse  
11 gas emissions.

12 (d) FRAMEWORK.—The framework pursuant to sub-  
13 section (a)(2) shall include a recommended framework and  
14 approaches for detailed quantitative assessments of the  
15 comparative environmental implications of low-carbon  
16 transportation fuels (liquid and nonliquid), including—

17 (1) life cycle implications for air, water, land,  
18 and ecosystems in different regions of the United  
19 States and over time; and

20 (2) potential environmental implications over  
21 the life cycle of transportation fuels for low-income  
22 and disadvantaged communities and communities of  
23 color.

1 (e) REPORTS.—The agreement under subsection (a)  
2 shall provide for the publication by the Academy (or other  
3 appropriate entity) of—

4 (1) not later than 12 months after the date of  
5 enactment of this Act, a report—

6 (A) describing the results of the assess-  
7 ment under subsection (a)(1); and

8 (B) recommending a standardized ap-  
9 proach to calculating life cycle greenhouse gas  
10 emissions from low-carbon transportation fuels  
11 (liquid and nonliquid); and

12 (2) not later than 18 months after the date of  
13 enactment of this Act, a report providing rec-  
14 ommendations for a framework to assess environ-  
15 mental implications, in addition to greenhouse gas  
16 emissions, of low-carbon transportation fuels (liquid  
17 and nonliquid).

18 (f) DEFINITIONS.—In this section:

19 (1) ACADEMY.—The term “Academy” means  
20 the National Academy of Sciences.

21 (2) ADMINISTRATOR.—The term “Adminis-  
22 trator” means the Administrator of the Environ-  
23 mental Protection Agency.

24 (3) LIFE CYCLE GREENHOUSE GAS EMIS-  
25 SIONS.—The term “life cycle greenhouse gas emis-

1 sions” means the aggregate quantity of greenhouse  
2 gas emissions (including direct emissions and signifi-  
3 cant indirect emissions such as significant emissions  
4 from land use changes), as determined by the Acad-  
5 emy (or other appropriate entity) over the full life  
6 cycle of the respective greenhouse gases, across all  
7 stages of a given fuel’s supply chain, where the mass  
8 values for all greenhouse gases are adjusted to ac-  
9 count for their relative global warming potential and  
10 residence time.

11 (4) OTHER APPROPRIATE ENTITY.—The term  
12 “other appropriate entity” means the other appro-  
13 priate entity with which the agreement under sub-  
14 section (a) is entered into if the Academy declines  
15 to enter into the agreement.

## 16 **Subtitle I—Climate Action**

### 17 **Planning for Ports**

#### 18 **SEC. 6901. GRANTS TO REDUCE GREENHOUSE GAS EMIS-**

#### 19 **SIONS AT PORTS.**

20 (a) GRANTS.—The Administrator of the Environ-  
21 mental Protection Agency may award grants to eligible en-  
22 tities—

23 (1) to implement plans to reduce greenhouse  
24 gas emissions at one or more ports or port facilities

1 within the jurisdictions of the respective eligible enti-  
2 ties; and

3 (2) to develop climate action plans described in  
4 subsection (b)(2).

5 (b) APPLICATION.—

6 (1) IN GENERAL.—To seek a grant under this  
7 section, an eligible entity shall submit an application  
8 to the Administrator of the Environmental Protec-  
9 tion Agency at such time, in such manner, and con-  
10 taining such information and assurances as the Ad-  
11 ministrator may require.

12 (2) CLIMATE ACTION PLAN.—At a minimum,  
13 each such application shall contain—

14 (A) a detailed and strategic plan, to be  
15 known as a climate action plan, that outlines  
16 how the eligible entity will develop and imple-  
17 ment climate change mitigation or adaptation  
18 measures through the grant; or

19 (B) a request pursuant to subsection  
20 (a)(2) for funding for the development of a cli-  
21 mate action plan.

22 (3) REQUIRED COMPONENTS.—A climate action  
23 plan under paragraph (2) shall demonstrate that the  
24 measures proposed to be implemented through the  
25 grant—

1 (A) will reduce greenhouse gas emissions  
2 at the port or port facilities involved pursuant  
3 to greenhouse gas emission reduction goals set  
4 forth in the climate action plan;

5 (B) will reduce other air pollutants at the  
6 port or port facilities involved pursuant to cri-  
7 teria pollutant emission reduction goals set  
8 forth in the climate action plan;

9 (C) will implement emissions accounting  
10 and inventory practices to determine baseline  
11 emissions and measure progress; and

12 (D) will ensure labor protections for work-  
13 ers employed directly at the port or port facili-  
14 ties involved, including by—

15 (i) demonstrating that implementation  
16 of the measures proposed to be imple-  
17 mented through the grant will not result in  
18 a net loss of jobs at the port or port facili-  
19 ties involved;

20 (ii) ensuring that laborers and me-  
21 chanics employed by contractors and sub-  
22 contractors on construction projects to im-  
23 plement the plan will be paid wages not  
24 less than those prevailing on similar con-  
25 struction in the locality, as determined by



1 the Secretary of Labor under sections  
2 3141 through 3144, 3146, and 3147 of  
3 title 40, United States Code; and

4 (iii) requiring any projects initiated to  
5 carry out the plan with total capital costs  
6 of \$1,000,000 or greater to utilize a  
7 project labor agreement and not impact  
8 any preexisting project labor agreement.

9 (4) OTHER COMPONENTS.—In addition to the  
10 components required by paragraph (3), a climate ac-  
11 tion plan under paragraph (2) shall demonstrate  
12 that the measures proposed to be implemented  
13 through the grant will do at least 2 of the following:

14 (A) Improve energy efficiency at a port or  
15 port facility, including by using—

16 (i) energy-efficient vehicles, such as  
17 hybrid, low-emission, or zero-emission vehi-  
18 cles;

19 (ii) energy efficient cargo-handling,  
20 harbor vessels, or storage facilities such as  
21 energy-efficient refrigeration equipment;

22 (iii) energy-efficient lighting;

23 (iv) shore power; or

24 (v) other energy efficiency improve-  
25 ments.

1 (B) Deploy technology or processes that  
2 reduce idling of vehicles at a port or port facil-  
3 ity.

4 (C) Reduce the direct emissions of green-  
5 house gases and other air pollutants with a goal  
6 of achieving zero emissions, including by replac-  
7 ing and retrofitting equipment (including vehi-  
8 cles onsite, cargo-handling equipment, or harbor  
9 vessels) at a port or port facility.

10 (5) PROHIBITED USE.—An eligible entity may  
11 not use a grant provided under this section—

12 (A) to purchase fully automated cargo han-  
13 dling equipment;

14 (B) to build, or plan to build, terminal in-  
15 frastructure that is designed for fully auto-  
16 mated cargo handling equipment;

17 (C) to purchase, test, or develop highly  
18 automated trucks, chassis, or any related equip-  
19 ment that can be used to transport container-  
20 ized freight; or

21 (D) to extend to any independent con-  
22 tractor, independent owner, operator, or other  
23 entity that is not using employees for the sake  
24 of performing work on terminal grounds.

1           (6) COORDINATION WITH STAKEHOLDERS.—In  
2     developing a climate action plan under paragraph  
3     (2), an eligible entity shall—

4           (A) identify and collaborate with stake-  
5     holders who may be affected by the plan, in-  
6     cluding local environmental justice communities  
7     and other near-port communities;

8           (B) address the potential cumulative ef-  
9     fects of the plan on stakeholders when those ef-  
10    fects may have a community-level impact; and

11          (C) ensure effective advance communica-  
12    tion with stakeholders to avoid and minimize  
13    conflicts.

14          (c) PRIORITY.—In awarding grants under this sec-  
15    tion, the Administrator of the Environmental Protection  
16    Agency shall give priority to applicants proposing—

17          (1) to strive for zero emissions as a key strat-  
18    egy within the grantee’s climate action plan under  
19    paragraph (2);

20          (2) to take a regional approach to reducing  
21    greenhouse gas emissions at ports;

22          (3) to collaborate with near-port communities to  
23    identify and implement mutual solutions to reduce  
24    air pollutants at ports or port facilities affecting  
25    such communities, with emphasis given to implemen-

1 tation of such solutions in near-port communities  
2 that are environmental justice communities;

3 (4) to implement activities with off-site benefits,  
4 such as by reducing air pollutants from vehicles,  
5 equipment, and vessels at sites other than the port  
6 or port facilities involved; and

7 (5) to reduce localized health risk pursuant to  
8 health risk reduction goals that are set within the  
9 grantee's climate action plan under paragraph (2).

10 (d) MODEL METHODOLOGIES.—The Administrator  
11 of the Environmental Protection Agency shall—

12 (1) develop model methodologies which grantees  
13 under this section may choose to use for emissions  
14 accounting and inventory practices referred to in  
15 subsection (b)(3)(C); and

16 (2) ensure that such methodologies are designed  
17 to measure progress in reducing air pollution at  
18 near-port communities.

19 (e) DEFINITIONS.—In this section:

20 (1) The term “Administrator” means the Ad-  
21 ministrator of the Environmental Protection Agency.

22 (2) The term “cargo-handling equipment” in-  
23 cludes—

24 (A) ship-to-shore container cranes and  
25 other cranes;

1 (B) container-handling equipment; and

2 (C) equipment for moving or handling  
3 cargo, including trucks, reachstackers,  
4 toploaders, and forklifts.

5 (3) The term “eligible entity” means—

6 (A) a port authority;

7 (B) a State, regional, local, or Tribal agen-  
8 cy that has jurisdiction over a port authority or  
9 a port;

10 (C) an air pollution control district; or

11 (D) a private entity (including any non-  
12 profit organization) that—

13 (i) applies for a grant under this sec-  
14 tion in collaboration with an entity de-  
15 scribed in subparagraph (A), (B), or (C) ;  
16 and

17 (ii) owns, operates, or uses a port fa-  
18 cility, cargo equipment, transportation  
19 equipment, related technology, or a ware-  
20 house facility at a port or port facility.

21 (4) The term “environmental justice commu-  
22 nity” means a community with significant represen-  
23 tation of communities of color, low-income commu-  
24 nities, or Tribal and indigenous communities, that

1 experiences, or is at risk of experiencing, higher or  
2 more adverse human health or environmental effects.

3 (5) The term “harbor vessel” includes a ship,  
4 boat, lighter, or maritime vessel designed for service  
5 at and around harbors and ports.

6 (6) The term “inland port” means a logistics or  
7 distribution hub that is located inland from navi-  
8 gable waters, where cargo, such as break-bulk cargo  
9 or cargo in shipping containers, is processed, stored,  
10 and transferred between trucks, rail cars, or air-  
11 craft.

12 (7) The term “port” includes an inland port.

13 (8) The term “stakeholder” means residents,  
14 community groups, businesses, business owners,  
15 labor unions, commission members, or groups from  
16 which a near-port community draws its resources  
17 that—

18 (A) have interest in the climate action plan  
19 of a grantee under this section; or

20 (B) can affect or be affected by the objec-  
21 tives and policies of such a climate action plan.

22 (f) AUTHORIZATION OF APPROPRIATIONS.—

23 (1) IN GENERAL.—To carry out this subtitle,  
24 there is authorized to be appropriated \$250,000,000  
25 for each of fiscal years 2021 through 2025.

1           (2) DEVELOPMENT OF CLIMATE ACTION  
2 PLANS.—In addition to the authorization of appro-  
3 priations in paragraph (1), there is authorized to be  
4 appropriated for grants pursuant to subsection  
5 (a)(2) to develop climate action plans \$50,000,000  
6 for fiscal year 2021, to remain available until ex-  
7 pended.

## 8                   **Subtitle J—Research and** 9                   **Development**

### 10 **SEC. 6911. DEFINITIONS.**

11           In this subtitle:

12           (1) ALTERNATIVE FUEL.—The term “alter-  
13 native fuel” means a fuel that is sustainably pro-  
14 duced and, or, that results in a significant reduction  
15 in carbon dioxide (CO<sub>2</sub>) emissions, or other particu-  
16 late or toxic emissions, over the lifecycle of such fuel.

17           (2) DEPARTMENT.—The term “Department”  
18 means the Department of Energy.

19           (3) SECRETARY.—The term “Secretary” means  
20 the Secretary of Energy.

### 21 **SEC. 6912. VEHICLE RESEARCH AND DEVELOPMENT.**

22           (a) IN GENERAL.—The Secretary shall conduct a  
23 program of research, development, and demonstration ac-  
24 tivities on more efficient and sustainable materials, tech-  
25 nologies, and processes with the potential to substantially

1 reduce or eliminate petroleum from the manufacture, use,  
2 and the emissions of the passenger and commercial vehi-  
3 cles with lower cost of vehicle manufacturing and owner-  
4 ship, including activities in the areas of—

5 (1) electrification of vehicle systems; including  
6 compact and efficient electric drivetrain systems;

7 (2) power electronics, electric machines, and  
8 electric machine drive systems, including—

9 (A) electronic motors, including advanced  
10 inverters and motors that can be used for pas-  
11 senger vehicles and commercial vehicles;

12 (B) magnetic materials, including perma-  
13 nent magnets with reduced or no critical mate-  
14 rials;

15 (C) improving partial load efficiency;

16 (D) design of power electronics and electric  
17 motor technologies that enable efficient recy-  
18 cling of critical materials; and

19 (E) other technically feasible areas for  
20 power electronics and electric machine ad-  
21 vances.

22 (3) vehicle batteries and relevant systems, in-  
23 cluding—



1           (A) advanced batteries systems,  
2           ultracapacitors, and other competitive energy  
3           storage devices;

4           (B) the development of common inter-  
5           connection protocols, specifications, and archi-  
6           tecture for both transportation and stationary  
7           battery applications;

8           (C) improving energy density and capacity,  
9           recharging robustness, extreme fast charging  
10          and wireless charging capabilities, and effi-  
11          ciencies to lower cost;

12          (D) thermal management of battery sys-  
13          tems;

14          (E) improving efficient use, substitution,  
15          and recycling of potentially critical materials in  
16          vehicles, including rare earth elements and pre-  
17          cious metals, at risk of supply disruption; and

18          (F) advanced battery protection systems  
19          for safe handling of high voltage power;

20          (4) vehicle, component, and subsystem manu-  
21          facturing technologies and processes;

22          (5) vehicle systems and components, includ-  
23          ing—

24                 (A) engine efficiency and combustion opti-  
25                 mization;

1 (B) waste heat recovery;

2 (C) transmission and drivetrains;

3 (D) advanced boosting systems;

4 (E) idle reduction systems and compo-  
5 nents;

6 (F) innovative propulsion systems; and

7 (G) vehicle fuel cells and relevant systems;

8 (6) hybrid and alternative fuel vehicles, includ-  
9 ing—

10 (A) vehicle fuel cells and relevant systems,  
11 including power electronics systems to regulate  
12 the fuel cell voltages;

13 (B) synthetic fuels from recycled CO<sub>2</sub> and  
14 net-zero carbon liquid fuels; and

15 (C) advanced biofuel technologies;

16 (7) aftertreatment technologies, aerodynamics,  
17 rolling resistance (including tires and wheel assem-  
18 blies), accessory power loads of vehicles and associ-  
19 ated equipment, friction and wear reduction, and lu-  
20 bricants for hybrid and electric vehicles;

21 (8) vehicle weight reduction, including—

22 (A) more sustainable and cost-effective  
23 lightweighting materials; and

24 (B) the development of higher efficiency  
25 manufacturing processes to make sustainable

1           lightweight materials and fabricate, assemble,  
2           and use dissimilar materials, including—

3                   (i) lightweighted systems which com-  
4                   bine several existing vehicle components;  
5                   and

6                   (ii) voluntary, consensus-based stand-  
7                   ards for strategic lightweight materials;

8           (9) improved vehicle recycling methods to in-  
9           crease the recycled material content of feedstocks  
10          used in raw material manufacturing;

11          (10) vehicle propulsion systems, including—

12                   (A) engine and component durability;

13                   (B) engine down speeding;

14                   (C) engine compatibility with and optimi-  
15                   zation for a variety of transportation fuels, in-  
16                   cluding biofuels, synthetic fuels, and other liq-  
17                   uid and gaseous fuels;

18                   (D) advanced internal combustion engines;

19                   (E) transmission gear and engine oper-  
20                   ation matching; and

21                   (F) advanced transmission technologies;

22          (11) predictive engineering, modeling, and sim-  
23          ulation of components, vehicle and transportation  
24          systems;

1           (12) leveraging automation in both vehicle and  
2 infrastructure systems;

3           (13) infrastructure, including—

4                (A) refueling and charging infrastructure  
5 for alternative fueled and electric drive or plug-  
6 in electric hybrid vehicles, including the unique  
7 challenges facing rural areas;

8                (B) extreme fast wired and wireless charg-  
9 ing systems;

10              (C) integration, bidirectional capability,  
11 and operational optimization of vehicle elec-  
12 trification for light, medium, and heavy duty  
13 with the charging infrastructure and the grid;  
14 and

15              (D) sensing, communications, and actu-  
16 ation technologies for vehicle, electric grid, and  
17 infrastructure, including—

18                   (i) communication and connectivity  
19 among vehicles, infrastructure, and the  
20 electrical grid; and

21                   (ii) vehicle-to-vehicle, vehicle-to-pedes-  
22 trian, vehicle-to-cloud, and vehicle-to-infra-  
23 structure technologies;

24           (14) retrofitting advanced vehicle technologies  
25 to existing vehicles;

1           (15) transportation system analysis to further  
2 understand the energy implications and opportuni-  
3 ties of advanced mobility solutions, including—

4           (A) advanced vehicle technologies, includ-  
5 ing automation;

6           (B) new mobility business models, real  
7 time information, transit, and micro mobility  
8 choices;

9           (C) consumer travel decisions and e-com-  
10 merce engagement, including travel behavior  
11 and potential strategies for reducing vehicle  
12 miles traveled to reduce emissions;

13           (D) goods movement and delivery inter-  
14 actions, including with car transport;

15           (E) infrastructure advancements and link-  
16 age with vehicle-to-everything,

17           (F) quantification of technology, policy,  
18 and investment decisions on mobility, access,  
19 equity, and the environment; and

20           (G) overall system optimization;

21           (16) aligned industry standards for strategic  
22 lightweight materials;

23           (17) energy efficient advanced computing sys-  
24 tems, technology, and networking for vehicular on-  
25 board, off-board, and edge computing applications;

1           (18) identifying strategies to mitigate the long-  
2 term ramification of vehicle and mobility technology  
3 research, development, and demonstration stemming  
4 from events such as economic downturns; and

5           (19) other innovative technologies research and  
6 development as determined by the Secretary.

7 (b) SECURITY OF ON-ROAD TRANSPORTATION.—

8           (1) IN GENERAL.—The Secretary, in coordina-  
9 tion with other relevant Federal agencies, shall es-  
10 tablish a research and development program focused  
11 on the cyber and physical security of interconnec-  
12 tions between vehicles, charging equipment, build-  
13 ings, and the grid for plug-in electric vehicles, con-  
14 nected vehicles, and autonomous vehicles, including  
15 the security impacts, efficiency, and safety of plug-  
16 in electric vehicles using alternating current charg-  
17 ing, high-power direct current fast charging, and ex-  
18 treme fast charging, defined as charge rates of  
19 350kW and above.

20           (2) ASSESSMENT.—The Secretary shall develop  
21 an assessment of emergent cybersecurity threats and  
22 vulnerabilities to the United States on-road trans-  
23 portation system and connected infrastructure with  
24 5- to 10-year impact by identifying areas of research  
25 where Federal cross-agency research coordination

1 and cooperation will help address such threats and  
2 vulnerabilities.

3 (3) REPORT.—Not later than 180 days after  
4 the date of enactment of this Act, the Secretary  
5 shall submit to the Committee on Science, Space,  
6 and Technology of the House of Representatives,  
7 and the Committee on Energy and Natural Re-  
8 sources of the Senate a report summarizing the cur-  
9 rent research and challenges associated with cyber-  
10 physical protection and resiliency of electric and con-  
11 nected and automated vehicle technologies.

12 (c) VEHICLE ENERGY STORAGE SYSTEM SAFETY.—

13 (1) IN GENERAL.—The Secretary shall support  
14 a program of research, development, and demonstra-  
15 tion of vehicle energy storage safety and reliability.

16 (2) ACTIVITIES.—In carrying out this section,  
17 the Secretary shall support activities to—

18 (A) research the mechanisms that lead to  
19 vehicle energy storage system safety and reli-  
20 ability incidents;

21 (B) develop new materials to improve over-  
22 all vehicle energy storage system safety and  
23 abuse tolerance;

24 (C) perform abuse testing;

25 (D) advance testing techniques;

- 1 (E) demonstrate detailed failure analyses;
- 2 (F) develop strategies to mitigate vehicle
- 3 energy storage cell and system failures; and
- 4 (G) development of crush-induced battery
- 5 safety protocols and standards to improve
- 6 robustness.

7 (d) VEHICLE TECHNOLOGIES ADVISORY COM-  
8 MITTEE.—

9 (1) IN GENERAL.—Not later than 180 days  
10 after the date of enactment of this Act, the Sec-  
11 retary shall establish the Advanced Vehicle Tech-  
12 nologies Advisory Committee (in this section referred  
13 to as the “advisory committee”) to advise the Sec-  
14 retary on vehicle technology and mobility system re-  
15 search advancements. The advisory committee shall  
16 be composed of not fewer than 15 members, includ-  
17 ing representatives of research and academic institu-  
18 tions, environmental organizations, industry, and  
19 nongovernmental entities, who are qualified to pro-  
20 vide advice on the research, development, and dem-  
21 onstration activities under this Act (in this section  
22 referred to as the DOE Vehicle Program).

23 (2) ASSESSMENT.—The advisory committee  
24 shall assess—



1 (A) the current state of United States  
2 competitiveness in advancing vehicle tech-  
3 nologies and mobility systems, including—

4 (i) the scope and scale of United  
5 States investments in sustainable transpor-  
6 tation research, development, demonstra-  
7 tion, and

8 (ii) research, development, and dem-  
9 onstration activities to lower vehicle and  
10 fuel lifecycle emissions;

11 (B) progress made in implementing the  
12 DOE Vehicle Program, including progress of  
13 research activities to lower vehicle emissions,  
14 considering emissions at each stage of the vehi-  
15 cle and fuel lifecycle;

16 (C) the need to revise the DOE Vehicle  
17 Program;

18 (D) the balance of activities and funding  
19 across the DOE Vehicle Program;

20 (E) the management, coordination, imple-  
21 mentation, and activities of the DOE Vehicle  
22 Program;

23 (F) whether environmental, safety, secu-  
24 rity, and other appropriate societal issues are

1           adequately addressed by the DOE Vehicle Tech-  
2           nologies Program; and

3           (G) other relevant topics as decided by the  
4           Secretary.

5           (3) REPORTS.—Not later than 2 years after the  
6           date of enactment of this Act, and not less fre-  
7           quently than once every 3 years thereafter, the advi-  
8           sory committee shall submit to the Secretary, the  
9           Committee on Science, Space, and Technology of the  
10          House of Representatives a report on—

11           (A) the findings of the advisory commit-  
12          tee’s assessment under paragraph (1); and

13           (B) the advisory committee’s recommenda-  
14          tions for ways to improve the DOE Vehicle Pro-  
15          gram.

16           (4) APPLICATION OF FEDERAL ADVISORY COM-  
17          MITTEE ACT.—Section 14 of the Federal Advisory  
18          Committee Act (5 U.S.C. App.) shall not apply to  
19          the Advisory Committee.

20           (e) INTERAGENCY AND INTRAAGENCY COORDINA-  
21          TION.—To the maximum extent practicable, the Secretary  
22          shall coordinate research, development, and demonstration  
23          activities among—

24           (1) relevant programs within the Department,  
25          including—

1 (A) the Office of Energy Efficiency and  
2 Renewable Energy;

3 (B) the Office of Science;

4 (C) the Office of Electricity;

5 (D) the Office of Fossil Energy;

6 (E) the Office of Cybersecurity, Energy  
7 Security, and Emergency Response;

8 (F) the Advanced Research Projects Agen-  
9 cy—Energy; and

10 (G) other offices as determined by the Sec-  
11 retary; and

12 (2) relevant technology research and develop-  
13 ment programs within other Federal agencies, in-  
14 cluding—

15 (A) the Department of Transportation;

16 (B) National Institute of Standards &  
17 Technology;

18 (C) National Science Foundation; and

19 (D) other Federal agencies as determined  
20 by the Secretary.

21 (f) INTERGOVERNMENTAL COORDINATION.—The  
22 Secretary shall seek opportunities to leverage resources  
23 and support initiatives of Federal, State, and local govern-  
24 ments in developing and promoting advanced vehicle tech-  
25 nologies, manufacturing, and infrastructure.

1 (g) SECONDARY USE APPLICATIONS OF VEHICLE  
2 BATTERIES.—

3 (1) IN GENERAL.—The Secretary shall carry  
4 out a research, development, and demonstration pro-  
5 gram that—

6 (A) builds on any work carried out under  
7 section 915 of the Energy Policy Act of 2005  
8 (42 U.S.C. 16195);

9 (B) identifies possible uses of a vehicle bat-  
10 tery after the useful life of the battery in a ve-  
11 hicle has been exhausted;

12 (C) conducts long-term testing to verify  
13 performance and degradation predictions and  
14 lifetime valuations for secondary uses;

15 (D) evaluates innovative approaches to re-  
16 cycling materials from plug-in electric drive ve-  
17 hicles and the batteries used in plug-in electric  
18 drive vehicles;

19 (E) assesses the potential for markets for  
20 uses described in subparagraph (B) to develop;  
21 and

22 (F) identifies any barriers to the develop-  
23 ment of those markets;

24 (G) identifies the potential uses of a vehi-  
25 cle battery—

1 (i) with the most promise for market  
2 development; and

3 (ii) for which market development  
4 would be aided by a demonstration project.

5 (2) REPORT.—Not later than 18 months after  
6 the date of enactment of this Act, the Secretary  
7 shall submit to the appropriate committees of Con-  
8 gress an initial report on the findings of the pro-  
9 gram described in paragraph (1), including rec-  
10 ommendations for stationary energy storage and  
11 other potential applications for batteries used in  
12 plug-in electric drive vehicles.

13 (3) SECONDARY USE DEMONSTRATION.—

14 (A) IN GENERAL.—Based on the results of  
15 the program described in paragraph (1), the  
16 Secretary shall develop guidelines for projects  
17 that demonstrate the secondary uses and inno-  
18 vative recycling of vehicle batteries.

19 (B) PUBLICATION OF GUIDELINES.—Not  
20 later than 18 months after the date of enact-  
21 ment of this Act, the Secretary shall—

22 (i) publish the guidelines described in  
23 subparagraph (A); and

24 (ii) solicit applications for funding for  
25 demonstration projects.

1           (5) PILOT DEMONSTRATION PROGRAM.—Not  
2 later than 2 years after the date of enactment of  
3 this Act, the Secretary shall select proposals for  
4 Federal financial assistance under this subsection,  
5 based on an assessment of which proposals are  
6 mostly likely to contribute to the development of a  
7 secondary market for vehicle batteries.

8           (h) STUDY TO EXAMINE BATTERY SCIENCE AND  
9 TECHNOLOGY PATHWAYS.—

10           (1) IN GENERAL.—The Secretary shall enter  
11 into an agreement with the National Academies of  
12 Sciences, Engineering, and Medicine under which  
13 the National Academies agree to conduct a study on  
14 battery technologies to advance research toward a  
15 resilient and low-carbon transportation system and  
16 electric grid. Such study shall—

17                   (A) identify promising battery technologies;

18                   (B) recommend research priorities to sup-  
19 port the development of sustainable battery  
20 value chains, including analyzing human rights,  
21 environmental impacts, and recycling and reuse  
22 infrastructure;

23                   (C) examine market, policy, and technology  
24 barriers to their development; and

1 (D) recommend strategic research prior-  
2 ities on technology pathways to develop afford-  
3 able, sustainable, safe, efficient, and long-last-  
4 ing batteries to meet future transportation and  
5 energy storage demands.

6 (2) REPORT.—The agreement entered into  
7 under subsection (a) shall include a requirement  
8 that the National Academies, not later than 24  
9 months after the date of enactment of this Act, sub-  
10 mit to the House Committee on Science, Space and  
11 Technology, and the Senate Committee on Energy  
12 and Natural Resources a report on the results of the  
13 study conducted pursuant to such subsection.

14 **SEC. 6913. RESEARCH AND DEVELOPMENT PROGRAM FOR**  
15 **ADVANCED VEHICLE MANUFACTURING TECH-**  
16 **NOLOGIES.**

17 The Secretary shall carry out a research, develop-  
18 ment, and demonstration program of advanced vehicle  
19 manufacturing technologies and practices, including inno-  
20 vative, efficient, and sustainable processes—

21 (1) to increase the production rate and decrease  
22 the cost of advanced battery and fuel cell manufac-  
23 turing, including synthesis of precursor materials for  
24 electrodes;

1           (2) to develop technologies enabling flexible  
2           manufacturing facilities that can accommodate dif-  
3           ferent battery chemistries and configurations;

4           (3) to reduce or repurpose waste streams, re-  
5           duce emissions, and energy intensity of vehicle, en-  
6           gine, advanced battery, and component manufac-  
7           turing processes;

8           (4) to recycle and remanufacture used batteries  
9           and other vehicle components for reuse in vehicles or  
10          other applications;

11          (5) to develop manufacturing and additive man-  
12          ufacturing processes to fabricate, assemble, and  
13          produce cost-effective lightweight materials with en-  
14          hanced functionality such as advanced aluminum,  
15          steel, and other metal alloys, advanced polymers,  
16          polymeric composites, and carbon fiber for use in ve-  
17          hicles and related tooling;

18          (6) to leverage the use of machine learning to-  
19          ward manufacturing and additive manufacturing op-  
20          timization;

21          (7) to design and manufacture purpose-built hy-  
22          drogen fuel cell vehicles, hydrogen fueling infrastruc-  
23          ture, and components;

24          (8) to improve the lifetime and reduce the  
25          lifecycle impacts of advanced batteries; and



1 (9) to reuse valuable components and materials  
2 such as permanent magnets and other electric drive  
3 components for advanced vehicles.

4 **SEC. 6914. AUTHORIZATION OF APPROPRIATIONS.**

5 There are authorized to be appropriated to the Sec-  
6 retary for research, development, and demonstration, of  
7 alternative fuels, vehicle propulsion systems, vehicle com-  
8 ponents, and other related technologies in the United  
9 States, including activities authorized under this sub-  
10 title—

11 (1) for fiscal year 2021, \$396,000,000;

12 (2) for fiscal year 2022, \$415,800,000;

13 (3) for fiscal year 2023, \$436,590,000;

14 (4) for fiscal year 2024, \$458,419,500; and

15 (5) for fiscal year 2025, \$481,340,475.

16 **TITLE VII—ADVANCED RE-**  
17 **SEARCH PROJECTS AGENCY—**  
18 **ENERGY**

19 **SEC. 7001. ARPA-E AMENDMENTS.**

20 (a) ESTABLISHMENT.—Section 5012(b) of the Amer-  
21 ica COMPETES Act (42 U.S.C. 16538(b)) is amended  
22 by striking “development of energy technologies” and in-  
23 serting “development of transformative science and tech-  
24 nology solutions to address the energy and environmental  
25 missions of the Department”.

1 (b) GOALS.—Section 5012(c) of the America COM-  
2 PETES Act (42 U.S.C. 16538(c)) is amended—

3 (1) by striking paragraph (1)(A) and inserting  
4 the following:

5 “(A) to enhance the economic and energy  
6 security of the United States through the devel-  
7 opment of energy technologies that—

8 “(i) reduce imports of energy from  
9 foreign sources;

10 “(ii) reduce energy-related emissions,  
11 including greenhouse gases;

12 “(iii) improve the energy efficiency of  
13 all economic sectors;

14 “(iv) provide transformative solutions  
15 to improve the management, clean-up, and  
16 disposal of radioactive waste and spent nu-  
17 clear fuel; and

18 “(v) improve the resilience, reliability,  
19 and security of infrastructure to produce,  
20 deliver, and store energy; and”;

21 (2) in paragraph (2), in the matter preceding  
22 subparagraph (A), by striking “energy technology  
23 projects” and inserting “advanced technology  
24 projects”.

1 (c) RESPONSIBILITIES.—Section 5012(e)(3)(A) of  
2 the America COMPETES Act (42 U.S.C.  
3 16538(e)(3)(A)) is amended by striking “energy”.

4 (d) REPORTS AND ROADMAPS.—Section 5012(h) of  
5 the America COMPETES Act (42 U.S.C. 16538(h)) is  
6 amended to read as follows:

7 “(h) REPORTS AND ROADMAPS.—

8 “(1) ANNUAL REPORT.—As part of the annual  
9 budget request submitted for each fiscal year, the  
10 Director shall provide to the relevant authorizing  
11 and appropriations committees of Congress a report  
12 that—

13 “(A) describes projects supported by  
14 ARPA–E during the previous fiscal year;

15 “(B) describes projects supported by  
16 ARPA–E during the previous fiscal year that  
17 examine topics and technologies closely related  
18 to other activities funded by the Department,  
19 and includes an analysis of whether in sup-  
20 porting such projects, the Director is in compli-  
21 ance with subsection (i)(1); and

22 “(C) describes current, proposed, and  
23 planned projects to be carried out pursuant to  
24 subsection (e)(3)(D).

1           “(2) STRATEGIC VISION ROADMAP.—Not later  
2 than October 1, 2021, and every four years there-  
3 after, the Director shall provide to the relevant au-  
4 thorizing and appropriations committees of Congress  
5 a roadmap describing the strategic vision that  
6 ARPA–E will use to guide the choices of ARPA–E  
7 for future technology investments over the following  
8 4 fiscal years.”.

9           (e) COORDINATION AND NONDUPLICATION.—Section  
10 5012(i)(1) of the America COMPETES Act (42 U.S.C.  
11 16538(i)(1)) is amended to read as follows:

12           “(1) IN GENERAL.—To the maximum extent  
13 practicable, the Director shall ensure that—

14           “(A) the activities of ARPA–E are coordi-  
15 nated with, and do not duplicate the efforts of,  
16 programs and laboratories within the Depart-  
17 ment and other relevant research agencies; and

18           “(B) ARPA–E does not provide funding  
19 for a project unless the prospective grantee  
20 demonstrates sufficient attempts to secure pri-  
21 vate financing or indicates that the project is  
22 not independently commercially viable.”.

23           (f) EVALUATION.—Section 5012(l) of the America  
24 COMPETES Act (42 U.S.C. 16538(l)) is amended—

1           (1) by striking paragraph (1) and inserting the  
2 following:

3           “(1) IN GENERAL.—Not later than 3 years  
4 after the date of enactment of this paragraph, the  
5 Secretary is authorized to enter into a contract with  
6 the National Academy of Sciences under which the  
7 National Academy shall conduct an evaluation of  
8 how well ARPA–E is achieving the goals and mis-  
9 sion of ARPA–E.”; and

10           (2) in paragraph (2)—

11           (A) in the matter preceding subparagraph  
12 (A), by striking “shall” and inserting “may”;  
13 and

14           (B) in subparagraph (A), by striking “the  
15 recommendation of the National Academy of  
16 Sciences” and inserting “a recommendation”.

17           (g) AUTHORIZATION OF APPROPRIATIONS.—Para-  
18 graph (2) of section 5012(o) of the America COMPETES  
19 Act (42 U.S.C. 16538(o)) is amended to read as follows:

20           “(2) AUTHORIZATION OF APPROPRIATIONS.—  
21 Subject to paragraph (4), there are authorized to be  
22 appropriated to the Director for deposit in the  
23 Fund, without fiscal year limitation—

24           “(A) \$497,000,000 for fiscal year 2021;

25           “(B) \$567,000,000 for fiscal year 2022;

1                   “(C) \$651,000,000 for fiscal year 2023;  
2                   “(D) \$750,000,000 for fiscal year 2024;  
3                   and  
4                   “(E) \$875,000,000 for fiscal year 2025.”.

5           (h) TECHNICAL AMENDMENTS.—Section 5012 of the  
6 America COMPETES Act (42 U.S.C. 16538) is amend-  
7 ed—

8                   (1) in subsection (g)(3)(A)(iii), by striking  
9                   “subpart” each place it appears and inserting “sub-  
10                   paragraph”; and

11                   (2) in subsection (o)(4)(B), by striking  
12                   “(c)(2)(D)” and inserting “(c)(2)(C)”.

## 13                   **TITLE VIII—TECHNOLOGY** 14                   **TRANSFER**

### 15           **SEC. 8001. DEFINITIONS.**

16           In this title:

17                   (1) CLEAN ENERGY TECHNOLOGY.—The term  
18                   “clean energy technology” means a technology that  
19                   significantly reduces energy use, increases energy ef-  
20                   ficiency, reduces greenhouse gas emissions, reduces  
21                   emissions of other pollutants, or mitigates other neg-  
22                   ative environmental consequences.

23                   (2) DEPARTMENT.—The term “Department”  
24                   means the Department of Energy.

1           (3) DIRECTOR.—The term “Director” means  
2 the Director of each National Laboratory and the  
3 Director of each Department of Energy single-pur-  
4 pose research facility.

5           (4) ECONOMICALLY DISTRESSED AREA.—The  
6 term “economically distressed area” has the mean-  
7 ing described in section 301(a) of the Public Works  
8 and Economic Development Act of 1965 (42 U.S.C.  
9 3161(a)).

10          (5) GRANT.—The term “grant” means a grant  
11 award, cooperative agreement award, or any other fi-  
12 nancial assistance arrangement that the Secretary of  
13 Energy determines to be appropriate.

14          (6) INSTITUTION OF HIGHER EDUCATION.—The  
15 term “institution of higher education” has the  
16 meaning given such term in the Higher Education  
17 Act of 1965, as amended (20 U.S.C. 1001).

18          (7) NATIONAL LABORATORY.—The term “Na-  
19 tional Laboratory” has the meaning given that term  
20 in section 2 of the Energy Policy Act of 2005 (42  
21 U.S.C. 15801).

22          (8) SECRETARY.—The term “Secretary” means  
23 the Secretary of Energy.

1 **Subtitle A—National Clean Energy**  
2 **Technology Transfer Programs**

3 **SEC. 8101. REGIONAL CLEAN ENERGY INNOVATION PRO-**  
4 **GRAM.**

5 (a) DEFINITIONS.—In this section:

6 (1) REGIONAL CLEAN ENERGY INNOVATION  
7 PARTNERSHIP.—The term “regional clean energy in-  
8 novation partnership” means a group of one or more  
9 persons, including a covered consortium, who per-  
10 form a collection of activities that are coordinated by  
11 such covered consortium to carry out the purposes  
12 of the program under subsection (c) in a region of  
13 the United States.

14 (2) COVERED CONSORTIUM.—The term “cov-  
15 ered consortium” means an individual or group of  
16 individuals in partnership with a government entity,  
17 including a State, local, or tribal government or unit  
18 of such government, and at least 2 or more of the  
19 following additional entities—

20 (A) an institution of higher education or  
21 higher education consortium;

22 (B) a workforce training provider, includ-  
23 ing vocational schools and community colleges;

24 (C) a private sector entity;

25 (D) a nonprofit organization;



- 1 (E) a community group;
- 2 (F) a labor group;
- 3 (G) a National Laboratory;
- 4 (H) a venture development organization;
- 5 (I) an organization focused on clean energy
- 6 technology innovation or entrepreneurship;
- 7 (J) a business accelerator or incubator;
- 8 (K) a private sector entity or group of en-
- 9 tities, including a trade or industry association;
- 10 (L) an economic development organization;
- 11 (M) a manufacturing facility or organiza-
- 12 tion;
- 13 (N) a clean energy incubator or accel-
- 14 erator; or
- 15 (O) any other entity that the Secretary de-
- 16 termines to be relevant.

17 (3) PROGRAM.—The term “program” means

18 the Regional Clean Energy Innovation Program au-

19 thorized in subsection (b).

20 (4) FRONTLINE COMMUNITY.—The term

21 “frontline community” means a community with sig-

22 nificant representation of communities of color, low-

23 income communities, or Tribal and indigenous com-

24 munities, that experiences, or is at risk of experi-

1       encing higher or more adverse human health or envi-  
2       ronmental effects.

3       (b) IN GENERAL.—The Secretary shall establish a  
4 Regional Clean Energy Innovation Program designed to  
5 accelerate the pace of innovation of clean energy tech-  
6 nologies through the formation or support of regional  
7 clean energy innovation partnerships that—

8           (1) are responsive to the energy resources,  
9       needs of industry, workforce, policy landscape, and  
10      clean energy innovation capabilities of the region of  
11      the country in which such partnership is located;

12           (2) enhance and accelerate clean energy innova-  
13      tion;

14           (3) are located in diverse geographic regions of  
15      the United States, including United States terri-  
16      tories; and

17           (4) improve economic development outcomes in  
18      economically distressed areas.

19       (c) PURPOSES OF THE PROGRAM.—The purposes of  
20 the program established under subsection (a) are to—

21           (1) improve the competitiveness of United  
22      States' clean energy technology research, develop-  
23      ment, demonstration, and commercial application;

24           (2) to identify and leverage the competitive  
25      strengths of and address clean energy challenges

1 that are particular to diverse geographic regions of  
2 the United States to stimulate innovation in clean  
3 energy technologies;

4 (3) support the development of clean energy in-  
5 novation companies in diverse geographic regions of  
6 the United States;

7 (4) promote the economic development of and  
8 enhance the economic resilience of diverse geo-  
9 graphic regions of the United States;

10 (5) support the development of tools and tech-  
11 nologies best suited for use in low-income and front-  
12 line communities; and

13 (6) support the development of manufacturing  
14 capabilities and supply chains relevant to clean en-  
15 ergy technologies in the United States.

16 (d) REGIONAL CLEAN ENERGY INNOVATION PART-  
17 NERSHIPS.—

18 (1) IN GENERAL.—The Secretary shall competi-  
19 tively award grants to covered consortia to establish  
20 or support regional clean energy innovation partner-  
21 ships that achieve the purposes of the program in  
22 subsection (c).

23 (2) PERMISSIBLE ACTIVITIES.—Grants awarded  
24 under this subsection shall be used for activities de-  
25 termined appropriate by the Secretary to achieve the

1 purposes of the program in subsection (c), includ-  
2 ing—

3 (A) facilitating the commercial application  
4 of clean energy products, processes, and serv-  
5 ices, including through research, development,  
6 demonstration, technology transfer, or support  
7 of clean energy companies;

8 (B) planning among participants of a re-  
9 gional clean energy innovation partnership to  
10 improve the strategic coordination of the part-  
11 nership;

12 (C) improving stakeholder involvement in  
13 the development of goals and activities of a re-  
14 gional clean energy innovation partnership;

15 (D) assessing different incentive mecha-  
16 nisms for clean energy development and com-  
17 mercial application in the region;

18 (E) hosting events and conferences; and

19 (F) establishing and updating roadmaps to  
20 measure progress on relevant goals, such as  
21 those relevant to metrics developed under sub-  
22 section (g).

23 (3) APPLICATIONS.—Each application sub-  
24 mitted to the Secretary under paragraph (1) may in-  
25 clude—

1 (A) a list of members and roles of mem-  
2 bers of the covered consortia, as well as any  
3 other stakeholders supporting the activities of  
4 the regional clean energy innovation partner-  
5 ship;

6 (B) a description of the proposed outcomes  
7 of the regional clean energy innovation partner-  
8 ship;

9 (C) an assessment of the relevant clean en-  
10 ergy innovation assets needed in a region to  
11 achieve proposed outcomes, such as education  
12 and training programs, research facilities, infra-  
13 structure or site development, access to capital,  
14 manufacturing capabilities, or other assets;

15 (D) a description of proposed activities  
16 that the regional clean energy innovation part-  
17 nership plans to undertake and how the pro-  
18 posed activities will achieve the purposes de-  
19 scribed in subsection (c) and the proposed out-  
20 comes in subparagraph (B);

21 (E) a description of the geographical re-  
22 gion that will engage in the partnership;

23 (F) a plan for attracting additional funds  
24 and identification of funding sources from non-  
25 Federal sources to deliver the proposed out-

1 comes of the regional clean energy innovation  
2 partnership; and

3 (G) a plan for sustaining activities of the  
4 regional clean energy innovation partnership  
5 after funds received under this program have  
6 been expended.

7 (4) CONSIDERATIONS.—In selecting covered  
8 consortia for funding under the program, the Sec-  
9 retary shall—

10 (A) give special consideration to applica-  
11 tions from entities located in an economically  
12 distressed area; and

13 (B) ensure that there is geographic diver-  
14 sity among the covered consortia selected to re-  
15 ceive funding.

16 (5) AWARD AMOUNT.—Grants given out under  
17 this Program shall be in an amount not greater than  
18 \$10,000,000, with the total grant award in any year  
19 less than that in the previous year.

20 (6) COST SHARE.—For grants that are dis-  
21 bursed over the course of three or more years, the  
22 Secretary shall require, as a condition of receipt of  
23 funds under this section, that a covered consortium  
24 provide not less than 50 percent of the funding for

1 the activities of the regional clean energy partner-  
2 ship under this section for years 3, 4, and 5.

3 (7) DURATION.—Each grant under paragraph  
4 (1) shall be for a period of not longer than 5 years.

5 (8) RENEWAL.—A grant award made to a re-  
6 gional clean energy innovation partnership under  
7 this section may be renewed for a period of not more  
8 than 5 years, subject to a rigorous merit review  
9 based on the progress of a regional clean energy in-  
10 novation partnership towards achieving the purposes  
11 of the program in subsection (c) and the metrics de-  
12 veloped under subsection (g).

13 (9) ADMINISTRATIVE COSTS.—The Secretary  
14 may allow a covered consortium that receives funds  
15 under this section to allocate a portion of the fund-  
16 ing received to be used for administrative or indirect  
17 costs.

18 (10) FUNDING.—The Secretary may accept  
19 funds from other Federal agencies to support fund-  
20 ing and activities under this section.

21 (e) PLANNING FUNDS.—The Secretary may competi-  
22 tively award grants in an amount no greater than  
23 \$2,000,000 for a period not longer than 2 years to an enti-  
24 ty consisting of a government entity, including a State,  
25 local, or tribal government or unit of such government or

1 any entity listed under subsection (a)(2) to plan a regional  
2 clean energy innovation partnership or establish a covered  
3 consortium for the purpose of applying for funds under  
4 subsection (b).

5 (f) INFORMATION SHARING.—As part of the pro-  
6 gram, the Secretary shall support the gathering, analysis,  
7 and dissemination of information on best practices for de-  
8 veloping and operating successful regional clean energy in-  
9 novation partnerships.

10 (g) METRICS.—In evaluating a grant renewals under  
11 section (d)(8), the Secretary shall work with program eval-  
12 uation experts to develop and make publicly available  
13 metrics to assess the progress of a regional clean energy  
14 innovation partnership towards achieving the purposes of  
15 the program in section (c). Such metrics may include—

16 (1) the number and quality of—

17 (A) new clean energy companies created in  
18 the region as a result of activities carried out  
19 under the regional clean energy innovation part-  
20 nership;

21 (B) new or expanded workforce develop-  
22 ment or training programs; and

23 (C) support services provided to clean en-  
24 ergy technology developers in the region.



1           (2) changes in clean energy employment in the  
2 region as a result of activities carried out under the  
3 regional clean energy innovation partnership ; and

4           (3) the amount of capital investment in clean  
5 energy companies in the region as a result of activi-  
6 ties carried out under the regional clean energy in-  
7 novation partnership grant.

8           (h) COORDINATION.—In carrying out the program,  
9 the Secretary may coordinate with relevant programs at  
10 other Federal agencies, including—

11           (1) the Office of Innovation and Entrepreneur-  
12 ship under the Economic Development Administra-  
13 tion, including the Regional Innovation Program  
14 under section 27 of the Stevenson-Wydler Tech-  
15 nology Innovation Act of 1980 (15 U.S.C. 3722);

16           (2) the Hollings Manufacturing Extension Part-  
17 nership Program under section 25(a) of the National  
18 Institute of Standards and Technology Act (15  
19 U.S.C. 278k);

20           (3) the Manufacturing USA Program under  
21 section 34(a) of the National Institute of Standards  
22 and Technology Act (15 U.S.C. 278s);

23           (4) the Defense Manufacturing Communities  
24 Support Program under section 846 of the John S.

1 McCain National Defense Authorization Act for Fis-  
2 cal Year 2019 (10 U.S.C. 2501 note); and

3 (5) the Office of Economic Adjustment at the  
4 Department of Defense.

5 (i) EVALUATION BY COMPTROLLER GENERAL.—Not  
6 later than 3 years after the date of the enactment of this  
7 Act, and every 3 years thereafter, the Comptroller General  
8 shall submit to the Committee on Science, Space, and  
9 Technology of the House of Representatives and the Com-  
10 mittee on Energy and Natural Resources of the Senate  
11 an evaluation on the operation of the program during the  
12 most recent 3-year period, including—

13 (1) an assessment of the progress made towards  
14 achieving the purposes specified in subsection (c)  
15 based on the metrics developed under subsection (g);

16 (2) the short-term and long-term metrics used  
17 to determine the success of the program under sub-  
18 section (g), and any changes recommended to the  
19 metrics used;

20 (3) the regional clean energy innovation part-  
21 nerships that have received grants under subsection  
22 (d); and

23 (4) any recommendations on how the program  
24 may be improved.

1 (j) NATIONAL LABORATORIES.—In supporting tech-  
2 nology transfer activities at the National Laboratories, the  
3 Secretary shall encourage partnerships with entities that  
4 are located in the same region or State as a National Lab-  
5 oratory.

6 (k) AUTHORIZATION OF APPROPRIATIONS.—There  
7 are authorized to be appropriated to the Secretary to carry  
8 out this section \$50,000,000 for each of fiscal years 2021  
9 through 2025.

10 **SEC. 8102. NATIONAL CLEAN ENERGY INCUBATOR PRO-**  
11 **GRAM.**

12 (a) CLEAN ENERGY INCUBATOR DEFINED.—In this  
13 section, the term “clean energy incubator”—

14 (1) means any entity that is designed to accel-  
15 erate the commercial application of clean energy  
16 technologies by providing—

17 (A) physical workspace, labs, and proto-  
18 typing facilities to support clean energy  
19 startups or established clean energy companies;  
20 or

21 (B) companies developing such tech-  
22 nologies with support, resources, and services,  
23 including—

24 (i) access to business education and  
25 counseling;

1 (ii) mentorship opportunities; and  
2 (iii) other services rendered for the  
3 purpose of aiding the development and  
4 commercial application of a clean energy  
5 technology; and

6 (2) may include a program within or established  
7 by a National Laboratory, an institution of higher  
8 education or a State, local, or tribal government.

9 (b) PROGRAM ESTABLISHMENT.—Not later than 180  
10 days after the enactment of this Act, the Secretary, acting  
11 through the Chief Commercialization Officer established  
12 in section 1001(a) of the Energy Policy Act of 2005 (42  
13 U.S.C. 16391(a)), shall establish a Clean Energy Incu-  
14 bator Program (herein referred to as the “program”) to  
15 competitively award grants to clean energy incubators.

16 (c) CLEAN ENERGY INCUBATOR SELECTION.—In  
17 awarding grants to clean energy incubators under sub-  
18 section (b), the Secretary shall prioritize funding clean en-  
19 ergy incubators that—

20 (1) partner with entities that carry out activi-  
21 ties relevant to the activities of such incubator and  
22 that operate at the local, State, and regional levels;

23 (2) support the commercial application activi-  
24 ties of startup companies focused on physical hard-

1       ware, computational, or integrated hardware and  
2       software technologies;

3           (3) are located in geographically diverse regions  
4       of the United States;

5           (4) are located in, or partner with entities lo-  
6       cated in, economically-distressed areas;

7           (5) support the development of entities focused  
8       on expanding clean energy tools and technologies to  
9       low-income and frontline communities;

10          (6) support the commercial application of tech-  
11       nologies being developed by clean energy entre-  
12       preneurs from underrepresented backgrounds; and

13          (7) have a plan for sustaining activities of the  
14       incubator after grant funds received under this pro-  
15       gram have been expended.

16       (d) AWARD LIMITS.—The Secretary shall not award  
17       more than \$4,000,000 to one or more incubators in one  
18       given State, per fiscal year.

19       (e) DURATION.—Each grant under subsection (b)  
20       shall be for a period of no longer than 5 years, subject  
21       to the availability of appropriations.

22       (f) USE OF FUNDS.—An entity receiving a grant  
23       under this section may use grant amounts for operating  
24       expenses.

1 (g) RENEWAL.—An award made to a clean energy  
2 incubator under this section may be renewed for a period  
3 of not more than 3 years, subject to merit review.

4 (h) EVALUATION.—In accordance with section  
5 8307(b) of this Act, the Secretary shall submit 3 years  
6 after the enactment of this Act and every 3 years there-  
7 after to the Committee on Science, Space, and Technology  
8 of the House of Representatives and the Committee on  
9 Energy and Natural Resources of the Senate an evalua-  
10 tion of the program established under this section that in-  
11 cludes analyses of the performance of the clean energy in-  
12 cubators.

13 (i) AUTHORIZATION OF APPROPRIATIONS.—There  
14 are authorized to be appropriated to the Secretary to carry  
15 out this section \$15,000,000 for each of fiscal years 2021  
16 through 2025.

17 **SEC. 8103. CLEAN ENERGY TECHNOLOGY UNIVERSITY**  
18 **PRIZE COMPETITION.**

19 (a) DEFINITIONS.—In this section:

20 (1) ELIGIBLE ENTITY.—The term “eligible enti-  
21 ty” means a non-profit entity, an institution of high-  
22 er education, or an entity working with one or more  
23 institutes of higher education.

24 (2) MINORITY-SERVING INSTITUTION.—The  
25 term “minority-serving institution” means an insti-

1           tution described in section 371(a) of the Higher  
2           Education Act of 1965 (20 U.S.C. 1067q(a)).

3           (b) IN GENERAL.—The Secretary, acting through the  
4 Chief Commercialization Officer established in section  
5 1001(a) of the Energy Policy Act of 2005 (42 U.S.C.  
6 16391(a)), shall establish a program, known as the “Clean  
7 Energy Technology University Prize”, to award funding  
8 for eligible entities to carry out regional and one national  
9 clean energy technology prize competitions, under section  
10 24 of the Stevenson-Wydler Technology Innovation Act of  
11 1980 (15 U.S.C. 3719). In carrying out such prize com-  
12 petitions, students shall compete to develop a business  
13 model for furthering the commercial application of an in-  
14 novative clean energy technology. The purpose of this pro-  
15 gram is to encourage student interest in clean energy tech-  
16 nology development and to help students solve challenges  
17 in clean energy technology commercial application, with  
18 participation from diverse geographical regions of the  
19 United States.

20           (c) TRAINING FUNDING.—In carrying out this pro-  
21 gram, the Secretary may provide funding to train partici-  
22 pating students in skills needed for the successful commer-  
23 cial application of clean energy technologies, including  
24 through virtual training sessions.

1 (d) PRIORITIZATION.—In awarding grants under this  
2 section, the Secretary shall prioritize awarding grants to  
3 eligible entities that work with students at minority-serv-  
4 ing institutions.

5 (e) COORDINATION.—In carrying out this program,  
6 the Secretary shall coordinate and partner with existing  
7 clean energy technology prize competitions. In doing so,  
8 the Secretary may develop and disseminate best practices  
9 for administering prize competitions under this section.

10 (f) REPORT.—In accordance with section 8307(a) of  
11 this Act, the Secretary shall report annually on the  
12 progress and implementation of the program established  
13 under subsection (b).

14 (g) EVALUATION.—In accordance with section  
15 8307(b) of this Act, the Secretary shall submit 3 years  
16 after the enactment of this Act and every 3 years there-  
17 after to the Committee on Science, Space, and Technology  
18 of the House of Representatives and the Committee on  
19 Energy and Natural Resources of the Senate an evalua-  
20 tion on the long-term outcomes of the program established  
21 under this section and the progress towards achieving the  
22 purposes of the program in subsection (b).

23 (h) AUTHORIZATION OF APPROPRIATIONS.—There  
24 are authorized to be appropriated to the Secretary to carry



1 out the activities authorized in this section \$1,000,000 for  
2 each of fiscal years 2021 through 2025.

3 **SEC. 8104. ENERGY I-CORPS.**

4 (a) IN GENERAL.—The Secretary of Energy (herein-  
5 after in this section referred to as the “Secretary”), acting  
6 through the Chief Commercialization Officer established  
7 in section 1001(a) of the Energy Policy Act of 2005 (42  
8 U.S.C. 16391(a)), shall carry out a program to support  
9 commercial application education, training, professional  
10 development, and mentorship called the “Energy Innova-  
11 tion Corps Program” (hereinafter in this section referred  
12 to as “Energy I-Corps”).

13 (b) PURPOSE.—The purposes of Energy I-Corps shall  
14 be to help participants described in subsection (c) develop  
15 skills and to accelerate the commercial application of clean  
16 energy technologies and other technologies related to the  
17 mission of the Department of Energy.

18 (c) PARTICIPANTS.—The Secretary shall carry out  
19 this program for participants consisting of—

20 (1) employees at the National Laboratories; and

21 (2) researchers, students, and clean energy en-  
22 trepreneurs.

23 (d) ACTIVITIES.—In carrying out Energy I-Corps,  
24 the Secretary shall support—

1           (1) commercial application education, training,  
2           and mentoring activities, including workshops, semi-  
3           nars, and short courses;

4           (2) engagement with private sector entities to  
5           identify future research and development activities;  
6           and

7           (3) any other activities that the Secretary de-  
8           termines to be relevant.

9           (e) STATE AND LOCAL PARTNERSHIPS.—In carrying  
10          out Energy I-Corps, the Secretary may engage in partner-  
11          ships with National Laboratories, State and local govern-  
12          ments, economic development organizations, and nonprofit  
13          organizations to broaden access to Energy I-Corps and  
14          support relevant activities under this subsection.

15          (f) FEDERAL COORDINATION.—In carrying out En-  
16          ergy I-Corps, the Secretary may coordinate with any other  
17          Federal science agency program that carries out a similar  
18          program to support entrepreneurial and commercial appli-  
19          cation education, training, professional development, and  
20          mentorship in order to share best practices.

21          (g) EVALUATION.—In accordance with section  
22          8307(b) of this Act, the Secretary shall submit 3 years  
23          after the enactment of this Act and every 3 years there-  
24          after to the Committee on Science, Space, and Technology  
25          of the House of Representatives and the Committee on

1 Energy and Natural Resources of the Senate an evalua-  
2 tion on the long-term effectiveness of the Energy I-Corps  
3 program and the progress towards achieving the purposes  
4 of the program in subsection (a).

5 (h) AUTHORIZATION OF APPROPRIATIONS.—There  
6 are authorized to be appropriated to the Chief Commer-  
7 cialization Officer established in section 1001(a) of the  
8 Energy Policy Act of 2005 (42 U.S.C. 16391(a)) to carry  
9 out the activities authorized in subsection (a)—

10 (1) for participants under subsection (c)(1)  
11 \$3,000,000 for each of fiscal years 2021 through  
12 2025; and

13 (2) for participants under subsection (c)(2)  
14 \$2,000,000 for each of fiscal years 2021 through  
15 2025.

16 **SEC. 8105. CLEAN ENERGY TECHNOLOGY TRANSFER CO-**  
17 **ORDINATION.**

18 (a) IN GENERAL.—The Secretary, acting through the  
19 Chief Commercialization Officer established in section  
20 1001(a) of the Energy Policy Act of 2005 (42 U.S.C.  
21 16391(a)), shall support the coordination of relevant tech-  
22 nology transfer programs, including those authorized in  
23 sections 8101, 8102, 8103, 8104, 8202, and 8206 of this  
24 Act, that advance the commercial application of clean en-

1 ergy technologies nationally and across all energy sectors.

2 In particular, the Secretary may support activities to—

3           (1) facilitate the sharing of information on best  
4 practices for successful operation of clean energy  
5 technology transfer programs;

6           (2) coordinate resources and improve coopera-  
7 tion among clean energy technology transfer pro-  
8 grams;

9           (3) facilitate connections between entrepreneurs  
10 and start-up companies and the variety of programs  
11 related to clean energy technology transfer under the  
12 Department; and

13           (4) facilitate the development of metrics to  
14 measure the impact of clean energy technology  
15 transfer programs on—

16                   (A) advancing the development, demonstra-  
17 tion, and commercial application of clean en-  
18 ergy technologies;

19                   (B) increasing the competitiveness of  
20 United States in the clean energy sector, in-  
21 cluding in manufacturing; and

22                   (C) commercial application of clean energy  
23 technologies being developed by entrepreneurs  
24 from under-represented backgrounds.

1 (b) AUTHORIZATION OF APPROPRIATIONS.—There  
2 are authorized to be appropriated to the Secretary to carry  
3 out the activities in this section \$3,000,000 for each of  
4 fiscal years 2021 through 2025.

5 **Subtitle B—Supporting Technology**  
6 **Development At the National**  
7 **Laboratories**

8 **SEC. 8201. LAB PARTNERING SERVICE PILOT PROGRAM.**

9 (a) PILOT PROGRAM.—

10 (1) IN GENERAL.—The Secretary, acting  
11 through the Chief Commercialization Officer estab-  
12 lished in section 1001(a) of the Energy Policy Act  
13 of 2005 (42 U.S.C. 16391(a)), shall establish a Lab  
14 Partnering Service Pilot Program (hereinafter in  
15 this section referred to as the “pilot program”).

16 (2) PURPOSES.—The purposes of the pilot pro-  
17 gram are to provide services that encourage and  
18 support partnerships between the National Labora-  
19 tories and public and private sector entities, and to  
20 improve communication of research, development,  
21 demonstration, and commercial application projects  
22 and opportunities at the National Laboratories to  
23 potential partners through the development of a  
24 website and the provision of services, in collaboration  
25 with relevant external entities.

1           (3) ACTIVITIES.—In carrying out this pilot pro-  
2           gram, the Secretary shall—

3                   (A) conduct outreach to and engage with  
4           relevant public and private entities;

5                   (B) identify and disseminate best practices  
6           for strengthening connections between the Na-  
7           tional Laboratories and public and private sec-  
8           tor entities; and

9                   (C) develop a website to disseminate infor-  
10          mation on—

11                   (i) different partnering mechanisms  
12          for working with the National Labora-  
13          tories;

14                   (ii) National Laboratory experts and  
15          research areas; and

16                   (iii) National Laboratory facilities and  
17          user facilities.

18          (b) METRICS.—The Secretary shall support the de-  
19          velopment of metrics, including conversion metrics, to de-  
20          termine the effectiveness of the pilot program in achieving  
21          the purposes in subsection (a) and the number and types  
22          of partnerships established between public and private sec-  
23          tor entities and the National Laboratories compared to  
24          baseline data.

1           (c) COORDINATION.—In carrying out the activities  
2 authorized in this section, the Secretary shall coordinate  
3 with the Directors and dedicated technology transfer staff  
4 at the National Laboratories, in particular for match-  
5 making services for individual projects, which should be  
6 led by the National Laboratories.

7           (d) FUNDING EMPLOYEE PARTNERING ACTIVI-  
8 TIES.—The Secretary shall delegate to the Directors the  
9 authority to compensate National Laboratory employees  
10 providing services under this section.

11          (e) DURATION.—Subject to the availability of appro-  
12 priations, the pilot program established in this section  
13 shall operate for not less than 3 years and may be built  
14 off an existing program.

15          (f) EVALUATION.—Not later than 6 months after the  
16 completion of this pilot program, the Secretary shall sup-  
17 port the evaluation of the success of the pilot program in  
18 achieving the purposes in subsection (a) and shall submit  
19 the evaluation to the Committee on Science, Space, and  
20 Technology of the House of Representatives and the Com-  
21 mittee on Energy and Natural Resources of the Senate.  
22 The assessment shall include analyses of the performance  
23 of the pilot program based on the metrics developed under  
24 subsection (b).

1 (g) AUTHORIZATION OF APPROPRIATIONS.—There  
2 are authorized to be appropriated to the Secretary  
3 \$2,000,000 for each of fiscal years 2021 through 2023  
4 to carry out subsections (a), (b), (c), (e), and (f) and  
5 \$1,700,000 for each of fiscal years 2021 through 2023  
6 for national laboratory employees to provide services under  
7 subsection (d).

8 **SEC. 8202. LAB-EMBEDDED ENTREPRENEURSHIP PRO-**  
9 **GRAM.**

10 (a) IN GENERAL.—The Secretary shall competitively  
11 award grants to National Laboratories for the purpose of  
12 establishing or supporting Lab-Embedded Entrepreneur-  
13 ship Programs.

14 (b) PURPOSES.—The purposes of such programs are  
15 to provide entrepreneurial fellows with access to National  
16 Laboratory research facilities, National Laboratory exper-  
17 tise, and mentorship to perform research and development  
18 and gain expertise that may be required or beneficial for  
19 the commercial application of research ideas.

20 (c) ENTREPRENEURIAL FELLOWS.—An entrepre-  
21 neurial fellow participating in a program described in sub-  
22 section (a) shall be provided with—

23 (1) opportunities for entrepreneurial training,  
24 professional development, and exposure to leaders  
25 from academia, industry, government, and finance



1 who may serve as advisors to or partners of the fel-  
2 low;

3 (2) financial and technical support for research,  
4 development, and commercial application activities;

5 (3) fellowship awards to cover costs of living,  
6 health insurance, and travel stipends for the dura-  
7 tion of the fellowship; and

8 (4) any other resources determined appropriate  
9 by the Secretary.

10 (d) PROGRAM ACTIVITIES.—Each eligible entity that  
11 receives funding under this section shall support entrepre-  
12 neurial fellows by providing—

13 (1) access to facilities and expertise within the  
14 National Laboratory;

15 (2) engagement with external stakeholders; and

16 (3) market and customer development opportu-  
17 nities.

18 (e) ADMINISTRATION.—Eligible entities that receive  
19 grants under this section shall prioritize the support and  
20 success of the entrepreneurial fellow with regards to pro-  
21 fessional development and development of a relevant tech-  
22 nology.

23 (f) PARTNERSHIPS.—In carrying out a Lab-Embed-  
24 ded Entrepreneurship Program, a National Laboratory  
25 may partner with an external entity, including—

- 1 (1) a nonprofit organization;
- 2 (2) an institution of higher education; or
- 3 (3) a federally-owned corporation.

4 (g) METRICS.—The Secretary shall support the de-  
5 velopment of short-term and long-term metrics to assess  
6 the effectiveness of programs receiving a grant under sub-  
7 section (a) in achieving the purposes of the program in  
8 subsection (b).

9 (h) EVALUATION.—In accordance with section  
10 8307(b) of this Act, not later than 3 years after the date  
11 of the enactment of this Act, and every 3 years thereafter,  
12 the Secretary shall submit to the Committee on Science,  
13 Space, and Technology of the House of Representatives  
14 and the Committee on Energy and Natural Resources of  
15 the Senate an evaluation of the effectiveness of the pro-  
16 grams under subsection (a) based on the metrics developed  
17 pursuant to subsection (g).

18 (i) COORDINATION.—The Secretary shall oversee the  
19 planning and coordination of grants under subsection (a)  
20 and shall identify and disseminate best practices for  
21 achieving the purposes of subsection (b) to eligible entities  
22 that receive grants under this section.

23 (j) INTERAGENCY COLLABORATION.—The Secretary  
24 shall collaborate with other executive branch agencies, in-  
25 cluding the Department of Defense and other agencies

1 with federal laboratories, regarding opportunities to part-  
2 ner with programs receiving a grant under subsection (a).

3 (i) AUTHORIZATION OF APPROPRIATIONS.—There  
4 are authorized to be appropriated to the Secretary to carry  
5 out the activities authorized in this section \$25,000,000  
6 for each of fiscal years 2021 through 2025.

7 **SEC. 8203. SMALL BUSINESS VOUCHER PROGRAM.**

8 Section 1003 of the Energy Policy Act of 2005 (42  
9 U.S.C. 16393) is amended—

10 (1) in subsection (a)—

11 (A) in the matter preceding paragraph (1),  
12 by striking “, and may require the Director of  
13 a single-purpose research facility,” and insert-  
14 ing “(as defined in section 2) and the Director  
15 of each single-purpose research facility”;

16 (B) in paragraph (1)—

17 (i) by striking “increase” and insert-  
18 ing “encourage”; and

19 (ii) by striking “collaborative re-  
20 search,” and inserting “research, develop-  
21 ment, demonstration, and commercial ap-  
22 plication activities, including product devel-  
23 opment,”;

24 (C) in paragraph (2), by striking “procure-  
25 ment and collaborative research” and inserting

1 “procurement and the activities described in  
2 paragraph (1)”;

3 (D) in paragraph (3)—

4 (i) by inserting “facilities,” before  
5 “training”; and

6 (ii) by striking “procurement and col-  
7 laborative research activities” and insert-  
8 ing “procurement and the activities de-  
9 scribed in paragraph (1)”;

10 (E) in paragraph (5), by striking “for the  
11 program under subsection (b)” and inserting  
12 “and metrics for the programs under sub-  
13 sections (b) and (c)”;

14 (2) by redesignating subsections (c) and (d) as  
15 subsections (d) and (e), respectively;

16 (3) by inserting after subsection (b) the fol-  
17 lowing:

18 “(c) SMALL BUSINESS VOUCHER PROGRAM.—

19 “(1) DEFINITIONS.—In this subsection:

20 “(A) DIRECTOR.—The term ‘Director’  
21 means—

22 “(i) the Director of each National  
23 Laboratory; and

24 “(ii) the Director of each single-pur-  
25 pose research facility.

1           “(B) NATIONAL LABORATORY.—The term  
2           ‘National Laboratory’ has the meaning given  
3           the term in section 2.

4           “(C) PROGRAM.—The term ‘program’  
5           means the program established under para-  
6           graph (2).

7           “(D) SMALL BUSINESS CONCERN.—The  
8           term ‘small business concern’ has the meaning  
9           given such term in section 3 of the Small Busi-  
10          ness Act (15 U.S.C. 632).

11          “(2) ESTABLISHMENT.—The Secretary, acting  
12          through the Chief Commercialization Officer ap-  
13          pointed under section 1001(a), and in consultation  
14          with the Directors, shall establish a program to pro-  
15          vide small business concerns with vouchers under  
16          paragraph (3)—

17                 “(A) to achieve the goal described in sub-  
18                 section (a)(1); and

19                 “(B) to improve the products, services, and  
20                 capabilities of small business concerns in the  
21                 mission space of the Department.

22          “(3) VOUCHERS.—Under the program, the Di-  
23          rectors are authorized to provide to small business  
24          concerns vouchers to be used at National Labora-  
25          tories and single-purpose research facilities for—

1           “(A) research, development, demonstra-  
2           tion, technology transfer, or commercial appli-  
3           cation activities; or

4           “(B) any other activities that the applica-  
5           ble Director determines appropriate.

6           “(4) EXPEDITED APPROVAL.—The Secretary,  
7           working with the Directors, shall establish a stream-  
8           lined approval process for financial assistance agree-  
9           ments signed between—

10           “(A) small business concerns selected to  
11           receive a voucher under the program; and

12           “(B) the National Laboratories and single-  
13           purpose research facilities.

14           “(5) COST-SHARING REQUIREMENT.—In car-  
15           rying out the program, the Secretary shall require  
16           cost-sharing in accordance with section 988; and

17           “(6) REPORT.—In accordance with section  
18           8307(a) of the Clean Economy Jobs and Innovation  
19           Act, the Secretary shall report annually on the  
20           progress and implementation of the small business  
21           voucher program established under this section, in-  
22           cluding the number and locations of small businesses  
23           that received grants under this program.”; and

24           (4) in subsection (e) (as so redesignated), by  
25           striking “for activities under this section” and in-

1       serting “for activities under subsection (b)” and in-  
2       serting at the end “and for activities under sub-  
3       section (c) \$25,000,000 for each of fiscal years 2021  
4       through 2025”.

5       **SEC. 8204. ENTREPRENEURIAL LEAVE PROGRAM.**

6       (a) **IN GENERAL.**—The Secretary shall delegate to  
7       Directors the authority to carry out an entrepreneurial  
8       leave program (referred to in this section as the “pro-  
9       gram”) to allow National Laboratory employees to take  
10      a full leave of absence from their position, with the option  
11      to return to that or a comparable position up to 3 years  
12      later, or a partial leave of absence, to advance the commer-  
13      cial application of energy and related technologies relevant  
14      to the mission of the Department.

15      (b) **TERMINATION AUTHORITY.**—Directors shall re-  
16      tain the authority to terminate National Laboratory em-  
17      ployees that participate in the program if such employees  
18      are found to violate terms prescribed by the National Lab-  
19      oratory at which such employee is employed.

20      (c) **LICENSING.**—To reduce barriers to participation  
21      in the program, the Secretary shall delegate to the Direc-  
22      tors the requirement to establish streamlined mechanisms  
23      for facilitating the licensing of technology that is the focus  
24      of National Laboratory employees who participate in the  
25      program.

1 (d) REPORT.—In accordance with section 8307(a) of  
2 this Act, the Secretary shall report annually on the utiliza-  
3 tion of this authority at national laboratories, including  
4 the number of employees who participate in this program  
5 at each national laboratory and the number of employees  
6 who take a permanent leave from their positions at na-  
7 tional laboratories as a result of participating in this pro-  
8 gram.

9 (e) FEDERAL ETHICS.—Nothing in this section shall  
10 affect existing federal ethics rules applicable to federal  
11 personnel.

12 **SEC. 8205. NATIONAL LABORATORY EMPLOYEE OUTSIDE**  
13 **EMPLOYMENT AUTHORITY.**

14 (a) IN GENERAL.—The Secretary shall delegate to  
15 Directors of National Laboratories the authority to allow  
16 their employees—

17 (1) to engage in outside employment, including  
18 start-up companies based on licensing technologies  
19 developed at National Laboratories and consulting in  
20 their areas of expertise, and receive compensation  
21 from such entities; and

22 (2) to engage in outside activities related to  
23 their areas of expertise at the National Laboratory  
24 and may allow employees, in their employment ca-  
25 pacity at such outside employment, to access the



1 National Laboratories under the same contracting  
2 mechanisms as non-laboratory employees and enti-  
3 ties, in accordance with appropriate conflict of inter-  
4 est protocols.

5 (b) REQUIREMENTS.—If a Director elects to use the  
6 authority granted by subsection (a) of this section, the Di-  
7 rector, or their designee, shall—

8 (1) require employees to disclose to and obtain  
9 approval from the Director or their designee prior to  
10 engaging in any outside employment;

11 (2) develop and require appropriate conflict of  
12 interest protocols for employees that engage in out-  
13 side employment; and

14 (3) maintain the authority to terminate employ-  
15 ees engaging in outside employment if they are  
16 found to violate terms, including conflict of interest  
17 protocols, mandated by the Director.

18 (c) ADDITIONAL RESTRICTIONS.—Employees engag-  
19 ing in outside employment may not—

20 (1) sacrifice, hamper, or impede their duties at  
21 the National Laboratory;

22 (2) engage in activities related to outside em-  
23 ployment using National Laboratory government  
24 equipment, property, or resources, unless such ac-  
25 tivities are performed under National Laboratory

1 contracting mechanisms, such as Cooperative Re-  
2 search and Development Agreement or Strategic  
3 Partnership Projects, whereby all conflicts of inter-  
4 est requirements apply; or

5 (3) use their position at a National Laboratory  
6 to provide an unfair competitive advantage to an  
7 outside employer or start-up activity.

8 (d) FEDERAL ETHICS.—Nothing in this section shall  
9 affect existing federal ethics rules applicable to federal  
10 personnel.

11 **SEC. 8206. TECHNOLOGY COMMERCIALIZATION FUND.**

12 Section 1001(e) of the Energy Policy Act of 2005 (42  
13 U.S.C. 16391(e)) is amended to read as follows:

14 “(e) TECHNOLOGY COMMERCIALIZATION FUND.—

15 “(1) ESTABLISHMENT.—The Secretary, acting  
16 through the Chief Commercialization Officer estab-  
17 lished in section 1001(a) of the Energy Policy Act  
18 of 2005 (42 U.S.C. 16391(a)), shall establish a  
19 Technology Commercialization Fund (hereafter re-  
20 ferred to as the ‘Fund’), using nine-tenths of one  
21 percent of the amount of appropriations made avail-  
22 able to the Department for applied energy research,  
23 development, demonstration, and commercial appli-  
24 cation for each fiscal year, to be used to provide, in  
25 accordance with the cost-sharing requirements under

1 section 988, funds to national laboratories to pro-  
2 mote promising energy technologies for commercial  
3 purposes with private partners.

4 “(2) APPLICATIONS.—

5 “(A) CONSIDERATIONS.—The Secretary  
6 shall develop criteria for evaluating applications  
7 for funding under this section, which may in-  
8 clude—

9 “(i) the potential that a proposed  
10 technology will result in a commercially  
11 successful product within a reasonable  
12 timeframe; and

13 “(ii) the relative maturity of a pro-  
14 posed technology for commercial applica-  
15 tion.

16 “(B) SELECTIONS.—In awarding funds  
17 under this section, the Secretary may give spe-  
18 cial consideration to applications that involve at  
19 least one applicant that has participated in an  
20 entrepreneurial or commercialization training  
21 program, such as Energy Innovation Corps.

22 “(3) ANNUAL REPORT.—The Secretary shall in-  
23 clude in the annual report required under subsection  
24 (h)(2)—

1           “(A) description of the projects carried out  
2           with awards from the Fund for that fiscal year;

3           “(B) each project’s cost-share for that fis-  
4           cal year;

5           “(C) each project’s partners for that fiscal  
6           year.

7           “(4) EVALUATION.—In accordance with section  
8           8307(b) of the Clean Economy Jobs and Innovation  
9           Act, the Secretary shall submit 3 years after the en-  
10          actment of that Act and every 3 years thereafter to  
11          the Committee on Science, Space, and Technology  
12          Committee of the House of Representatives and the  
13          Committee on Energy and Natural Resources of the  
14          Senate an evaluation on the long-term commercial  
15          success of projects that received awards from the  
16          Fund.

17          “(5) TECHNOLOGY COMMERCIALIZATION FUND  
18          REPORT.—

19                 “(A) IN GENERAL.—Not later than 1 year  
20                 after the date of enactment of the Energizing  
21                 Technology Transfer Act, the Secretary shall  
22                 submit to the Committee on Science, Space,  
23                 and Technology and Committee on Appropria-  
24                 tions of the House of Representatives and the  
25                 Committee on Energy and Natural Resources

1 and Committee on Appropriations of the Senate  
2 a report on the current and recommended im-  
3 plementation of the Fund.

4 “(B) CONTENTS.—The report under sub-  
5 paragraph (A) shall include—

6 “(i) a summary, with supporting data,  
7 of how much Department program offices  
8 contribute to and use the Fund each year,  
9 including a list of current funding restric-  
10 tions;

11 “(ii) recommendations on how to im-  
12 prove implementation and administration  
13 of the Fund; and

14 “(iii) an analysis on how to spend  
15 funds optimally on technology areas that  
16 have the greatest need and opportunity for  
17 commercial application, rather than spend-  
18 ing funds at the programmatic level or  
19 under current funding restrictions.”.

20 **SEC. 8207. SIGNATURE AUTHORITY.**

21 (a) IN GENERAL.—Subject to subsections (b) and (c),  
22 the Secretary shall delegate to Directors of the National  
23 Laboratories signature authority with respect to any  
24 agreement described in subsection (b) the total cost of  
25 which, including the National Laboratory contributions

1 and project recipient cost share, is less than \$1,000,000,  
2 if such an agreement falls within the scope of—

3 (1) the strategic plan for the National Labora-  
4 tory or a master scope of work that has been ap-  
5 proved by the Department; or

6 (2) the most recent budget approved by Con-  
7 gress for Department activities to be carried out by  
8 the National Laboratory.

9 (b) AGREEMENTS.—Subsection (a) applies to—

10 (1) a cooperative research and development  
11 agreement;

12 (2) a strategic partnership project;

13 (3) prize competitions;

14 (4) an agreement for commercializing tech-  
15 nology; or

16 (5) any other agreement determined to be ap-  
17 propriate by the Secretary, in collaboration with the  
18 Directors.

19 (c) ADMINISTRATION.—

20 (1) ACCOUNTABILITY.—The Director of the af-  
21 fected National Laboratory and the affected con-  
22 tractor shall carry out an agreement under this sec-  
23 tion in accordance with applicable policies of the De-  
24 partment, including by ensuring that the agreement  
25 does not compromise any national security, eco-

1        nomic, or environmental interest of the United  
2        States.

3        (2) CERTIFICATION.—The Director of the affected  
4        National Laboratory and the affected contractor shall cer-  
5        tify that each activity carried out under a project for  
6        which an agreement is entered into under this section does  
7        not present, or minimizes, any apparent conflict of inter-  
8        est, and avoids or neutralizes any actual conflict of inter-  
9        est, as a result of the agreement under this section.

10       (3) AVAILABILITY OF RECORDS.—Not later than 30  
11       days after the date on which a Director enters an agree-  
12       ment under this section, such Director shall submit to the  
13       Secretary for monitoring and review all records of the Na-  
14       tional Laboratory relating to the agreement.

15       (d) APPROVAL.—Upon granting the signature au-  
16       thority under subsection (a), the Secretary may not re-  
17       quire any additional reviews or approvals of draft agree-  
18       ments, statements of work, or other documents for agree-  
19       ments that meet the criteria under subsection (a).

20       (e) EXCEPTION.—This section does not apply to any  
21       agreement with a foreign-controlled entity or entity under  
22       the majority control of any foreign entity.

23       (f) REPORT.—In accordance with section 8307(a) of  
24       this Act, the Secretary shall submit annually information

1 on the number and types of agreements signed using the  
2 authorities granted under this section.

3 (g) EVALUATION.—Not later than 3 years after the  
4 date of enactment of this Act, the Secretary shall submit  
5 to the Committee on Science, Space, and Technology Com-  
6 mittee of the House of Representatives and the Committee  
7 on Energy and Natural Resources of the Senate an evalua-  
8 tion of the efficacy of reducing administrative burden for  
9 agreements signed using the authorities granted under  
10 this section.

11 (h) CONFORMING AMENDMENT.—Section 12 of the  
12 Stevenson-Wydler Technology Innovation Act of 1980 (15  
13 U.S.C. 3710a) is amended—

14 (1) in subsection (a)—

15 (A) by redesignating paragraphs (1) and  
16 (2) as subparagraphs (A) and (B), respectively,  
17 and indenting the subparagraphs appropriately;

18 (B) by striking “Each Federal agency”  
19 and inserting the following:

20 “(1) IN GENERAL.—Except as provided in para-  
21 graph (2), each Federal agency”; and

22 (C) by adding at the end the following:

23 “(2) EXCEPTION.—Notwithstanding paragraph  
24 (1), in accordance with section 8207 of the Clean  
25 Economy Jobs and Innovation Act, approval by the



1 Secretary of Energy shall not be required for any  
2 agreement proposed to be entered into by a National  
3 Laboratory of the Department of Energy, the total  
4 cost of which, including the National Laboratory  
5 contributions and project recipient cost share, is less  
6 than \$1,000,000.”; and

7 (2) in subsection (b), by striking “subsection  
8 (a)(1)” each place it appears and inserting “sub-  
9 section (a)(1)(A)”.

## 10 **Subtitle C—Department of Energy** 11 **Modernization**

### 12 **SEC. 8301. TECHNOLOGY TRANSFER PROGRAM.**

13 (a) CHIEF COMMERCIALIZATION OFFICER.—Section  
14 1001 of the Energy Policy Act of 2005 (42 U.S.C. 16391)  
15 is amended—

16 (1) by amending subsection (a) to read as fol-  
17 lows:

18 “(a) CHIEF COMMERCIALIZATION OFFICER.—The  
19 Secretary shall appoint a Chief Commercialization Officer  
20 to be the principal advisor to the Secretary on all matters  
21 relating to technology transfer and commercialization, and  
22 who shall report directly to, and be appointed by, the Sec-  
23 retary.”; and

1           (2) in subsections (b) and (c), by striking “Co-  
2           ordinator” each place it appears and inserting  
3           “Chief Commercialization Officer”.

4           (b) OFFICE OF TECHNOLOGY TRANSITIONS.—Title X  
5 of the Energy Policy Act of 2005 (42 U.S.C. 16391 et.  
6 seq.) is amended by adding at the end the following:

7           **“SEC. 1012. TECHNOLOGY TRANSFER PROGRAM.**

8           “(a) OFFICE OF TECHNOLOGY TRANSITIONS.—There  
9 is established within the Department an Office of Tech-  
10 nology Transitions (referred to in this section as the ‘Of-  
11 fice’), which shall be headed by the Chief Commercializa-  
12 tion Officer appointed under section 1001(a).

13           “(b) MISSION.—The mission of the Office shall be—

14                   “(1) to expand the commercial impact of the re-  
15 search investments of the Department; and

16                   “(2) to advance the commercial application of  
17 technologies that reduce energy use, reduce green-  
18 house gas emissions and other pollutants, improve  
19 energy efficiency, mitigate other negative environ-  
20 mental consequences, or support other missions of  
21 the Department.

22           “(c) GOALS.—

23                   “(1) IN GENERAL.—In carrying out the mission  
24 and activities of the Office, the Chief Commercializa-  
25 tion Officer shall, with respect to commercial appli-

1 cation activities, meet all of the goals described in  
2 paragraph (2).

3 “(2) GOALS DESCRIBED.—The goals referred to  
4 in paragraph (1) are the following:

5 “(A) Reduction of greenhouse gas emis-  
6 sions or other pollutants.

7 “(B) Improvement of energy efficiency.

8 “(C) Improvement of economic competi-  
9 tiveness.

10 “(D) Enhancement of domestic energy se-  
11 curity and national security.

12 “(E) Enhancement of the domestic work-  
13 force relevant to energy and other sectors rel-  
14 evant to the mission of the Department.

15 “(d) HIRING AND MANAGEMENT.—To carry out the  
16 activities authorized in this section, the Under Secretary  
17 for Science may appoint personnel using the authorities  
18 in section 8306 of the Clean Economy Jobs and Innova-  
19 tion Act.

20 “(e) COLLABORATION.—In carrying out the mission  
21 and activities of the Office of Technology Transitions, the  
22 Chief Commercialization Officer shall coordinate with the  
23 senior leadership of the Department, other relevant offices  
24 of the Department, the Directors, the National Labora-  
25 tories, the Technology Transfer Working Group estab-

1 lished under section 1001(d), the Technology Transfer  
2 Policy Board, and other stakeholders, including private in-  
3 dustry.

4 “(f) REPORT.—In accordance with section 8307(a) of  
5 the Clean Economy Jobs and Innovation Act, the Sec-  
6 retary shall report annually on the activities carried out  
7 by the Office of Technology Transitions pertaining to the  
8 mission of the program in subsection (b) and the goals  
9 in subsection (c).

10 “(g) AUTHORIZATION OF APPROPRIATIONS.—There  
11 are authorized to be appropriated to the Secretary to carry  
12 out the activities authorized in this section \$20,000,000  
13 for each of fiscal years 2021 through 2025.”.

14 **SEC. 8302. MANAGEMENT OF DEMONSTRATION PROJECTS.**

15 (a) MANAGEMENT OF DEPARTMENT OF ENERGY  
16 DEMONSTRATION PROJECTS.—The Secretary shall estab-  
17 lish a program to conduct project management and over-  
18 sight of demonstration projects that receive more than  
19 \$50,000,000 in funding from the Department, in coordi-  
20 nation with relevant staff from Department program of-  
21 fices. The purposes of this program are to—

22 (1) conduct evaluation of demonstration project  
23 proposals prior to selection of a project for funding;

1           (2) conduct independent oversight of the execu-  
2           tion of a demonstration project once funding has  
3           been awarded for such project; and

4           (3) ensure a balanced portfolio of investments  
5           in clean energy technology demonstration projects.

6           (b) DEMONSTRATION PROJECT MANAGEMENT EM-  
7           PLOYEES.—

8           (1) AUTHORITY.—In carrying out the program  
9           under subsection (a), the Under Secretary for  
10          Science shall appoint at least 2 full time employees  
11          to achieve the purposes of the program outlined in  
12          subsection (a) in coordination with relevant staff at  
13          Department program offices.

14          (2) HIRING AUTHORITY.—To carry out the pro-  
15          gram authorized in this section, the Under Secretary  
16          for Science may hire personnel using the authorities  
17          in section 8306 of this Act.

18          (c) DUTIES.—In carrying out the program in sub-  
19          section (a), employees under this section shall work with  
20          relevant staff from Department program offices to—

21               (1) evaluate demonstration project proposals,  
22               including the scope, technical specifications, matu-  
23               rity of design, funding profile, estimated costs, pro-  
24               posed schedule, proposed technical and financial

1 milestones, and potential for commercial success  
2 based on economic and policy projections;

3 (2) develop independent cost estimates of dem-  
4 onstration project proposals, when appropriate;

5 (3) recommend to the director of a program of-  
6 fice whether to fund a demonstration project pro-  
7 posal;

8 (4) oversee the execution of the demonstration  
9 projects that receive funding from the Department  
10 under this section and conduct reviews of ongoing  
11 projects, which may include reconciling estimated  
12 costs as compared to actual costs and evaluating  
13 progress of the project based on the proposed sched-  
14 ule and technical and financial milestones, and pro-  
15 vide such reviews to the Secretary; and

16 (5) assess lessons learned and implement im-  
17 provements to evaluate and oversee demonstration  
18 projects carried out under this section.

19 (d) PROJECT TERMINATION.—Should an ongoing  
20 demonstration project receive an unfavorable review under  
21 subsection (c)(4), the director of a Department program  
22 office or their designee may cease funding the demonstra-  
23 tion project and reallocate the remaining funds to new or  
24 existing demonstration projects carried out by that pro-  
25 gram office.

1 (e) COORDINATION.—In establishing and carrying  
2 out the program, the Secretary shall coordinate with  
3 project management and acquisition management entities  
4 within the Department, including the Office of Project  
5 Management, and relevant professional organizations in  
6 project management, construction, cost estimation, and  
7 other relevant fields.

8 (f) REPORTING.—In accordance with section  
9 8307(a), the Secretary shall report annually on the utiliza-  
10 tion of the authority granted under this section, including  
11 a summary of—

12 (1) any demonstration projects currently being  
13 carried out under this section; and

14 (2) a summary of the reviews under subsection  
15 (c)(4) of any ongoing demonstration projects carried  
16 out under this section.

17 (g) EVALUATION BY COMPTROLLER GENERAL.—Not  
18 later than 3 years after the date of the enactment of this  
19 Act the Comptroller General shall submit to the Com-  
20 mittee on Science, Space, and Technology of the House  
21 of Representatives and the Committee on Energy and  
22 Natural Resources of the Senate an evaluation on the op-  
23 eration of the program established under this section, in-  
24 cluding—

1           (1) the processes and procedures used to evalu-  
2           ate demonstration project proposals and oversee  
3           demonstration projects that receive funding under  
4           this section;

5           (2) any recommended changes to the program,  
6           including the structure and the processes and proce-  
7           dures used to evaluate and oversee demonstration  
8           projects that receive funding under this section; and

9           (3) any recommended changes to the structure  
10          of this program to improve the success in meeting  
11          the program purposes under subsection (a).

12 **SEC. 8303. STREAMLINING PRIZE COMPETITIONS.**

13          Section 1008 of the Energy Policy Act of 2005 (42  
14 U.S.C. 16396) is amended by inserting after subsection  
15 (d) the following (and redesignating subsections (e) and  
16 (f) as subsections (g) and (h), respectively):

17          “(e) COORDINATION.—In carrying out subsection (a),  
18 and for any prize competitions under section 105 of the  
19 America Creating Opportunities to Meaningfully Promote  
20 Excellence in Technology, Education, and Science Reau-  
21 thorization Act of 2010, the Secretary shall—

22                 “(1) designate at least one full time employee  
23                 to serve as a Department-wide point of contact on  
24                 prize competitions;



1           “(2) issue Department-wide guidance on the de-  
2           sign, development, and implementation of prize com-  
3           petitions;

4           “(3) collect and disseminate best practices on  
5           the design and administration of prize competitions;

6           “(4) streamline contracting mechanisms for the  
7           implementation of prize competitions; and

8           “(5) provide training and prize competition de-  
9           sign support, as necessary, to Department staff to  
10          develop prize competitions and challenges.

11          “(f) REPORT.—In accordance with section 8307(a) of  
12          the Clean Economy Jobs and Innovation Act, the Sec-  
13          retary shall report annually on a description of any prize  
14          competitions carried out using this authority, the total  
15          amount of prizes awarded along with any private sector  
16          contributions, the methods used for solicitation and eval-  
17          uation, and a description of how each prize competition  
18          advanced the mission of the Department.”.

19          **SEC. 8304. MILESTONE-BASED DEMONSTRATION PROJECTS.**

20          (a) IN GENERAL.—Acting under section 646(g) of  
21          the Department of Energy Organization Act (42 U.S.C.  
22          7256(g)), notwithstanding paragraph (10) of such section,  
23          the Secretary may carry out demonstration projects as a  
24          milestone-based demonstration project that requires par-  
25          ticular technical and financial milestones to be met before

1 a participant is awarded grants by the Department  
2 through a competitive award process.

3 (b) REQUIREMENTS.—In carrying out milestone-  
4 based demonstration projects under the authority in sub-  
5 section (a), the Secretary shall, for each relevant project—

6 (1) request proposals from eligible entities, as  
7 determined by the Secretary, including—

8 (A) a business plan, that may include a  
9 plan for scalable manufacturing and a plan for  
10 addressing supply chain gaps;

11 (B) a plan for raising private sector invest-  
12 ment; and

13 (C) proposed technical and financial mile-  
14 stones, including estimated project timelines  
15 and total costs;

16 (2) award funding of a predetermined amount  
17 to projects that successfully meet proposed mile-  
18 stones under paragraph (1)(C) or for expenses  
19 deemed reimbursable by the Secretary, in accordance  
20 with terms negotiated for an individual award;

21 (3) require cost-sharing in accordance with sec-  
22 tion 988 of the Energy Policy Act of 2005; and

23 (4) communicate regularly with selected eligible  
24 entities and, if the Secretary deems appropriate, ex-

1        exercise small amounts of flexibility for technical and  
2        financial milestones as projects mature.

3        (c) AWARDS.—For the program established under  
4        subsection (a)—

5            (1) an award recipient shall be responsible for  
6        all costs until milestones are achieved, or reimburs-  
7        able expenses are reviewed and verified by the De-  
8        partment; and

9            (2) should an awardee not meet the milestones  
10       described in subsection (a), the Secretary or their  
11       designee may end the partnership with an award re-  
12       cipient and use the remaining funds in the ended  
13       agreement for new or existing projects carried out  
14       under this section.

15       (d) PROJECT MANAGEMENT.—In carrying out  
16       projects under this program and assessing the completion  
17       of their milestones in accordance with subsection (b), the  
18       Secretary shall consult with experts that represent diverse  
19       perspectives and professional experiences, including those  
20       from the private sector, to ensure a complete and thorough  
21       review.

22       (e) REPORT.—In accordance with section 8307(a),  
23       the Secretary shall report annually on any demonstration  
24       projects carried out using the authorities under this sec-  
25       tion.

1 **SEC. 8305. COST-SHARE WAIVER EXTENSION.**

2 (a) Section 988 of the Energy Policy Act of 2005 is  
3 amended in subsection (b)(4)(B) by striking “this para-  
4 graph” and inserting “the Energizing Technology Trans-  
5 fer Act”.

6 (b) Section 108 of the Department of Energy Re-  
7 search and Innovation Act is amended in subparagraph  
8 (b) by striking “this Act” everywhere it appears and re-  
9 placing with “title VIII of the Clean Economy Jobs and  
10 Innovation Act”.

11 **SEC. 8306. SPECIAL HIRING AUTHORITY FOR SCIENTIFIC,**  
12 **ENGINEERING, AND PROJECT MANAGEMENT**  
13 **PERSONNEL.**

14 (a) IN GENERAL.—The Under Secretary for Science  
15 shall have the authority to—

16 (1) make appointments of scientific, engineer-  
17 ing, and professional personnel, without regard to  
18 civil service laws, to assist the Department in meet-  
19 ing specific project or research needs;

20 (2) fix the basic pay of any employee appointed  
21 under this section at a rate to be determined by the  
22 Under Secretary at rates not in excess of the Execu-  
23 tive Schedule (EX–II) without regard to the civil  
24 service laws; and

25 (3) pay any employee appointed under this sec-  
26 tion payments in addition to basic pay, except that

1 the total amount of additional payments paid to an  
2 employee under this subsection for any 12-month pe-  
3 riod shall not exceed the lesser of the following  
4 amounts:

5 (A) \$25,000.

6 (B) The amount equal to 25 percent of the  
7 annual rate of basic pay of that employee.

8 (C) The amount of the limitation that is  
9 applicable for a calendar year under section  
10 5307(a)(1) of title 5, United States Code.

11 (b) TERM.—

12 (1) IN GENERAL.—The term of any employee  
13 appointed under this section shall not exceed 3 years  
14 unless otherwise authorized in law.

15 (2) TERMINATION.—The Under Secretary for  
16 Science shall have the authority to terminate any  
17 employee appointed under this section at any time  
18 based on performance or changing project or re-  
19 search needs of the Department.

20 **SEC. 8307. TECHNOLOGY TRANSFER REPORTS AND EVAL-**  
21 **UATION.**

22 (a) ANNUAL REPORT.—As part of the updated tech-  
23 nology transfer execution plan required each year under  
24 section 1001(h)(2) of the Energy Policy Act of 2005 (42  
25 U.S.C. 16391(g)(2)), the Secretary shall submit to the

1 Committee on Science, Space, and Technology Committee  
2 of the House of Representatives and the Committee on  
3 Energy and Natural Resources of the Senate a report on  
4 the progress and implementation of programs established  
5 under sections 8103, 8203, 8204, 8205, 8207, 8301,  
6 8302, 8303, and 8304 of this Act and section 1001(e) of  
7 the Energy Policy Act of 2005 (42 U.S.C. 16391(e)).

8 (b) EVALUATION.—Not later than 3 years after the  
9 enactment of this Act and every 3 years thereafter the  
10 Secretary shall submit to the Committee on Science,  
11 Space, and Technology Committee of the House of Rep-  
12 resentatives and the Committee on Energy and Natural  
13 Resources of the Senate an evaluation on the extent to  
14 which programs established under sections 8102, 8103,  
15 8104, and 8202 of this Act and section 1001(e) of the  
16 Energy Policy Act of 2005 (42 U.S.C. 16391(e)) are  
17 achieving success based on relevant short-term and long-  
18 term metrics.

19 (c) REPORT ON TECHNOLOGY TRANSFER GAPS.—  
20 Not later than 3 years after the enactment of this Act,  
21 the Secretary shall enter into an agreement with the Na-  
22 tional Academies of Science, Engineering and Medicine to  
23 submit to the Committee on Science, Space, and Tech-  
24 nology Committee of the House of Representatives and the  
25 Committee on Energy and Natural Resources of the Sen-

1 ate a report on programmatic gaps that exist to advance  
2 the commercial application of technologies developed at  
3 the National Laboratories.

4 **SEC. 8308. OTHER TRANSACTION AUTHORITY EXTENSION.**

5 Subsection 646(g)(10) of the Department of Energy  
6 Organization Act (42 U.S.C. 7256(g)(10)) is amended by  
7 striking “September 30, 2020” and inserting “September  
8 30, 2025”.

9 **Subtitle D—Increasing and Mobi-**  
10 **lizing Partnerships to Achieve**  
11 **Commercialization of Tech-**  
12 **nologies for Energy**

13 **SEC. 8401. SHORT TITLE.**

14 This subtitle may be cited as the “Increasing and Mo-  
15 bilizing Partnerships to Achieve Commercialization of  
16 Technologies for Energy Act” or the “IMPACT for En-  
17 ergy Act”.

18 **SEC. 8402. DEFINITIONS.**

19 In this subtitle:

20 (1) **BOARD.**—The term “Board” means the  
21 Board of Directors described in section 8403(b)(1).

22 (2) **DEPARTMENT.**—The term “Department”  
23 means the Department of Energy.

1           (3) EXECUTIVE DIRECTOR.—The term “Execu-  
2       tive Director” means the Executive Director de-  
3       scribed in section 8403(e)(1).

4           (4) FOUNDATION.—The term “Foundation”  
5       means the Energy Technology Commercialization  
6       Foundation established under section 8403(a).

7           (5) NATIONAL LABORATORY.—The term “Na-  
8       tional Laboratory” has the meaning given the term  
9       in section 2 of the Energy Policy Act of 2005 (42  
10      U.S.C. 15801).

11          (6) SECRETARY.—The term “Secretary” means  
12      the Secretary of Energy.

13   **SEC. 8403. ENERGY TECHNOLOGY COMMERCIALIZATION**  
14                                   **FOUNDATION.**

15      (a) ESTABLISHMENT.—

16          (1) IN GENERAL.—Not later than 180 days  
17      after the date of enactment of this Act, the Sec-  
18      retary shall establish a nonprofit corporation to be  
19      known as the “Energy Technology Commercializa-  
20      tion Foundation”.

21          (2) MISSION.—The mission of the Foundation  
22      shall be—

23              (A) to support the mission of the Depart-  
24      ment; and



1           (B) to advance collaboration with energy  
2           researchers, institutions of higher education, in-  
3           dustry, and nonprofit and philanthropic organi-  
4           zations to accelerate the commercialization of  
5           energy technologies.

6           (3) LIMITATION.—The Foundation shall not be  
7           an agency or instrumentality of the Federal Govern-  
8           ment.

9           (4) TAX-EXEMPT STATUS.—The Board shall  
10          take all necessary and appropriate steps to ensure  
11          that the Foundation receives a determination from  
12          the Internal Revenue Service that it is an organiza-  
13          tion that is described in section 501(c) of the Inter-  
14          nal Revenue Code of 1986, and exempt from tax-  
15          ation under section 501(a) of such Code.

16          (5) COLLABORATION WITH EXISTING ORGANI-  
17          ZATIONS.—The Secretary may collaborate with 1 or  
18          more organizations to establish the Foundation and  
19          carry out the activities of the Foundation.

20          (b) BOARD OF DIRECTORS.—

21                  (1) ESTABLISHMENT.—The Foundation shall  
22          be governed by a Board of Directors.

23                  (2) COMPOSITION.—

1 (A) IN GENERAL.—The Board shall be  
2 composed of the members described in subpara-  
3 graph (B).

4 (B) BOARD MEMBERS.—

5 (i) INITIAL MEMBERS.—The Secretary  
6 shall—

7 (I) enter into a contract with the  
8 National Academies of Sciences, Engi-  
9 neering, and Medicine to develop a list  
10 of individuals to serve as members of  
11 the Board who are well-qualified and  
12 will meet the requirements of clauses  
13 (ii) and (iii); and

14 (II) appoint the initial members  
15 of the Board, in consultation with the  
16 National Academies of Sciences, Engi-  
17 neering, and Medicine, with the re-  
18 quirements of clauses (ii) and (iii).

19 (ii) REPRESENTATION.—The members  
20 of the Board shall reflect a broad cross-  
21 section of stakeholders from academia, in-  
22 dustry, nonprofit organizations, State or  
23 local governments, the investment commu-  
24 nity, the philanthropic community, and

1 management and operating contractors of  
2 the National Laboratories.

3 (iii) EXPERIENCE.—The Secretary  
4 shall ensure that a majority of the mem-  
5 bers of the Board—

6 (I)(aa) has experience in the en-  
7 ergy sector;

8 (bb) has research experience in  
9 the energy field; or

10 (cc) has experience in technology  
11 commercialization or foundation oper-  
12 ations; and

13 (II) to the extent practicable,  
14 represents diverse regions and energy  
15 sectors.

16 (3) CHAIR AND VICE CHAIR.—

17 (A) IN GENERAL.—The Board shall des-  
18 ignate from among the members of the  
19 Board—

20 (i) an individual to serve as Chair of  
21 the Board; and

22 (ii) an individual to serve as Vice  
23 Chair of the Board.

1 (B) TERMS.—The term of service of the  
2 Chair and Vice Chair of the Board shall end on  
3 the earlier of—

4 (i) the date that is 3 years after the  
5 date on which the Chair or Vice Chair of  
6 the Board, as applicable, is designated for  
7 the position; and

8 (ii) the last day of the term of service  
9 of the member, as determined under para-  
10 graph (4)(A), who is designated to be  
11 Chair or Vice Chair of the Board, as appli-  
12 cable.

13 (C) REPRESENTATION.—The Chair and  
14 Vice Chair of the Board—

15 (i) shall not be representatives of the  
16 same area or entity, as applicable, under  
17 paragraph (2)(B)(ii); and

18 (ii) shall not be representatives of any  
19 area or entity, as applicable, represented  
20 by the immediately preceding Chair and  
21 Vice Chair of the Board.

22 (4) TERMS AND VACANCIES.—

23 (A) TERMS.—

1 (i) IN GENERAL.—Except as provided  
2 in clause (ii), the term of service of each  
3 member of the Board shall be 5 years.

4 (ii) INITIAL MEMBERS.—Of the initial  
5 members of the Board appointed under  
6 paragraph (2)(B)(i), half of the members  
7 shall serve for 4 years and half of the  
8 members shall serve for 5 years, as deter-  
9 mined by the Chair of the Board.

10 (B) VACANCIES.—Any vacancy in the  
11 membership of the Board—

12 (i) shall be filled in accordance with  
13 the bylaws of the Foundation by an indi-  
14 vidual capable of representing the same  
15 area or entity, as applicable, as rep-  
16 resented by the vacating board member  
17 under paragraph (2)(B)(ii);

18 (ii) shall not affect the power of the  
19 remaining members to execute the duties  
20 of the Board; and

21 (iii) shall be filled by an individual se-  
22 lected by the Board.

23 (5) MEETINGS; QUORUM.—

24 (A) INITIAL MEETING.—Not later than 60  
25 days after the Board is established, the Sec-

1           retary shall convene a meeting of the members  
2           of the Board to incorporate the Foundation.

3           (B) QUORUM.—A majority of the members  
4           of the Board shall constitute a quorum for pur-  
5           poses of conducting the business of the Board.

6           (6) DUTIES.—The Board shall—

7           (A) establish bylaws for the Foundation in  
8           accordance with paragraph (7);

9           (B) provide overall direction for the activi-  
10          ties of the Foundation and establish priority ac-  
11          tivities;

12          (C) carry out any other necessary activities  
13          of the Foundation;

14          (D) evaluate the performance of the Exec-  
15          utive Director; and

16          (E) actively solicit and accept funds, gifts,  
17          grants, devises, or bequests of real or personal  
18          property to the Foundation, including from pri-  
19          vate entities.

20          (7) BYLAWS.—

21          (A) IN GENERAL.—The bylaws established  
22          under paragraph (6)(A) may include—

23                 (i) policies for the selection of Board  
24                 members, officers, employees, agents, and  
25                 contractors of the Foundation;

1           (ii) policies, including ethical stand-  
2           ards, for—

3                   (I) the acceptance, solicitation,  
4                   and disposition of donations and  
5                   grants to the Foundation, including  
6                   appropriate limits on the ability of do-  
7                   nors to designate, by stipulation or re-  
8                   striction, the use or recipient of do-  
9                   nated funds; and

10                   (II) the disposition of assets of  
11                   the Foundation;

12           (iii) policies that subject all employ-  
13           ees, fellows, trainees, and other agents of  
14           the Foundation (including members of the  
15           Board) to conflict of interest standards;  
16           and

17           (iv) the specific duties of the Execu-  
18           tive Director.

19           (B) REQUIREMENTS.—The Board shall en-  
20           sure that the bylaws of the Foundation and the  
21           activities carried out under those bylaws shall  
22           not—

23                   (i) reflect unfavorably on the ability of  
24                   the Foundation to carry out activities in a  
25                   fair and objective manner; or

1                   (ii) compromise, or appear to com-  
2                   promise, the integrity of any governmental  
3                   agency or program, or any officer or em-  
4                   ployee employed by, or involved in, a gov-  
5                   ernmental agency or program.

6                   (8) COMPENSATION.—

7                   (A) IN GENERAL.—No member of the  
8                   Board shall receive compensation for serving on  
9                   the Board.

10                  (B) CERTAIN EXPENSES.—In accordance  
11                  with the bylaws of the Foundation, members of  
12                  the Board may be reimbursed for travel ex-  
13                  penses, including per diem in lieu of subsist-  
14                  ence, and other necessary expenses incurred in  
15                  carrying out the duties of the Board.

16                  (c) PURPOSE.—The purpose of the Foundation is to  
17                  increase private and philanthropic sector investments that  
18                  support efforts to create, develop, and commercialize inno-  
19                  vative technologies that address crosscutting national en-  
20                  ergy challenges by methods that include—

21                   (1) fostering collaboration and partnerships  
22                   with researchers from the Federal Government,  
23                   State governments, institutions of higher education,  
24                   federally funded research and development centers,  
25                   industry, and nonprofit organizations for the re-



1 search, development, or commercialization of trans-  
2 formative energy and associated technologies;

3 (2)(A) strengthening regional economic develop-  
4 ment through scientific and energy innovation; and

5 (B) disseminating lessons learned from that de-  
6 velopment to foster the creation and growth of new  
7 regional energy innovation clusters;

8 (3) promoting new product development that  
9 supports job creation;

10 (4) administering prize competitions to accel-  
11 erate private sector competition and investment; and

12 (5) supporting programs that advance tech-  
13 nologies from the prototype stage to a commercial  
14 stage.

15 (d) ACTIVITIES.—

16 (1) STUDIES, COMPETITIONS, AND PROJECTS.—  
17 The Foundation may conduct and support studies,  
18 competitions, projects, and other activities that fur-  
19 ther the purpose of the Foundation described in sub-  
20 section (c).

21 (2) FELLOWSHIPS AND GRANTS.—

22 (A) IN GENERAL.—The Foundation may  
23 award fellowships and grants for activities re-  
24 lating to research, development, demonstration,

1 maturation, or commercialization of energy and  
2 other Department-supported technologies.

3 (B) FORM OF AWARD.—A fellowship or  
4 grant under subparagraph (A) may consist of a  
5 stipend, health insurance benefits, funds for  
6 travel, and funds for other appropriate ex-  
7 penses.

8 (C) SELECTION.—In selecting a recipient  
9 for a fellowship or grant under subparagraph  
10 (A), the Foundation—

11 (i) shall make the selection based on  
12 the technical and commercialization merits  
13 of the proposed project of the potential re-  
14 cipient; and

15 (ii) may consult with a potential re-  
16 cipient regarding the ability of the poten-  
17 tial recipient to carry out various projects  
18 that would further the purpose of the  
19 Foundation described in subsection (c).

20 (D) NATIONAL LABORATORIES.—A Na-  
21 tional Laboratory that applies for or accepts a  
22 grant under subparagraph (A) shall not be con-  
23 sidered to be engaging in a competitive process.

24 (3) ACCESSING FACILITIES AND EXPERTISE.—  
25 The Foundation may work with the Department—

1 (A) to leverage the capabilities and facili-  
2 ties of National Laboratories to commercialize  
3 technology; and

4 (B) to assist with resources, including  
5 through the development of internet websites  
6 that provide information on the capabilities and  
7 facilities of each National Laboratory relating  
8 to the commercialization of technology.

9 (4) TRAINING AND EDUCATION.—The Founda-  
10 tion may support programs that provide commer-  
11 cialization training to researchers, scientists, and  
12 other relevant personnel at National Laboratories  
13 and institutions of higher education to help commer-  
14 cialize federally funded technology.

15 (5) MATURATION FUNDING.—The Foundation  
16 shall support programs that provide maturation  
17 funding to researchers to advance the technology of  
18 those researchers for the purpose of moving products  
19 from a prototype stage to a commercial stage.

20 (6) STAKEHOLDER ENGAGEMENT.—The Foun-  
21 dation shall convene, and may consult with, rep-  
22 resentatives from the Department, institutions of  
23 higher education, National Laboratories, the private  
24 sector, and commercialization organizations to de-  
25 velop programs for the purpose of the Foundation

1 described in subsection (c) and to advance the activi-  
2 ties of the Foundation.

3 (7) INDIVIDUAL LABORATORY FOUNDATIONS  
4 PROGRAM.—

5 (A) DEFINITION OF INDIVIDUAL LABORA-  
6 TORY FOUNDATION.—In this paragraph, the  
7 term “Individual Laboratory Foundation”  
8 means a Laboratory Foundation established by  
9 a National Laboratory.

10 (B) SUPPORT.—The Foundation shall pro-  
11 vide support to and collaborate with Individual  
12 Laboratory Foundations.

13 (C) GUIDELINES AND TEMPLATES.—For  
14 the purpose of providing support under sub-  
15 paragraph (B), the Secretary shall establish  
16 suggested guidelines and templates for Indi-  
17 vidual Laboratory Foundations, including—

18 (i) a standard adaptable organiza-  
19 tional design for the responsible manage-  
20 ment of an Individual Laboratory Founda-  
21 tion;

22 (ii) standard and legally tenable by-  
23 laws and money-handling procedures for  
24 Individual Laboratory Foundations; and

1 (iii) a standard training curriculum to  
2 orient and expand the operating expertise  
3 of personnel employed by an Individual  
4 Laboratory Foundation.

5 (D) AFFILIATIONS.—Nothing in this para-  
6 graph requires—

7 (i) an existing Individual Laboratory  
8 Foundation to modify current practices or  
9 affiliate with the Foundation; or

10 (ii) an Individual Laboratory Founda-  
11 tion to be bound by charter or corporate  
12 bylaws as permanently affiliated with the  
13 Foundation.

14 (8) SUPPLEMENTAL PROGRAMS.—The Founda-  
15 tion may carry out supplemental programs—

16 (A) to conduct and support forums, meet-  
17 ings, conferences, courses, and training work-  
18 shops consistent with the purpose of the Foun-  
19 dation described in subsection (c);

20 (B) to support and encourage the under-  
21 standing and development of—

22 (i) data that promotes the translation  
23 of technologies from the research stage,  
24 through the development and maturation  
25 stage, and ending in the market stage; and

1 (ii) policies that make regulation more  
2 effective and efficient by leveraging the  
3 technology translation data described in  
4 clause (i) for the regulation of relevant  
5 technology sectors;

6 (C) for writing, editing, printing, pub-  
7 lishing, and vending books and other materials  
8 relating to research carried out under the  
9 Foundation and the Department; and

10 (D) to conduct other activities to carry out  
11 and support the purpose of the Foundation de-  
12 scribed in subsection (c).

13 (9) EVALUATIONS.—The Foundation shall sup-  
14 port the development of an evaluation methodology,  
15 to be used as part of any program supported by the  
16 Foundation, that shall—

17 (A) consist of qualitative and quantitative  
18 metrics; and

19 (B) include periodic third party evaluation  
20 of those programs and other activities of the  
21 Foundation.

22 (10) COMMUNICATIONS.—The Foundation shall  
23 develop an expertise in communications to promote  
24 the work of grant and fellowship recipients under  
25 paragraph (2), the commercialization successes of

1 the Foundation, opportunities for partnership with  
2 the Foundation, and other activities.

3 (e) ADMINISTRATION.—

4 (1) EXECUTIVE DIRECTOR.—The Board shall  
5 hire an Executive Director of the Foundation, who  
6 shall serve at the pleasure of the Board.

7 (2) ADMINISTRATIVE CONTROL.—No member  
8 of the Board, officer or employee of the Foundation  
9 or of any program established by the Foundation, or  
10 participant in a program established by the Founda-  
11 tion, shall exercise administrative control over any  
12 Federal employee.

13 (3) STRATEGIC PLAN.—Not later than 1 year  
14 after the date of enactment of this Act, the Founda-  
15 tion shall submit to the Committee on Energy and  
16 Natural Resources of the Senate and the Committee  
17 on Science, Space, and Technology of the House of  
18 Representatives a strategic plan that contains—

19 (A) a plan for the Foundation to become  
20 financially self-sustaining in fiscal year 2022  
21 and thereafter (except for the amounts provided  
22 each fiscal year under subsection (l)(1)(C));

23 (B) a forecast of major crosscutting energy  
24 challenge opportunities, including short- and  
25 long-term objectives, identified by the Board,

1 with input from communities representing the  
2 entities and areas, as applicable, described in  
3 subsection (b)(2)(B)(ii);

4 (C) a description of the efforts that the  
5 Foundation will take to be transparent in the  
6 processes of the Foundation, including proc-  
7 esses relating to—

8 (i) grant awards, including selection,  
9 review, and notification;

10 (ii) communication of past, current,  
11 and future research priorities; and

12 (iii) solicitation of and response to  
13 public input on the opportunities identified  
14 under subparagraph (B); and

15 (D) a description of the financial goals and  
16 benchmarks of the Foundation for the following  
17 10 years.

18 (4) ANNUAL REPORT.—Not later than 1 year  
19 after the date on which the Foundation is estab-  
20 lished, and every 2 years thereafter, the Foundation  
21 shall submit to the Committee on Energy and Nat-  
22 ural Resources of the Senate, the Committee on  
23 Science, Space, and Technology of the House of  
24 Representatives, and the Secretary a report that, for  
25 the year covered by the report—



1 (A) describes the activities of the Founda-  
2 tion and the progress of the Foundation in fur-  
3 thering the purpose of the Foundation de-  
4 scribed in subsection (c);

5 (B) provides a specific accounting of the  
6 source and use of all funds made available to  
7 the Foundation to carry out those activities;

8 (C) describes how the results of the activi-  
9 ties of the Foundation could be incorporated  
10 into the procurement processes of the General  
11 Services Administration; and

12 (D) includes a summary of each evaluation  
13 conducted using the evaluation methodology de-  
14 scribed in subsection (d)(9).

15 (5) EVALUATION BY COMPTROLLER GEN-  
16 ERAL.—Not later than 5 years after the date on  
17 which the Foundation is established, the Comptroller  
18 General of the United States shall submit to the  
19 Committee on Energy and Natural Resources of the  
20 Senate and the Committee on Science, Space, and  
21 Technology of the House of Representatives—

22 (A) an evaluation of—

23 (i) the extent to which the Foundation  
24 is achieving the mission of the Foundation;  
25 and

1 (ii) the operation of the Foundation;

2 and

3 (B) any recommendations on how the  
4 Foundation may be improved.

5 (6) AUDITS.—The Foundation shall—

6 (A) provide for annual audits of the finan-  
7 cial condition of the Foundation; and

8 (B) make the audits, and all other records,  
9 documents, and papers of the Foundation,  
10 available to the Secretary and the Comptroller  
11 General of the United States for examination or  
12 audit.

13 (7) SEPARATE FUND ACCOUNTS.—The Board  
14 shall ensure that any funds received under sub-  
15 section (l)(1) are held in a separate account from  
16 any other funds received by the Foundation.

17 (8) INTEGRITY.—

18 (A) IN GENERAL.—To ensure integrity in  
19 the operations of the Foundation, the Board  
20 shall develop and enforce procedures relating to  
21 standards of conduct, financial disclosure state-  
22 ments, conflicts of interest (including recusal  
23 and waiver rules), audits, and any other mat-  
24 ters determined appropriate by the Board.

1           (B) FINANCIAL CONFLICTS OF INTER-  
2 EST.—Any individual who is an officer, em-  
3 ployee, or member of the Board is prohibited  
4 from any participation in deliberations by the  
5 Foundation of a matter that would directly or  
6 predictably affect any financial interest of—

7                   (i) the individual;

8                   (ii) a relative (as defined in section  
9 109 of the Ethics in Government Act of  
10 1978 (5 U.S.C. App.)) of that individual;

11                   or

12                   (iii) a business organization or other  
13 entity in which the individual has an inter-  
14 est, including an organization or other en-  
15 tity with which the individual is negoti-  
16 ating employment.

17           (9) INTELLECTUAL PROPERTY.—The Board  
18 shall adopt written standards to govern the owner-  
19 ship and licensing of any intellectual property rights  
20 developed by the Foundation or derived from the col-  
21 laborative efforts of the Foundation.

22           (10) LIABILITY.—The United States shall not  
23 be liable for any debts, defaults, acts, or omissions  
24 of the Foundation nor shall the full faith and credit

1 of the United States extend to any obligations of the  
2 Foundation.

3 (11) NONAPPLICABILITY OF FACA.—The Fed-  
4 eral Advisory Committee Act (5 U.S.C. App.) shall  
5 not apply to the Foundation.

6 (f) DEPARTMENT COLLABORATION.—

7 (1) NATIONAL LABORATORIES.—The Secretary  
8 shall collaborate with the Foundation to develop a  
9 process to ensure collaboration and coordination be-  
10 tween the Department, the Foundation, and Na-  
11 tional Laboratories—

12 (A) to streamline contracting processes be-  
13 tween National Laboratories and the Founda-  
14 tion, including by—

15 (i) streamlining the ability of the  
16 Foundation to transfer equipment and  
17 funds to National Laboratories;

18 (ii) standardizing contract mecha-  
19 nisms to be used by the Foundation; and

20 (iii) streamlining the ability of the  
21 Foundation to fund endowed positions at  
22 National Laboratories;

23 (B) to allow a National Laboratory or site  
24 of a National Laboratory—

1 (i) to accept and perform work for the  
2 Foundation, consistent with provided re-  
3 sources, notwithstanding any other provi-  
4 sion of law governing the administration,  
5 mission, use, or operations of the National  
6 Laboratory or site, as applicable; and

7 (ii) to perform that work on a basis  
8 equal to other missions at the National  
9 Laboratory; and

10 (C) to permit the director of any National  
11 Laboratory or site of a National Laboratory to  
12 enter into a cooperative research and develop-  
13 ment agreement or negotiate a licensing agree-  
14 ment with the Foundation pursuant to section  
15 12 of the Stevenson-Wydler Technology Innova-  
16 tion Act of 1980 (15 U.S.C. 3710a).

17 (2) DEPARTMENT LIAISONS.—The Secretary  
18 shall appoint liaisons from across the Department to  
19 collaborate and coordinate with the Foundation.

20 (3) ADMINISTRATION.—The Secretary shall le-  
21 verage appropriate arrangements, contracts, and di-  
22 rectives to carry out the process developed under  
23 paragraph (1).

1 (g) NATIONAL SECURITY.—Nothing in this section  
2 exempts the Foundation from any national security policy  
3 of the Department.

4 (h) SUPPORT SERVICES.—The Secretary shall pro-  
5 vide facilities, utilities, and support services to the Foun-  
6 dation if it is determined by the Secretary to be advan-  
7 tageous to the research programs of the Department.

8 (i) PREEMPTION OF AUTHORITY.—This section shall  
9 not preempt any authority or responsibility of the Sec-  
10 retary under any other provision of law.

11 (j) AUTHORIZATION OF APPROPRIATIONS.—

12 (1) IN GENERAL.—There are authorized to be  
13 appropriated—

14 (A) to the Secretary, not less than  
15 \$1,500,000 for fiscal year 2021 to establish the  
16 Foundation;

17 (B) to the Foundation, not less than  
18 \$30,000,000 for fiscal year 2021 to carry out  
19 the activities of the Foundation; and

20 (C) to the Foundation, not less than  
21 \$3,000,000 for fiscal year 2022, and each fiscal  
22 year thereafter, for administrative and oper-  
23 ational costs.

24 (2) COST SHARE.—Funds made available under  
25 paragraph (1)(B) shall be required to be cost-shared

1 by a partner of the Foundation other than the De-  
2 partment.

3 **TITLE IX—INDUSTRIAL INNOVA-**  
4 **TION AND COMPETITIVENESS**  
5 **Subtitle A—Smart Manufacturing**

6 **SEC. 9101. DEFINITIONS.**

7 In this subtitle:

8 (1) ENERGY MANAGEMENT SYSTEM.—The term  
9 “energy management system” means a business  
10 management process based on standards of the  
11 American National Standards Institute that enables  
12 an organization to follow a systematic approach in  
13 achieving continual improvement of energy perform-  
14 ance, including energy efficiency, security, use, and  
15 consumption.

16 (2) INDUSTRIAL ASSESSMENT CENTER.—The  
17 term “industrial assessment center” means a center  
18 located at an institution of higher education that—

19 (A) receives funding from the Department  
20 of Energy;

21 (B) provides an in-depth assessment of  
22 small- and medium-sized manufacturer plant  
23 sites to evaluate the facilities, services, and  
24 manufacturing operations of the plant site; and

1           (C) identifies opportunities for potential  
2 savings for small- and medium-sized manufac-  
3 turer plant sites from energy efficiency improve-  
4 ments, waste minimization, pollution preven-  
5 tion, and productivity improvement.

6           (3) INFORMATION AND COMMUNICATION TECH-  
7 NOLOGY.—The term “information and communica-  
8 tion technology” means any electronic system or  
9 equipment (including the content contained in the  
10 system or equipment) used to create, convert, com-  
11 municate, or duplicate data or information, including  
12 computer hardware, firmware, software, communica-  
13 tion protocols, networks, and data interfaces.

14           (4) INSTITUTION OF HIGHER EDUCATION.—The  
15 term “institution of higher education” has the  
16 meaning given the term in section 101(a) of the  
17 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

18           (5) NATIONAL LABORATORY.—The term “Na-  
19 tional Laboratory” has the meaning given the term  
20 in section 2 of the Energy Policy Act of 2005 (42  
21 U.S.C. 15801).

22           (6) NORTH AMERICAN INDUSTRY CLASSIFICA-  
23 TION SYSTEM.—The term “North American Indus-  
24 try Classification System” means the standard used  
25 by Federal statistical agencies in classifying business



1 establishments for the purpose of collecting, ana-  
2 lyzing, and publishing statistical data relating to the  
3 business economy of the United States.

4 (7) SECRETARY.—The term “Secretary” means  
5 the Secretary of Energy.

6 (8) SMALL AND MEDIUM MANUFACTURERS.—  
7 The term “small and medium manufacturers”  
8 means manufacturing firms—

9 (A) classified in the North American In-  
10 dustry Classification System as any of sectors  
11 31 through 33;

12 (B) with gross annual sales of less than  
13 \$100,000,000;

14 (C) with fewer than 500 employees at the  
15 plant site; and

16 (D) with annual energy bills totaling more  
17 than \$100,000 and less than \$2,500,000.

18 (9) SMART MANUFACTURING.—The term  
19 “smart manufacturing” means advanced tech-  
20 nologies in information, automation, monitoring,  
21 computation, sensing, modeling, and networking  
22 that—

23 (A) digitally—

24 (i) simulate manufacturing production  
25 lines;

1 (ii) operate computer-controlled man-  
2 ufacturing equipment;

3 (iii) monitor and communicate pro-  
4 duction line status; and

5 (iv) manage and optimize energy pro-  
6 ductivity and cost throughout production;

7 (B) model, simulate, and optimize the en-  
8 ergy efficiency of a factory building;

9 (C) monitor and optimize building energy  
10 performance;

11 (D) model, simulate, and optimize the de-  
12 sign of energy efficient and sustainable prod-  
13 ucts, including the use of digital prototyping  
14 and additive manufacturing to enhance product  
15 design;

16 (E) connect manufactured products in net-  
17 works to monitor and optimize the performance  
18 of the networks, including automated network  
19 operations; and

20 (F) digitally connect the supply chain net-  
21 work.

22 **SEC. 9102. DEVELOPMENT OF NATIONAL SMART MANUFAC-**  
23 **TURING PLAN.**

24 (a) IN GENERAL.—Not later than 3 years after the  
25 date of enactment of this Act, the Secretary, in consulta-

1 tion with the National Academies, shall develop and com-  
2 plete a national plan for smart manufacturing technology  
3 development and deployment to improve the productivity  
4 and energy efficiency of the manufacturing sector of the  
5 United States.

6 (b) CONTENT.—

7 (1) IN GENERAL.—The plan developed under  
8 subsection (a) shall identify areas in which agency  
9 actions by the Secretary and other heads of relevant  
10 Federal agencies would—

11 (A) facilitate quicker development, deploy-  
12 ment, and adoption of smart manufacturing  
13 technologies and processes;

14 (B) result in greater energy efficiency and  
15 lower environmental impacts for all American  
16 manufacturers; and

17 (C) enhance competitiveness and strength-  
18 en the manufacturing sectors of the United  
19 States.

20 (2) INCLUSIONS.—Agency actions identified  
21 under paragraph (1) shall include—

22 (A) an assessment of previous and current  
23 actions of the Department of Energy relating to  
24 smart manufacturing;

1           (B) the establishment of voluntary inter-  
2           connection protocols and performance stand-  
3           ards;

4           (C) use of smart manufacturing to improve  
5           energy efficiency and reduce emissions in sup-  
6           ply chains across multiple companies;

7           (D) actions to increase cybersecurity in  
8           smart manufacturing infrastructure;

9           (E) deployment of existing research re-  
10          sults; and

11          (F) the leveraging of existing high-per-  
12          formance computing infrastructure.

13          (c) BIENNIAL REVISIONS.—Not later than 2 years  
14          after the date on which the Secretary completes the plan  
15          under subsection (a), and not less frequently than once  
16          every 2 years thereafter, the Secretary shall revise the  
17          plan to account for advancements in information and com-  
18          munication technology and manufacturing needs.

19          (d) REPORT.—Annually until the completion of the  
20          plan under subsection (a), the Secretary shall submit to  
21          Congress a report on the progress made in developing the  
22          plan.

1 **SEC. 9103. LEVERAGING EXISTING AGENCY PROGRAMS TO**  
2 **ASSIST SMALL AND MEDIUM MANUFACTUR-**  
3 **ERS.**

4 (a) FINDINGS.—Congress finds that—

5 (1) the Department of Energy has existing  
6 technical assistance programs that facilitate greater  
7 economic growth through outreach to and engage-  
8 ment with small and medium manufacturers;

9 (2) those technical assistance programs rep-  
10 resent an important conduit for increasing the  
11 awareness of and providing education to small and  
12 medium manufacturers regarding the opportunities  
13 for implementing smart manufacturing; and

14 (3) those technical assistance programs help fa-  
15 cilitate the implementation of best practices.

16 (b) EXPANSION OF TECHNICAL ASSISTANCE PRO-  
17 GRAMS.—The Secretary shall expand the scope of tech-  
18 nologies covered by the Industrial Assessment Centers of  
19 the Department of Energy—

20 (1) to include smart manufacturing technologies  
21 and practices; and

22 (2) to equip the directors of the Industrial As-  
23 sessment Centers with the training and tools nec-  
24 essary to provide technical assistance in smart man-  
25 ufacturing technologies and practices, including en-  
26 ergy management systems, to manufacturers.

1 **SEC. 9104. LEVERAGING SMART MANUFACTURING INFRA-**  
2 **STRUCTURE AT NATIONAL LABORATORIES.**

3 (a) STUDY.—

4 (1) IN GENERAL.—Not later than 180 days  
5 after the date of enactment of this Act, the Sec-  
6 retary shall conduct a study on how the Department  
7 of Energy can increase access to existing high-per-  
8 formance computing resources in the National Lab-  
9 oratories, particularly for small and medium manu-  
10 facturers.

11 (2) INCLUSIONS.—In identifying ways to in-  
12 crease access to National Laboratories under para-  
13 graph (1), the Secretary shall—

14 (A) focus on increasing access to the com-  
15 puting facilities of the National Laboratories;  
16 and

17 (B) ensure that—

18 (i) the information from the manufac-  
19 turer is protected; and

20 (ii) the security of the National Lab-  
21 oratory facility is maintained.

22 (3) REPORT.—Not later than 1 year after the  
23 date of enactment of this Act, the Secretary shall  
24 submit to Congress a report describing the results of  
25 the study.

1           (b) ACTIONS FOR INCREASED ACCESS.—The Sec-  
2 retary shall facilitate access to the National Laboratories  
3 studied under subsection (a) for small and medium manu-  
4 facturers so that small and medium manufacturers can  
5 fully use the high-performance computing resources of the  
6 National Laboratories to enhance the manufacturing com-  
7 petitiveness of the United States.

8 **SEC. 9105. STATE LEADERSHIP GRANTS.**

9           (a) FINDING.—Congress finds that the States—

10               (1) are committed to promoting domestic manu-  
11 facturing and supporting robust economic develop-  
12 ment activities; and

13               (2) are uniquely positioned to assist manufac-  
14 turers, particularly small and medium manufactur-  
15 ers, with deployment of smart manufacturing  
16 through the provision of infrastructure, including—

17                   (A) access to shared supercomputing facili-  
18 ties;

19                   (B) assistance in developing process sim-  
20 ulations; and

21                   (C) conducting demonstrations of the bene-  
22 fits of smart manufacturing.

23           (b) GRANTS AUTHORIZED.—The Secretary may  
24 make grants on a competitive basis to States for estab-  
25 lishing State programs to be used as models for sup-

1 porting the implementation of smart manufacturing tech-  
2 nologies.

3 (c) APPLICATION.—

4 (1) IN GENERAL.—To be eligible to receive a  
5 grant under this section, a State shall submit to the  
6 Secretary an application at such time, in such man-  
7 ner, and containing such information as the Sec-  
8 retary may require.

9 (2) CRITERIA.—The Secretary shall evaluate an  
10 application for a grant under this section on the  
11 basis of merit using criteria identified by the Sec-  
12 retary, including—

13 (A) the breadth of academic and private  
14 sector partners;

15 (B) alternate sources of funding;

16 (C) plans for dissemination of results;

17 (D) the permanence of the infrastructure  
18 to be put in place by the project; and

19 (E) whether the project will be of benefit  
20 or use to diverse and underserved communities.

21 (d) REQUIREMENTS.—

22 (1) TERM.—The term of a grant under this  
23 section shall not exceed 3 years.



1           (2) MAXIMUM AMOUNT.—The amount of a  
2 grant under this section shall be not more than  
3 \$3,000,000.

4           (3) MATCHING REQUIREMENT.—Each State  
5 that receives a grant under this section shall con-  
6 tribute matching funds in an amount equal to not  
7 less than 30 percent of the amount of the grant.

8           (e) USE OF FUNDS.—A State shall use a grant pro-  
9 vided under this section—

10           (1) to provide access to shared supercomputing  
11 facilities to small and medium manufacturers;

12           (2) to fund research and development of trans-  
13 formational manufacturing processes and materials  
14 technology that advance smart manufacturing; and

15           (3) to provide tools and training to small and  
16 medium manufacturers on how to adopt energy  
17 management systems and implement smart manu-  
18 facturing technologies in the facilities of the small  
19 and medium manufacturers.

20           (f) EVALUATION.—The Secretary shall conduct bian-  
21 nual evaluations of each grant made under this section—

22           (1) to determine the impact and effectiveness of  
23 programs funded with the grant; and

24           (2) to provide guidance to States on ways to  
25 better execute the program of the State.

1 (g) FUNDING.—There is authorized to be appro-  
2 priated to the Secretary to carry out this section  
3 \$10,000,000 for each of fiscal years 2021 through 2025.

4 **SEC. 9106. REPORT.**

5 The Secretary annually shall submit to Congress and  
6 make publicly available a report on the progress made in  
7 advancing smart manufacturing in the United States.

8 **Subtitle B—American Innovation**  
9 **and Manufacturing Leadership**

10 **SEC. 9201. DEFINITIONS.**

11 In this subtitle:

12 (1) ADMINISTRATOR.—The term “Adminis-  
13 trator” means the Administrator of the Environ-  
14 mental Protection Agency.

15 (2) ALLOWANCE.—The term “allowance”  
16 means a limited authorization for the production or  
17 the consumption, as applicable, of a regulated sub-  
18 stance in accordance with this subtitle.

19 (3) CONSUMPTION.—The term “consumption”  
20 means, with respect to any regulated substance, the  
21 amount of that regulated substance produced in the  
22 United States, plus the amount imported, minus the  
23 amount exported.

24 (4) CONSUMPTION BASELINE.—The term “con-  
25 sumption baseline” means the baseline established

1 for consumption of regulated substances under sec-  
2 tion 9204(a)(2).

3 (5) DESTROY.—The term “destroy” means de-  
4 struction by process or technology as approved by  
5 regulation by the Administrator.

6 (6) EXCHANGE VALUE.—The term “exchange  
7 value” means, for each regulated substance and each  
8 substance referenced in paragraph (1)(B), (1)(C),  
9 (2)(B), or (2)(C) of section 9204(a), the value by  
10 which the mass of such substance shall be multiplied  
11 for purposes of calculations under section 9204.

12 (7) EXPORT.—The term “export” means the  
13 transport of a regulated substance from any place  
14 subject to the jurisdiction of the United States to  
15 any place not subject to the jurisdiction of the  
16 United States.

17 (8) IMPORT.—The term “import” means to  
18 land on, bring into, or introduce into, or attempt to  
19 land on, bring into, or introduce into, any place sub-  
20 ject to the jurisdiction of the United States, whether  
21 or not such landing, bringing, or introduction con-  
22 stitutes an importation within the meaning of the  
23 customs laws of the United States.

1           (9) PERSON.—The term “person” has the  
2 meaning given to such term in section 302 of the  
3 Clean Air Act (42 U.S.C. 7602).

4           (10) PRODUCE, PRODUCED, AND PRODUCTION.—The terms “produce”, “produced”, and  
5 “production” refer to the manufacture in the United  
6 States of a regulated substance from any raw mate-  
7 rial or feedstock chemical, but such terms do not in-  
8 clude—  
9

10                   (A) the manufacture of a regulated sub-  
11 stance that is used and entirely consumed (ex-  
12 cept for trace quantities) in the manufacture of  
13 other chemicals;

14                   (B) the reuse or recycling of a regulated  
15 substance; or

16                   (C) amounts that are destroyed.

17           (11) PRODUCTION BASELINE.—The term “pro-  
18 duction baseline” means the baseline established for  
19 production of regulated substances under section  
20 9204(a)(1).

21           (12) RECLAIM, RECLAIMED, AND RECLAIM-  
22 ING.—The terms “reclaim”, “reclaimed”, and “re-  
23 claiming” mean the reprocessing of a recovered reg-  
24 ulated substance to, at a minimum, the purity speci-  
25 fied by and verified in accordance with the Air-Con-

1        ditioning, Heating, and Refrigeration Institute  
2        (AHRI) Standard 700–2016 (or an appropriate suc-  
3        cessor standard adopted by the Administrator).

4            (13) RECOVER AND RECOVERED.—The terms  
5        “recover” and “recovered” mean the removal of a  
6        regulated substance in any condition from equipment  
7        and the storage of such regulated substance in an  
8        external container without necessarily testing or  
9        processing such regulated substance in any way.

10           (14) REGULATED SUBSTANCE.—The term “reg-  
11        ulated substance” means a substance on the list  
12        published pursuant to section 9202.

13           (15) UNITED STATES.—The term “United  
14        States” means any place subject to the jurisdiction  
15        of the United States.

16 **SEC. 9202. LISTING OF REGULATED SUBSTANCES.**

17        (a) LIST OF REGULATED SUBSTANCES.—The Ad-  
18        ministrator shall maintain a list of regulated substances,  
19        listed by chemical name and common name. The Adminis-  
20        trator shall publish such list and each update thereto in  
21        the Federal Register. Not later than 180 days after the  
22        date of enactment of this Act, the Administrator shall es-  
23        tablish the initial such list. The initial list under this sub-  
24        section shall contain the following:

**Table 1**

<b>Chemical Name</b>	<b>Common Name</b>	<b>Exchange Value</b>
CHF <sub>2</sub> CHF <sub>2</sub>	HFC-134	1100
CH <sub>2</sub> FCF <sub>3</sub>	HFC-134a	1430
CH <sub>2</sub> FCHF <sub>2</sub>	HFC143	353
CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	HFC-245fa	1030
CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	HFC-365mfc	794
CF <sub>3</sub> CHF <sub>2</sub> CF <sub>3</sub>	HFC-227ea	3220
CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	HFC-236cb	1340
CHF <sub>2</sub> CHF <sub>2</sub> CF <sub>3</sub>	HFC-236ea	1370
CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>	HFC-236fa	9810
CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>	HFC-245ca	693
CF <sub>3</sub> CHF <sub>2</sub> CHF <sub>2</sub> CF <sub>3</sub>	HFC-43-10mee	1640
CH <sub>2</sub> F <sub>2</sub>	HFC-32	675
CHF <sub>2</sub> CF <sub>3</sub>	HFC-125	3500
CH <sub>3</sub> CF <sub>3</sub>	HFC-143a	4470
CH <sub>3</sub> F	HFC-41	92
CH <sub>2</sub> FCH <sub>2</sub> F	HFC-152	53
CH <sub>3</sub> CHF <sub>2</sub>	HFC-152a	124
CHF <sub>3</sub>	HFC-23	14800

1 (b) REQUIREMENTS.—The list required under sub-  
2 section (a) shall include the exchange value of each regu-  
3 lated substance, as set forth in table 1 of this section or,  
4 for additional regulated substances listed pursuant to sub-  
5 section (c), as determined by the Administrator pursuant  
6 to the requirements of that subsection.

7 (c) ADDITIONAL REGULATED SUBSTANCES.—The  
8 Administrator may, by regulation, add a substance to the  
9 list published under subsection (a) if such substance—

1 (1) is a saturated hydrofluorocarbon; and

2 (2) has an exchange value, as determined by  
3 the Administrator on the basis of widely used or  
4 commonly accepted credible current scientific infor-  
5 mation relating to infrared absorption and kinetic  
6 rate constants, of not less than 53.

7 (d) SAVINGS PROVISION.—Nothing in this section au-  
8 thorizes the Administrator to add to the list under sub-  
9 section (a), for purposes of phasing down production or  
10 consumption under section 9204, a blend of substances.  
11 The preceding sentence does not affect the authority of  
12 the Administrator to regulate a regulated substance within  
13 a blend of substances.

14 **SEC. 9203. MONITORING AND REPORTING REQUIREMENTS.**

15 (a) REPORTS.—

16 (1) IN GENERAL.—On a periodic basis to be de-  
17 termined by the Administrator, but which shall be  
18 not less than annually, each person who produced,  
19 imported, exported, reclaimed, destroyed, used and  
20 entirely consumed (except for trace quantities) in  
21 the manufacture of other chemicals, or used as a  
22 process agent a regulated substance shall submit a  
23 report to the Administrator setting forth the amount  
24 of each such substance that such person during the  
25 preceding reporting period—

- 1 (A) produced;
- 2 (B) imported;
- 3 (C) exported;
- 4 (D) reclaimed;
- 5 (E) destroyed;
- 6 (F) used and entirely consumed (except for
- 7 trace quantities) in the manufacture of other
- 8 chemicals; or
- 9 (G) used as a process agent.

10 (2) ATTESTATION.—Each report submitted

11 under paragraph (1) shall be signed and attested by

12 a responsible officer (as such term is used in section

13 603(b) of the Clean Air Act (42 U.S.C. 7671b(b)).

14 (b) CESSATION OF REPORTING REQUIREMENT.—If a

15 person subject to subsection (a)(1) permanently ceases

16 production, importation, exportation, reclaiming, destruc-

17 tion, use and entire consumption (except for trace quan-

18 tities), or process agent use, of a regulated substance, such

19 person shall—

20 (1) submit a report under such subsection for

21 the reporting period in which such cessation occurs;

22 (2) notify the Administrator of such cessation

23 prior to the end of such reporting period; and



1           (3) not be subject to such subsection with re-  
2           spect to such regulated substance for subsequent re-  
3           porting periods.

4           (c) BASELINE REPORTS.—

5           (1) INITIAL REPORT.—Each person reporting  
6           pursuant to subsection (a)(1) shall include in the  
7           first required such report, in addition to the infor-  
8           mation required by subsection (a)(1) to be reported  
9           for the applicable reporting period, the amount of  
10          each regulated substance, in each of calendar years  
11          2011 through 2013, produced, imported, exported,  
12          reclaimed, destroyed, used and entirely consumed  
13          (except for trace quantities) in the manufacture of  
14          other chemicals, or used as a process agent.

15          (2) ADDITIONAL SUBSTANCES.—In the case of  
16          a substance added to the list of regulated substances  
17          pursuant to section 9202(c), each person who pro-  
18          duced, imported, exported, reclaimed, destroyed,  
19          used and entirely consumed (except for trace quan-  
20          tities) in the manufacture of other chemicals, or  
21          used as a process agent, such regulated substance,  
22          shall submit to the Administrator, not later than  
23          180 days after the date on which such substance is  
24          added to the list, a report setting forth the amount  
25          of the substance that such person produced, im-

1       ported, exported, reclaimed, destroyed, used and en-  
2       tirely consumed (except for trace quantities) in the  
3       manufacture of other chemicals, or used as a process  
4       agent in—

5               (A) each of calendar years 2011 through  
6               2013; and

7               (B) the calendar year in which this Act is  
8               enacted and each subsequent calendar year, if  
9               required by the Administrator in a regulation  
10              adding a substance to the list of regulated sub-  
11              stances.

12       (d) COORDINATION.—To the extent consistent with  
13       subsections (a) through (c), the Administrator may, by  
14       regulation, allow any person subject to the requirements  
15       of subsection (a)(1) to combine and include the informa-  
16       tion required to be reported under that subsection with  
17       any other related information that the person is required  
18       to report to the Administrator.

19       (e) REGULATIONS.—The Administrator shall promul-  
20       gate regulations to implement this section. Not later than  
21       270 days after the date of enactment of this Act, the Ad-  
22       ministrator shall promulgate such initial final regulations  
23       as may be necessary pursuant to the preceding sentence.

24       **SEC. 9204. PHASEDOWN OF REGULATED SUBSTANCES.**

25       (a) BASELINES.—

1           (1) PRODUCTION BASELINE.—The baseline for  
2 the phasedown of the production of regulated sub-  
3 stances shall be the sum of—

4           (A) the sum of the products of—

5           (i) the average annual production in  
6 the United States of each regulated sub-  
7 stance during the 3-year period of calendar  
8 years 2011, 2012, and 2013; multiplied by

9           (ii) the respective exchange value of  
10 each regulated substance;

11          (B) an amount equal to 15 percent of the  
12 sum of the products of—

13          (i) the average production in the  
14 United States of each  
15 hydrochlorofluorocarbon in 1989; multi-  
16 plied by

17          (ii) the respective exchange value of  
18 each such hydrochlorofluorocarbon; and

19          (C) an amount equal to 0.42 percent of the  
20 sum of the products of—

21          (i) the average production in the  
22 United States of each chlorofluorocarbon  
23 in 1989; multiplied by

24          (ii) the respective exchange value of  
25 each such chlorofluorocarbon.

1           (2) CONSUMPTION BASELINE.—The baseline for  
2 the phasedown of the consumption of regulated sub-  
3 stances shall be the sum of—

4           (A) an amount equal to the sum of the  
5 products of—

6           (i) the average annual consumption in  
7 the United States of each regulated sub-  
8 stance during the 3-year period of calendar  
9 years 2011, 2012, and 2013; multiplied by

10           (ii) the respective exchange value of  
11 each such regulated substance;

12           (B) an amount equal to 15 percent of the  
13 sum of the products of—

14           (i) the average consumption in the  
15 United States of each  
16 hydrochlorofluorocarbon in 1989; multi-  
17 plied by

18           (ii) the respective exchange value of  
19 each such hydrochlorofluorocarbon; and

20           (C) an amount equal to 0.42 percent of the  
21 sum of the products of—

22           (i) the average consumption in the  
23 United States of each chlorofluorocarbon  
24 in 1989; multiplied by

1 (ii) the respective exchange value of  
2 each such chlorofluorocarbon.

3 (3) EXCHANGE VALUES.—For purposes of  
4 paragraphs (1) and (2), the following exchange val-  
5 ues for hydrochlorofluorocarbons and  
6 chlorofluorocarbons respectively shall apply:

**Table 2**

Chemical Name	Common Name	Exchange Value
CHFCl <sub>2</sub>	HCFC-21	151
CHF <sub>2</sub> Cl	HCFC-22	1810
C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	HCFC-123	77
C <sub>2</sub> HF <sub>4</sub> Cl	HCFC-124	609
CH <sub>3</sub> CFCl <sub>2</sub>	HCFC-141b	725
CH <sub>3</sub> CF <sub>2</sub> Cl	HCFC-142b	2310
CF <sub>3</sub> CF <sub>2</sub> CHCl <sub>2</sub>	HCFC-225ea	122
CF <sub>2</sub> ClCF <sub>2</sub> CHClF	HCFC-225eb	595

**Table 3**

Chemical Name	Common Name	Exchange Value
CFCl <sub>3</sub>	CFC-11	4750
CF <sub>2</sub> Cl <sub>2</sub>	CFC-12	10900
C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	CFC-113	6130
C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	CFC-114	10000
C <sub>2</sub> F <sub>5</sub> Cl	CFC-115	7370

7 (b) ALLOWANCES.—

8 (1) FRAMEWORK REGULATIONS.—The Adminis-  
9 trator shall, by regulation, establish an allowance al-  
10 location and trading program to phase down the  
11 production and the consumption of regulated sub-

1 stances in accordance with this section. Not later  
 2 than 270 days after the date of enactment of this  
 3 Act, the Administrator shall promulgate such final  
 4 regulations as may be necessary to establish the pro-  
 5 gram required by the preceding sentence.

6 (2) ALLOCATIONS.—Not later than October 1  
 7 of each calendar year following the promulgation of  
 8 final regulations pursuant to the second sentence of  
 9 paragraph (1):

10 (A) The Administrator shall establish a  
 11 quantity of production allowances and a quan-  
 12 tity of consumption allowances. The quantities  
 13 established pursuant to this paragraph shall not  
 14 exceed the applicable percentages of the produc-  
 15 tion baseline and of the consumption baseline  
 16 for the calendar year involved as specified in  
 17 the following table 4:

**Table 4**

<b>Calendar year</b>	<b>Percentage of Production Baseline</b>	<b>Percentage of Consumption Baseline</b>
through 2023	90%	90%
2024 through 2028	60%	60%
2029 through 2033	30%	30%
2034 through 2035	20%	20%
2036 and subsequent years	15%	15%

1           (B) The Administrator shall, by regulation,  
2           allocate such production allowances and con-  
3           sumption allowances up to the quantities of  
4           such allowances established pursuant to this  
5           paragraph for the succeeding calendar year.  
6           The Administrator may, at the Administrator's  
7           discretion, so allocate allowances through a sin-  
8           gle rulemaking for multiple succeeding calendar  
9           years.

10          (3) PROHIBITION.—Effective January 1 of the  
11          calendar year immediately following the issuance of  
12          a final regulation pursuant to the second sentence of  
13          paragraph (1), it shall be unlawful for a person to  
14          do any of the following:

15                (A) Production of a regulated substance  
16                without holding a production allowance that au-  
17                thorizes such production.

18                (B) Consumption of a regulated substance  
19                without holding a consumption allowance that  
20                authorizes such consumption.

21                (C) Holding, using, or transferring any  
22                production allowance or consumption allowance  
23                allocated under this section, except in accord-  
24                ance with regulations promulgated by the Ad-  
25                ministrator pursuant to paragraphs (1) and (2).

1           (4) NATURE OF ALLOWANCES.—An allowance  
2 does not constitute a property right. Nothing in this  
3 subtitle or in any other provision of law shall be con-  
4 strued to limit the authority of the United States to  
5 terminate or limit the authorization for the produc-  
6 tion or consumption of a regulated substance, as ap-  
7 plicable, granted by the allowance.

8           (5) COMPLIANCE.—For each year listed in table  
9 4, the Administrator shall ensure that the annual  
10 quantity of production or consumption in the United  
11 States of all regulated substances does not exceed  
12 the product obtained by multiplying the production  
13 baseline or consumption baseline, as applicable, and  
14 the applicable percentage listed in table 4.

15       (c) TRANSFERS.—The regulations required by sub-  
16 section (b)(1) shall—

17           (1) utilize the exchange values for each regu-  
18 lated substance established by or pursuant to section  
19 9202;

20           (2) ensure that transfers of production allow-  
21 ances and consumption allowances will result in  
22 greater total reductions in the annual production or  
23 consumption, as applicable, of regulated substances  
24 than would occur in that year in the absence of such  
25 transfers; and



1           (3) authorize the transfer of production allow-  
2           ances or consumption allowances among two or more  
3           persons only if the transferor and transferee are  
4           subject to an enforceable and quantifiable reduction  
5           in, respectively, annual production or consumption.

6           (d) SCHEDULE.—

7           (1) IN GENERAL.—

8           (A) REGULATIONS.—Subject to paragraph  
9           (3), the Administrator may, in response to a pe-  
10          tition submitted to the Administrator in accord-  
11          ance with paragraph (2), promulgate regula-  
12          tions which establish a schedule for phasing  
13          down the production and the consumption of  
14          regulated substances that is more stringent  
15          than set forth in table 4 in subsection (b), if,  
16          based on the availability of substitutes for regu-  
17          lated substances, the Administrator determines  
18          that such more stringent schedule is prac-  
19          ticable, taking into account technological  
20          achievability, commercial demands, safety, and  
21          other relevant factors, including the quantities  
22          of regulated substances available from reclaim-  
23          ing or from prior production or prior import.

24          (B) UNIFORM APPLICATION.—In any regu-  
25          lations under subparagraph (A), the Adminis-

1           trator shall apply any more stringent phase-  
2           down schedule uniformly to the allocation of  
3           production allowances and consumption allow-  
4           ances as provided under subsection (b).

5           (2) PETITION.—

6                 (A) SUBMISSION.—Any person may peti-  
7           tion the Administrator to promulgate regula-  
8           tions under this subsection.

9                 (B) DISPOSITION.—The Administrator  
10          shall grant or deny any petition under subpara-  
11          graph (A) within 270 days after receipt of any  
12          such petition.

13                (C) DENIAL.—If the Administrator denies  
14          any such petition, the Administrator shall pub-  
15          lish in the Federal Register an explanation of  
16          why the petition was denied.

17                (D) GRANTING.—If the Administrator  
18          grants any such petition, the Administrator  
19          shall—

20                   (i) propose regulations implementing  
21                   a more stringent phasedown schedule not  
22                   later than 270 days after granting the pe-  
23                   tition; and

24                   (ii) promulgate final regulations im-  
25                   plementing a more stringent phasedown

1 schedule not later than 365 days after pro-  
2 posing such regulations.

3 (E) PUBLIC AVAILABILITY.—The Adminis-  
4 trator shall—

5 (i) submit for publication in the Fed-  
6 eral Register a notice of the availability of  
7 each petition received pursuant to this  
8 paragraph not later than 60 days after re-  
9 ceipt of such petition; and

10 (ii) shall make each such petition  
11 available in full upon request.

12 (F) REQUIRED SHOWING.—Any petition  
13 under subparagraph (A) shall include a showing  
14 by the petitioner that there are adequate data  
15 to support the petition.

16 (G) INSUFFICIENT INFORMATION.—If the  
17 Administrator determines that data are not  
18 adequate to grant or deny the petition, the Ad-  
19 ministrator shall use any authority available to  
20 the Administrator, under any applicable law, to  
21 acquire such data.

22 (3) LIMITATION.—The Administrator may not  
23 promulgate a more stringent phasedown schedule  
24 under this subsection applicable to any calendar year  
25 prior to calendar year 2024.

1 (e) ESSENTIAL USES.—

2 (1) PETITION; AUTHORIZATION.—The Adminis-  
3 trator may, by regulation, allocate to a person addi-  
4 tional production allowances or consumption allow-  
5 ances to authorize the production or consumption,  
6 respectively, beginning with calendar year 2034, for  
7 a period of up to 5 years, of a regulated substance  
8 in an amount up to 10 percent of the quantity of  
9 production or consumption of such regulated sub-  
10 stance contributed by such person to the production  
11 baseline or the consumption baseline, as applicable,  
12 if the Administrator finds, based on a petition by  
13 such person, that—

14 (A) such excess production or consumption  
15 is exclusively for an application with respect to  
16 which no substitute is available during such pe-  
17 riod, considering technological achievability,  
18 commercial demands, safety, and other relevant  
19 factors; and

20 (B) the available supply of such regulated  
21 substance, including any quantities of such reg-  
22 ulated substance available from reclaiming,  
23 prior production, or prior import, and allow-  
24 ances for such regulated substance, are insuffi-  
25 cient to accommodate such application.

1           (2) EXTENSION.—The Administrator may, by  
2 regulation, allocate additional production allowances  
3 or consumption allowances, for additional periods of  
4 up to 5 years, in an amount up to 10 percent of the  
5 quantity of production or consumption of the regu-  
6 lated substance contributed by the person involved to  
7 the production baseline or the consumption baseline,  
8 as applicable, if the Administrator finds, based on a  
9 petition by such person, that the criteria described  
10 in subparagraphs (A) and (B) of paragraph (1) con-  
11 tinue to be satisfied.

12           (3) EXCEPTION.—The Administrator may allo-  
13 cate production allowances or consumption allow-  
14 ances pursuant to this subsection in amounts that  
15 cause the total quantity of production allowances or  
16 consumption allowances in a year to exceed the max-  
17 imum quantity permissible under subsection (b) for  
18 that year.

19           (f) EXPORTS.—

20                 (1) EXPORTS OF EXCESS AMOUNTS.—

21                     (A) IN GENERAL.—Subject to subpara-  
22 graphs (B) and (C) and paragraph (2), the Ad-  
23 ministrator may, by regulation, issue additional  
24 production allowances for renewable periods of  
25 up to 5 years to a person to produce a regu-

1           lated substance at a facility located in the  
2           United States in excess of the amount author-  
3           ized by the production allowances otherwise  
4           held by that person solely for export to, and use  
5           in, a foreign country.

6           (B) PETITION REQUIRED.—Prior to  
7           issuing any additional production allowances to  
8           a person pursuant to subparagraph (A), the  
9           Administrator shall require the person to sub-  
10          mit a petition in such manner and containing  
11          such information as the Administration may by  
12          regulation require.

13          (C) LIMITATION.—The Administrator shall  
14          not issue any production allowances pursuant to  
15          subparagraph (A) in amounts that would cause  
16          the total quantity of production allowances in a  
17          year to exceed the maximum quantity of pro-  
18          duction allowances permissible under subsection  
19          (b) for that year.

20          (2) PROHIBITED EXPORT FOR CERTAIN COUN-  
21          TRIES.—Beginning on January 1, 2033, no person  
22          subject to the requirements of this subtitle shall ex-  
23          port a regulated substance to a foreign country that  
24          is not identified by the Administrator as having en-  
25          acted or otherwise established the same or similar

1 requirements or otherwise undertaken commitments  
2 regarding the production and the consumption of  
3 regulated substances as are contained in this sub-  
4 title.

5 **SEC. 9205. MANAGEMENT OF REGULATED SUBSTANCES.**

6 (a) SENSE OF CONGRESS.—It is the sense of Con-  
7 gress that the Administrator should provide for a safe  
8 hydrofluorocarbon transition by ensuring that heating,  
9 ventilation, air conditioning, and refrigeration practi-  
10 tioners are positioned to comply with safe servicing, re-  
11 pair, disposal, or installation procedures.

12 (b) REGULATIONS.—

13 (1) IN GENERAL.—Not later than 24 months  
14 after the date of enactment of this Act, the Adminis-  
15 trator shall, for purposes of maximizing reclaiming,  
16 minimizing the release of a regulated substance from  
17 equipment, and ensuring the safety of technicians  
18 and consumers, promulgate regulations to control,  
19 where appropriate, any practice, process, or activity  
20 regarding the servicing, repair, disposal, or installa-  
21 tion of equipment that involves a regulated sub-  
22 stance or a substitute for a regulated substance, in-  
23 cluding the reclaiming of a regulated substance or a  
24 substitute for a regulated substance.

1           (2) MINIMUM STANDARDS.—The regulations  
2 promulgated under paragraph (1) may include,  
3 where appropriate, that any such servicing, repair,  
4 disposal, or installation be performed by a trained  
5 technician meeting minimum standards, as deter-  
6 mined by the Administrator.

7           (c) RECLAIM.—

8           (1) CONSIDERATION.—The Administrator shall  
9 consider the use of any authority available to the  
10 Administrator under this subtitle to increase oppor-  
11 tunities for the reclaiming of regulated substances.

12           (2) REQUIREMENT.—Any regulated substance  
13 that is recovered shall be reclaimed before such reg-  
14 ulated substance is sold or transferred to a new  
15 owner, except where such recovered regulated sub-  
16 stance is sold or transferred to a new owner solely  
17 for the purposes of being reclaimed or destroyed.

18           (d) COORDINATION.—In promulgating regulations to  
19 implement this section, the Administrator may coordinate  
20 such regulations with any other regulations promulgated  
21 by the Administrator that involve—

22           (1) the same or similar practice, process, or ac-  
23 tivity regarding the servicing, repair, disposal, or in-  
24 stallation of equipment; or

25           (2) reclaiming.



1 (e) INAPPLICABILITY.—Subsections (a) through (d)  
2 do not apply with respect to a regulated substance or a  
3 substitute for a regulated substance that is contained in  
4 a foam.

5 **SEC. 9206. TECHNOLOGY TRANSITIONS.**

6 (a) AUTHORITY.—The Administrator may, by regula-  
7 tion and in accordance with this section, prohibit or re-  
8 strict, including through a graduated schedule, the use of  
9 a regulated substance in a sector or subsector in which  
10 such regulated substance is used.

11 (b) NEGOTIATED RULEMAKING.—The Administrator  
12 shall consider negotiating and developing a proposed regu-  
13 lation under this section in accordance with the negotiated  
14 rulemaking procedure under subchapter III of chapter 5  
15 of title 5, United States Code (commonly referred to as  
16 the “Negotiated Rulemaking Act of 1990”). If the Admin-  
17 istrator decides to proceed with a negotiated rulemaking,  
18 the Administrator shall, to the extent the Administrator  
19 deems practicable, give priority to completing that rule-  
20 making over completing concurrent non-negotiated  
21 rulemakings pursuant to this section. If the Administrator  
22 decides not to proceed with a negotiated rulemaking, the  
23 Administrator shall include an explanation of such deci-  
24 sion in any proposed regulation published pursuant to this  
25 section.

1 (c) PETITION.—

2 (1) SUBMISSION.—Any person may petition the  
3 Administrator to promulgate regulations under this  
4 section to prohibit or restrict the use of a regulated  
5 substance in a sector or subsector.

6 (2) DISPOSITION.—The Administrator shall  
7 grant or deny a petition received pursuant to para-  
8 graph (1) not later than 180 days after receipt of  
9 such petition.

10 (3) DENIAL.—If the Administrator denies a peti-  
11 tion received pursuant to paragraph (1), the Ad-  
12 ministrator shall publish in the Federal Register an  
13 explanation of the Administrator’s decision.

14 (4) GRANTING.—If the Administrator grants a  
15 petition received pursuant to paragraph (1), the Ad-  
16 ministrator shall—

17 (A) propose regulations prohibiting or re-  
18 stricting the use of the regulated substance in  
19 the sector or subsector under subsection (a) not  
20 later than 270 days after granting such peti-  
21 tion; and

22 (B) promulgate final regulations prohib-  
23 iting or restricting the use of the regulated sub-  
24 stance in the sector or subsector under sub-

1 section (a) not later than 365 days after pro-  
2 posing such regulations.

3 (5) PUBLIC AVAILABILITY.—The Administrator  
4 shall—

5 (A) submit for publication in the Federal  
6 Register a notice of the availability of each peti-  
7 tion received pursuant to this subsection not  
8 later than 60 days after receipt of such petition;  
9 and

10 (B) shall make each such petition available  
11 in full upon request.

12 (d) CRITERIA.—In promulgating regulations under  
13 this section, the Administrator shall consider—

14 (1) promoting and supporting domestic eco-  
15 nomic development;

16 (2) maximizing protections for human health  
17 and the environment;

18 (3) minimizing costs for the production, use,  
19 and reclaiming of regulated substances;

20 (4) maximizing flexibility for the recovery, re-  
21 claiming, and re-use of regulated substances;

22 (5) ensuring consumer safety;

23 (6) the availability of substitutes for regulated  
24 substances, taking into account technological  
25 achievability, commercial demands, safety, and other

1 relevant factors, including lead times for equipment  
2 conversion; and

3 (7) minimizing any costs to consumers.

4 (e) EVALUATION.—For purposes of this subtitle, the  
5 Administrator shall—

6 (1) on an ongoing basis, evaluate the avail-  
7 ability of substitutes for regulated substances in a  
8 sector or subsector, taking into account technological  
9 achievability, commercial demands, safety, and other  
10 relevant factors, including lead times for equipment  
11 conversion; and

12 (2) maintain a public clearinghouse of such  
13 substitutes by sector and subsector, as applicable.

14 (f) COORDINATION.—In promulgating regulations to  
15 prohibit or restrict the use of a regulated substance in a  
16 sector or subsector under this section, the Administrator  
17 may coordinate such regulations with any other regula-  
18 tions pertaining to currently or potentially available sub-  
19 stitutes for regulated substances.

20 **SEC. 9207. RULEMAKING AUTHORITY.**

21 (a) RULEMAKINGS.—The Administrator may promul-  
22 gate such regulations as are necessary to carry out the  
23 functions of the Administrator under this subtitle.

24 (b) DELEGATION.—The Administrator may delegate  
25 to any officer or employee of the Environmental Protection

1 Agency such of the powers and duties of the Administrator  
2 under this subtitle as the Administrator determines to be  
3 appropriate.

4 (c) REQUIREMENTS.—In exercising any requirement  
5 or authority in this subtitle to act by regulation or to pro-  
6 mulgate regulations, the Administrator shall comply with  
7 the requirements of section 307(d) of the Clean Air Act  
8 (42 U.S.C. 7607(d)).

9 **SEC. 9208. RELATIONSHIP TO OTHER LAWS.**

10 Sections 113, 114, 304, and 307 of the Clean Air  
11 Act (42 U.S.C. 7413, 7414, 7604, 7607) shall apply to  
12 this subtitle and any regulations promulgated by the Ad-  
13 ministrator pursuant to this subtitle as though this sub-  
14 title were included in title VI of the Clean Air Act (42  
15 U.S.C. 7671 et seq.).

16 **Subtitle C—Clean Industrial**  
17 **Technology**

18 **SEC. 9301. PURPOSE.**

19 The purpose of this subtitle and the amendments  
20 made by this subtitle is to encourage the development and  
21 evaluation of innovative technologies aimed at increas-  
22 ing—

23 (1) the technological and economic competitive-  
24 ness of industry and manufacturing in the United  
25 States; and

1           (2) the emissions reduction of nonpower indus-  
2           trial sectors.

3 **SEC. 9302. INDUSTRIAL EMISSIONS REDUCTION TECH-**  
4 **NOLOGY DEVELOPMENT PROGRAM.**

5           (a) IN GENERAL.—Subtitle D of title IV of the En-  
6           ergy Independence and Security Act of 2007, as amended  
7           by this Act, is further amended by adding at the end the  
8           following:

9 **“SEC. 455. INDUSTRIAL EMISSIONS REDUCTION TECH-**  
10 **NOLOGY DEVELOPMENT PROGRAM.**

11           “(a) DEFINITIONS.—In this section:

12                   “(1) DIRECTOR.—The term ‘Director’ means  
13                   the Director of the Office of Science and Technology  
14                   Policy.

15                   “(2) ELIGIBLE ENTITY.—The term ‘eligible en-  
16                   tity’ means—

17                           “(A) a scientist or other individual with  
18                           knowledge and expertise in emissions reduction;

19                           “(B) an institution of higher education;

20                           “(C) a nongovernmental organization;

21                           “(D) a National Laboratory;

22                           “(E) a private entity; and

23                           “(F) a partnership or consortium of 2 or  
24                           more entities described in subparagraphs (B)  
25                           through (E).

1           “(3) EMISSIONS REDUCTION.—

2                   “(A) IN GENERAL.—The term ‘emissions  
3                   reduction’ means the reduction, to the max-  
4                   imum extent practicable, of net nonwater green-  
5                   house gas emissions to the atmosphere by en-  
6                   ergy services and industrial processes.

7                   “(B) EXCLUSION.—The term ‘emissions  
8                   reduction’ does not include the elimination of  
9                   carbon embodied in the principal products of in-  
10                  dustrial manufacturing.

11                  “(4) INSTITUTION OF HIGHER EDUCATION.—  
12                  The term ‘institution of higher education’ has the  
13                  meaning given the term in section 101 of the Higher  
14                  Education Act of 1965 (20 U.S.C. 1001).

15                  “(5) PROGRAM.—The term ‘program’ means  
16                  the program established under subsection (b)(1).

17                  “(6) CRITICAL MATERIAL OR MINERAL.—The  
18                  term ‘critical material or mineral’ means a material  
19                  or mineral that serves an essential function in the  
20                  manufacturing of a product and has a high risk of  
21                  a supply disruption, such that a shortage of such a  
22                  material or mineral would have significant con-  
23                  sequences for United States economic or national se-  
24                  curity.

1       “(b) INDUSTRIAL EMISSIONS REDUCTION TECH-  
2 NOLOGY DEVELOPMENT PROGRAM.—

3           “(1) IN GENERAL.—Not later than 1 year after  
4 the date of enactment of this section, the Secretary,  
5 in coordination with the Director and in consultation  
6 with the heads of relevant Federal agencies, Na-  
7 tional Laboratories, industry, and institutions of  
8 higher education, shall establish a crosscutting re-  
9 search, development, and demonstration program to  
10 further the development and commercial application  
11 of innovative industrial emissions reduction tech-  
12 nologies that—

13           “(A) increase the technological and eco-  
14 nomic competitiveness of industry and manufac-  
15 turing in the United States; and

16           “(B) achieve emissions reduction in  
17 nonpower industrial sectors.

18       “(2) COORDINATION.—In carrying out the pro-  
19 gram, the Secretary shall, to the maximum extent  
20 practicable—

21           “(A) coordinate with each relevant office in  
22 the Department and any other Federal agency;

23           “(B) coordinate and collaborate with the  
24 Industrial Technology Innovation Advisory  
25 Committee established under section 456; and



1           “(C) coordinate with the energy-intensive  
2 industries program established under section  
3 452.

4           “(3) LEVERAGE OF EXISTING RESOURCES.—In  
5 carrying out the program, the Secretary shall lever-  
6 age, to the maximum extent practicable—

7           “(A) existing resources and programs of  
8 the Department and other relevant Federal  
9 agencies; and

10           “(B) public-private partnerships.

11           “(c) FOCUS AREAS.—The program shall focus on, to  
12 the maximum extent practicable—

13           “(1) industrial production processes, including  
14 technologies and processes that—

15           “(A) achieve emissions reduction in high-  
16 emissions industrial materials production proc-  
17 esses, including production processes for iron,  
18 steel, steel mill products, aluminum, cement,  
19 concrete, glass, pulp, paper, and industrial ce-  
20 ramics;

21           “(B) achieve emissions reduction in  
22 medium- and high-temperature heat generation,  
23 including—

24           “(i) through electrification of heating  
25 processes;

1                   “(ii) through renewable heat genera-  
2                   tion technology;

3                   “(iii) through combined heat and  
4                   power; and

5                   “(iv) by switching to alternative fuels,  
6                   including hydrogen;

7                   “(C) achieve emissions reduction in chem-  
8                   ical production processes;

9                   “(D) leverage smart manufacturing tech-  
10                   nologies and principles, digital manufacturing  
11                   technologies, and advanced data analytics to de-  
12                   velop advanced technologies and practices in in-  
13                   formation, automation, monitoring, computa-  
14                   tion, sensing, modeling, and networking that—

15                   “(i) simulate manufacturing produc-  
16                   tion lines;

17                   “(ii) monitor and communicate pro-  
18                   duction line status;

19                   “(iii) manage and optimize energy  
20                   productivity and cost throughout produc-  
21                   tion; and

22                   “(iv) model, simulate, and optimize  
23                   the energy efficiency of manufacturing  
24                   processes;

1           “(E) leverage the principles of sustainable  
2           manufacturing and sustainable chemistry to  
3           minimize the negative environmental impacts of  
4           manufacturing while conserving energy and re-  
5           sources, including—

6                   “(i) by designing products that enable  
7                   reuse, refurbishment, remanufacturing,  
8                   and recycling;

9                   “(ii) by minimizing waste from indus-  
10                  trial processes; and

11                  “(iii) by reducing resource intensity;  
12                  and

13                  “(F) increase the energy efficiency of in-  
14                  dustrial processes;

15           “(2) alternative materials that produce fewer  
16           emissions during production and result in fewer  
17           emissions during use, including—

18                   “(A) high-performance lightweight mate-  
19                   rials; and

20                   “(B) substitutions for critical materials  
21                   and minerals;

22           “(3) development of net-zero emissions liquid  
23           and gaseous fuels;

1           “(4) emissions reduction in shipping, aviation,  
2           and long distance transportation, including through  
3           the use of alternative fuels;

4           “(5) carbon capture technologies for industrial  
5           processes;

6           “(6) high-performance computing to develop ad-  
7           vanced materials and manufacturing processes con-  
8           tributing to the focus areas described in paragraphs  
9           (1) through (5), including—

10                   “(A) modeling, simulation, and optimiza-  
11                   tion to design energy efficient and sustainable  
12                   products; and

13                   “(B) the use of digital prototyping and ad-  
14                   ditive manufacturing to enhance product de-  
15                   sign;

16           “(7) other technologies that achieve net-zero  
17           emissions in nonpower industrial sectors as deter-  
18           mined by Secretary in coordination with the Direc-  
19           tor;

20           “(8) incorporation of sustainable and green  
21           chemistry and engineering principles, practices, and  
22           methodologies, as the Secretary determines appro-  
23           priate; and

1           “(9) other research or technology areas identi-  
2           fied in the Emissions Reduction Roadmap author-  
3           ized in section 456.

4           “(d) GRANTS, CONTRACTS, COOPERATIVE AGREE-  
5           MENTS, AND DEMONSTRATION PROJECTS.—

6           “(1) GRANTS.—In carrying out the program,  
7           the Secretary shall award grants on a competitive  
8           basis to eligible entities for projects that the Sec-  
9           retary determines would best achieve the goals of the  
10          program.

11          “(2) CONTRACTS AND COOPERATIVE AGREE-  
12          MENTS.—In carrying out the program, the Secretary  
13          may enter into contracts and cooperative agreements  
14          with eligible entities and Federal agencies for  
15          projects that the Secretary determines would further  
16          the purposes of the program.

17          “(3) DEMONSTRATION PROJECTS.—In sup-  
18          porting technologies developed under this section,  
19          the Secretary shall fund demonstration projects that  
20          test and validate technologies described in subsection  
21          (c).

22          “(4) COST SHARING.—In awarding funds under  
23          this section, the Secretary shall require cost sharing  
24          in accordance with section 988 of the Energy Policy  
25          Act of 2005 (42 U.S.C. 16352).

1       “(e) AUTHORIZATION OF APPROPRIATIONS.—There  
2 are authorized to be appropriated to the Secretary to carry  
3 out the demonstration projects authorized in subsection  
4 (d)(3)—

5               “(1) \$20,000,000 for fiscal year 2021;

6               “(2) \$80,000,000 for fiscal year 2022;

7               “(3) \$100,000,000 for fiscal year 2023;

8               “(4) \$150,000,000 for fiscal year 2024; and

9               “(5) \$150,000,000 for fiscal year 2025.

10       “(f) COORDINATION.—The Secretary shall carry out  
11 the activities authorized in this section in accordance with  
12 section 203 of the Department of Energy Research and  
13 Innovation Act (42 U.S.C. 18631).”.

14       (b) TECHNICAL AMENDMENT.—The table of contents  
15 of the Energy Independence and Security Act of 2007  
16 (Public Law 110–140; 121 Stat. 1494) is amended by in-  
17 serting after the item relating to section 454 (as added  
18 by this Act) the following:

“Sec. 455. Industrial emissions reduction technology development program.”.

19       **SEC. 9303. INDUSTRIAL TECHNOLOGY INNOVATION ADVI-**  
20                               **SORY COMMITTEE.**

21       (a) IN GENERAL.—Subtitle D of title IV of the En-  
22 ergy Independence and Security Act of 2007, as amended  
23 by this Act, is further amended by adding at the end the  
24 following:

1 **“SEC. 456. INDUSTRIAL TECHNOLOGY INNOVATION ADVI-**  
2 **SORY COMMITTEE.**

3 “(a) DEFINITIONS.—In this section:

4 “(1) COMMITTEE.—The term ‘Committee’  
5 means the Industrial Technology Innovation Advi-  
6 sory Committee established under subsection (b).

7 “(2) DIRECTOR.—The term ‘Director’ means  
8 the Director of the Office of Science and Technology  
9 Policy.

10 “(3) EMISSIONS REDUCTION.—The term ‘emis-  
11 sions reduction’ has the meaning given the term in  
12 section 455(a).

13 “(4) PROGRAM.—The term ‘program’ means  
14 the industrial emissions reduction technology devel-  
15 opment program established under section  
16 455(b)(1).

17 “(b) ESTABLISHMENT.—Not later than 180 days  
18 after the date of enactment of this section, the Secretary,  
19 in coordination with the Director, shall establish an advi-  
20 sory committee, to be known as the ‘Industrial Technology  
21 Innovation Advisory Committee’.

22 “(c) MEMBERSHIP.—

23 “(1) APPOINTMENT.—The Committee shall be  
24 comprised of not fewer than 15 members, who shall  
25 be appointed by the Secretary, in coordination with  
26 the Director.

1           “(2) REPRESENTATION.—Members appointed  
2 pursuant to paragraph (1) shall include—

3           “(A) not less than 1 representative of each  
4 relevant Federal agency, as determined by the  
5 Secretary;

6           “(B) not less than 2 representatives of  
7 labor groups;

8           “(C) not less than 3 representatives of the  
9 research community, which shall include aca-  
10 demia and National Laboratories;

11           “(D) not less than 2 representatives of  
12 nongovernmental organizations;

13           “(E) not less than 6 representatives of in-  
14 dustry, the collective expertise of which shall  
15 cover every focus area described in section  
16 455(c);

17           “(F) not less than 1 representative of a  
18 State government; and

19           “(G) any other individual whom the Sec-  
20 retary, in coordination with the Director, deter-  
21 mines to be necessary to ensure that the Com-  
22 mittee is comprised of a diverse group of rep-  
23 resentatives of industry, academia, independent  
24 researchers, and public and private entities.



1           “(3) CHAIR.—The Secretary shall designate a  
2 member of the Committee to serve as Chair.

3           “(d) DUTIES.—

4           “(1) IN GENERAL.—The Committee shall—

5           “(A) in consultation with the Secretary  
6 and the Director, develop the missions and  
7 goals of the program, which shall be consistent  
8 with the purposes of the program described in  
9 section 455(b)(1);

10           “(B) advise the Secretary and the Director  
11 with respect to the program—

12           “(i) by identifying and evaluating any  
13 technologies being developed by the private  
14 sector or other Federal agencies relating to  
15 the focus areas described in section 455(e);

16           “(ii) by identifying technology gaps in  
17 the private sector in those focus areas, and  
18 making recommendations to address those  
19 gaps;

20           “(iii) by surveying and analyzing fac-  
21 tors that prevent the adoption of emissions  
22 reduction technologies by the private sec-  
23 tor; and

24           “(iv) by recommending technology  
25 screening criteria for technology developed

1           under the program to encourage adoption  
2           of the technology by the private sector; and  
3           “(C) develop the roadmap described in  
4           paragraph (2).

5           “(2) EMISSIONS REDUCTION ROADMAP.—

6           “(A) PURPOSE.—The purpose of the road-  
7           map developed under paragraph (1)(C) is to set  
8           forth a plan for achieving the goals of the pro-  
9           gram established in section 455(b)(1), including  
10          for the focus areas described in section 455(c).

11          “(B) CONTENTS.—The roadmap developed  
12          under paragraph (1)(C) shall—

13                 “(i) specify near-term and long-term  
14                 qualitative and quantitative objectives re-  
15                 lating to each focus area described in sec-  
16                 tion 455(c), including research, develop-  
17                 ment, demonstration, and commercial ap-  
18                 plication objectives;

19                 “(ii) leverage existing roadmaps rel-  
20                 evant to the program in section 455(b)(1)  
21                 and the focus areas in section 455(c);

22                 “(iii) specify the anticipated time-  
23                 frame for achieving the objectives specified  
24                 under clause (i);

1           “(iv) include plans for developing  
2           emissions reduction technologies that are  
3           globally cost-competitive, including in de-  
4           veloping economies; and

5           “(v) identify the appropriate role for  
6           investment by the Federal Government, in  
7           coordination with the private sector, to  
8           achieve the objectives specified under  
9           clause (i).

10       “(e) MEETINGS.—

11           “(1) FREQUENCY.—The Committee shall meet  
12           not less frequently than 2 times per year, at the call  
13           of the Chair.

14           “(2) INITIAL MEETING.—Not later than 30  
15           days after the date on which the members are ap-  
16           pointed under subsection (b), the Committee shall  
17           hold its first meeting.

18       “(f) COMMITTEE REPORT.—

19           “(1) IN GENERAL.—Not later than 2 years  
20           after the date of enactment of this section, and not  
21           less frequently than once every 3 years thereafter,  
22           the Committee shall submit to the Secretary a re-  
23           port on the progress of achieving the purposes of the  
24           program.

1           “(2) CONTENTS.—The report under paragraph  
2 (1) shall include—

3           “(A) a description of any technology inno-  
4 vation opportunities identified by the Com-  
5 mittee;

6           “(B) a description of any technology gaps  
7 identified by the Committee under subsection  
8 (d)(1)(B)(ii);

9           “(C) a review of the management, tech-  
10 nology screening, coordination, and industry  
11 utility of the program;

12           “(D) an evaluation of the progress of the  
13 program and the research, development, and  
14 demonstration activities funded under the pro-  
15 gram;

16           “(E) any recommended changes to the  
17 focus areas of the program described in section  
18 455(c);

19           “(F) a description of the manner in which  
20 the Committee has carried out the duties de-  
21 scribed in subsection (d)(1) and any relevant  
22 findings as a result of carrying out those duties;

23           “(G) the roadmap developed by the Com-  
24 mittee under subsection (d)(1)(C);

1           “(H) the progress made in achieving the  
2 goals set out in that roadmap;

3           “(I) an assessment of the extent to which  
4 progress has been made under the program in  
5 developing commercial, cost-competitive tech-  
6 nologies in each focus area described in section  
7 455(c); and

8           “(J) an assessment of the effectiveness of  
9 the program in coordinating efforts within the  
10 Department and with other Federal agencies to  
11 achieve the purposes of the program.

12       “(g) REPORT TO CONGRESS.—Not later than 60 days  
13 after receiving a report from the Committee under sub-  
14 section (f), the Secretary shall submit a copy of that re-  
15 port to the Committee on Science, Space, and Technology  
16 of the House of Representatives and the Committee on  
17 Energy and Natural Resources of the Senate.

18       “(h) APPLICABILITY OF FEDERAL ADVISORY COM-  
19 MITTEE ACT.—Except as otherwise provided in this sec-  
20 tion, the Federal Advisory Committee Act (5 U.S.C. App.)  
21 shall apply to the Committee.”.

22       (b) TECHNICAL AMENDMENT.—The table of contents  
23 of the Energy Independence and Security Act of 2007  
24 (Public Law 110–140; 121 Stat. 1494) is amended by in-

1 serting after the item relating to section 455 (as added  
2 by this Act) the following:

“Sec. 456. Industrial Technology Innovation Advisory Committee.”.

3 **SEC. 9304. TECHNICAL ASSISTANCE PROGRAM TO IMPLE-**  
4 **MENT INDUSTRIAL EMISSIONS REDUCTION.**

5 (a) IN GENERAL.—Subtitle D of title IV of the En-  
6 ergy Independence and Security Act of 2007, as amended  
7 by this Act, is further amended by adding at the end the  
8 following:

9 **“SEC. 457. TECHNICAL ASSISTANCE PROGRAM TO IMPLE-**  
10 **MENT INDUSTRIAL EMISSIONS REDUCTION.**

11 “(a) DEFINITIONS.—In this section:

12 “(1) ELIGIBLE ENTITY.—The term ‘eligible en-  
13 tity’ means—

14 “(A) a State;

15 “(B) a unit of local government;

16 “(C) a territory or possession of the  
17 United States;

18 “(D) a relevant State or local office, in-  
19 cluding an energy office;

20 “(E) a tribal organization (as defined in  
21 section 3765 of title 38, United States Code);

22 “(F) an institution of higher education;

23 “(G) a private entity; and

24 “(H) a trade association or technical soci-  
25 ety.

1           “(2) EMISSIONS REDUCTION.—The term ‘emis-  
2           sions reduction’ has the meaning given the term in  
3           section 455(a).

4           “(3) INSTITUTION OF HIGHER EDUCATION.—  
5           The term ‘institution of higher education’ has the  
6           meaning given the term in section 101 of the Higher  
7           Education Act of 1965 (20 U.S.C. 1001).

8           “(4) PROGRAM.—The term ‘program’ means  
9           the program established under subsection (b).

10          “(b) ESTABLISHMENT.—Not later than one year  
11 after the date of enactment of this section, the Secretary  
12 shall establish a program to provide technical assistance  
13 to eligible entities to promote the commercial application  
14 of emission reduction technologies developed through the  
15 program established in section 455(b).

16          “(c) APPLICATIONS.—

17               “(1) APPLICATION PROCESS.—The Secretary  
18 shall seek applications for technical assistance under  
19 the program on a periodic basis, but not less fre-  
20 quently than once every 12 months.

21               “(2) PRIORITIES.—In selecting eligible entities  
22 for technical assistance under the program, the Sec-  
23 retary shall give priority to an eligible entity—

24                       “(A) carrying out a commercial application  
25                       of technology that has the greatest potential for

1 emissions reduction in nonpower industrial sec-  
2 tors;

3 “(B) located in a State that has histori-  
4 cally relied on industrial sectors for a substan-  
5 tial portion of the State economy, as deter-  
6 mined by the Secretary, taking into account  
7 employment data, per capita income, and other  
8 indicators of economic output in the State; or

9 “(C) located in a State that has experi-  
10 enced significant decline in the economic con-  
11 tribution of industry to the State.”.

12 (b) TECHNICAL AMENDMENT.—The table of contents  
13 of the Energy Independence and Security Act of 2007  
14 (Public Law 110–140; 121 Stat. 1494) is amended by in-  
15 serting after the item relating to section 456 (as added  
16 by this Act) the following:

“Sec. 457. Technical assistance program to implement industrial emissions re-  
duction.”.

17 **SEC. 9305. COORDINATION OF RESEARCH AND DEVELOP-**  
18 **MENT OF ENERGY EFFICIENT TECH-**  
19 **NOLOGIES FOR INDUSTRY.**

20 Section 6(a) of the American Energy Manufacturing  
21 Technical Corrections Act (42 U.S.C. 6351(a)) is amend-  
22 ed—



1 (1) by striking “Industrial Technologies Pro-  
2 gram” each place it appears and inserting “Ad-  
3 vanced Manufacturing Office”; and

4 (2) in the matter preceding paragraph (1), by  
5 striking “Office of Energy” and all that follows  
6 through “Office of Science” and inserting “Depart-  
7 ment of Energy”.

## 8 **Subtitle D—Combined Heat and** 9 **Power Support**

### 10 **SEC. 9401. CHP TECHNICAL ASSISTANCE PARTNERSHIP** 11 **PROGRAM.**

12 (a) IN GENERAL.—Section 375 of the Energy Policy  
13 and Conservation Act (42 U.S.C. 6345) is amended to  
14 read as follows:

### 15 **“SEC. 375. CHP TECHNICAL ASSISTANCE PARTNERSHIP** 16 **PROGRAM.**

17 “(a) RENAMING.—

18 “(1) IN GENERAL.—The Clean Energy Applica-  
19 tion Centers of the Department of Energy are redes-  
20 ignated as the CHP Technical Assistance Partner-  
21 ship Program (referred to in this section as the  
22 ‘Program’).

23 “(2) PROGRAM DESCRIPTION.—The Program  
24 shall consist of—

1           “(A) the 10 regional CHP Technical As-  
2           sistance Partnerships in existence on the date  
3           of enactment of the Clean Economy Jobs and  
4           Innovation Act;

5           “(B) such other regional CHP Technical  
6           Assistance Partnerships as the Secretary may  
7           establish; and

8           “(C) any supporting technical activities  
9           under the Technical Partnership Program of  
10          the Advanced Manufacturing Office.

11          “(3) REFERENCES.—Any reference in any law,  
12          rule, regulation, or publication to a Combined Heat  
13          and Power Application Center or a Clean Energy  
14          Application Center shall be deemed to be a reference  
15          to the Program.

16          “(b) CHP TECHNICAL ASSISTANCE PARTNERSHIP  
17          PROGRAM.—

18                 “(1) IN GENERAL.—The Program shall—

19                         “(A) operate programs to encourage de-  
20                         ployment of combined heat and power, waste  
21                         heat to power, and efficient district energy (col-  
22                         lectively referred to in this subsection as ‘CHP’)  
23                         technologies by providing education and out-  
24                         reach to—

1                   “(i) building, industrial, and electric  
2                   and natural gas utility professionals;

3                   “(ii) State and local policymakers;  
4                   and

5                   “(iii) other individuals and organiza-  
6                   tions with an interest in efficient energy  
7                   use, local or opportunity fuel use, resil-  
8                   iency, or energy security, microgrids, and  
9                   district energy; and

10                  “(B) provide project specific support to  
11                  building and industrial professionals through  
12                  economic and engineering assessments and ad-  
13                  visory activities.

14                  “(2) FUNDING FOR CERTAIN ACTIVITIES.—

15                  “(A) IN GENERAL.—The Program shall  
16                  make funds available to institutions of higher  
17                  education, research centers, and other appro-  
18                  priate institutions to ensure the continued oper-  
19                  ations and effectiveness of the regional CHP  
20                  Technical Assistance Partnerships.

21                  “(B) USE OF FUNDS.—Funds made avail-  
22                  able under subparagraph (A) may be used—

23                         “(i) to research, develop, and dis-  
24                         tribute informational materials relevant to  
25                         manufacturers, commercial buildings, insti-

1           tutional facilities, and Federal sites, in-  
2           cluding continued support of the mission  
3           goals of the Department of Defense, on  
4           CHP and microgrid technologies, including  
5           continuation and updating of—

6                     “(I) the CHP installation data-  
7                     base;

8                     “(II) CHP technology potential  
9                     analyses;

10                    “(III) State CHP resource pages;

11                    and

12                    “(IV) CHP Technical Assistance  
13                    Partnerships websites;

14                    “(ii) to research, develop, and conduct  
15                    target market workshops, reports, semi-  
16                    nars, internet programs, CHP resiliency  
17                    resources, and other activities to provide  
18                    education to end users, regulators, and  
19                    stakeholders in a manner that leads to the  
20                    deployment of CHP technologies;

21                    “(iii) to provide or coordinate onsite  
22                    assessments for sites and enterprises that  
23                    may consider deployment of CHP tech-  
24                    nology, including the potential use of bio-  
25                    mass CHP systems;

1           “(iv) to perform market research to  
2           identify high profile candidates for deploy-  
3           ment of CHP technologies, hybrid renew-  
4           able-CHP technologies, biomass CHP,  
5           microgrids, and clean energy;

6           “(v) to provide nonbiased engineering  
7           support to sites considering deployment of  
8           CHP technologies;

9           “(vi) to assist organizations and com-  
10          munities developing clean energy tech-  
11          nologies and policies in overcoming bar-  
12          riers to deployment; and

13          “(vii) to assist companies, commu-  
14          nities, and organizations with field valida-  
15          tion and performance evaluations of CHP  
16          and other clean energy technologies imple-  
17          mented.

18          “(C) DURATION.—The Program shall  
19          make funds available under subparagraph (A)  
20          for a period of 5 years.

21          “(c) AUTHORIZATION OF APPROPRIATIONS.—There  
22          are authorized to be appropriated to carry out this section  
23          \$12,000,000 for each of fiscal years 2021 through 2025.”.

24          (b) CONFORMING AMENDMENT.—The table of con-  
25          tents of the Energy Policy and Conservation Act is amend-

1 ed by striking the item relating to section 375 and insert-  
2 ing the following:

“375. CHP Technical Assistance Partnership Program.”.

3                   **Subtitle E—Title XVII Loan**  
4                   **Program Reform**

5 **SEC. 9501. LOAN PROGRAM OFFICE TITLE XVII REFORM.**

6           (a) **TERMS AND CONDITIONS.**—Section 1702 of the  
7 Energy Policy Act of 2005 (42 U.S.C. 16512) is amend-  
8 ed—

9                   (1) by amending subsection (b) to read as fol-  
10           lows:

11                   “(b) **SPECIFIC APPROPRIATION OR CONTRIBU-**  
12 **TION.**—

13                           “(1) **IN GENERAL.**—Except as provided in para-  
14 graph (2), the cost of a guarantee shall be paid by  
15 the Secretary using an appropriation made for the  
16 cost of the guarantee, subject to the availability of  
17 such an appropriation.

18                           “(2) **INSUFFICIENT APPROPRIATIONS.**—If suffi-  
19 cient appropriated funds to pay the cost of a guar-  
20 antee are not available, then the guarantee shall not  
21 be made unless—

22                                   “(A) the Secretary has received from the  
23 borrower a payment in full for the cost of the  
24 guarantee and deposited the payment into the  
25 Treasury; or

1           “(B) a combination of one or more appro-  
2           priations and one or more payments from the  
3           borrower under this subsection has been made  
4           that is sufficient to cover the cost of the guar-  
5           antee.”;

6           (2) in subsection (h)—

7           (A) by amending paragraph (1) to read as  
8           follows:

9           “(1) IN GENERAL.—The Secretary shall charge,  
10          and collect on or after the date of the financial close  
11          of an obligation, a fee for a guarantee in an amount  
12          that the Secretary determines is sufficient to cover  
13          applicable administrative expenses (including any  
14          costs associated with third-party consultants en-  
15          gaged by the Secretary).”; and

16          (B) by adding at the following:

17          “(3) REDUCTION IN FEE AMOUNT.—Notwith-  
18          standing paragraph (1) and subject to the avail-  
19          ability of appropriations, the Secretary may reduce  
20          the amount of a fee for a guarantee under this sub-  
21          section.”; and

22          (3) by adding at the end the following:

23          “(1) APPLICATION STATUS.—

24          “(1) REQUEST.—If the Secretary does not  
25          make a final decision on an application for a guar-

1       antee under this title by the date that is 180 days  
2       after receipt of the application by the Secretary, the  
3       applicant may request, on or after that date and not  
4       more than once every 60 days thereafter until a final  
5       decision is made, that the Secretary provide to the  
6       applicant a response described in paragraph (2).

7               “(2) RESPONSE.—Not later than 10 days after  
8       receiving a request from an applicant under para-  
9       graph (1), the Secretary shall provide to the appli-  
10      cant a response that includes—

11                   “(A) a description of the current status of  
12      review of the application;

13                   “(B) a summary of any factors that are  
14      delaying a final decision on the application, a  
15      list of what items are required in order to reach  
16      a final decision, citations to authorities stating  
17      the reasons why such items are required, and a  
18      list of actions the applicant can take to expedite  
19      the process; and

20                   “(C) an estimate of when a final decision  
21      on the application will be made.

22               “(m) OUTREACH.—In carrying out this title, the Sec-  
23      retary shall—

24                   “(1) provide assistance with the completion of  
25      applications for a guarantee under this title;



1           “(2) conduct outreach, including through con-  
2           ferences and online programs, to disseminate infor-  
3           mation to potential applicants; and

4           “(3) conduct outreach to encourage participa-  
5           tion of supporting finance institutions and private  
6           lenders in eligible projects.

7           “(n) COORDINATION.—In carrying out this title, to  
8           the extent consistent with applicable law, the Secretary  
9           shall collaborate, coordinate, and share information with  
10          relevant offices within the Department.

11          “(o) REPORT.—Not later than 2 years after the date  
12          of the enactment of this subsection and every 3 years  
13          thereafter, the Secretary shall submit to Congress a report  
14          on the status of projects receiving guarantees under this  
15          title, including—

16                 “(1) a list of such projects, including the guar-  
17                 antee amount, construction status, and financing  
18                 partners of each such project;

19                 “(2) the status of each such project’s loan re-  
20                 payment, including interest paid and future repay-  
21                 ment projections;

22                 “(3) estimate of the greenhouse gas emissions  
23                 avoided from each such project;

1           “(4) data regarding the number of direct and  
2 indirect jobs retained, restored, or created by such  
3 projects;

4           “(5) the number of new projects projected to  
5 receive a guarantee under this title during the next  
6 2 years and the aggregate guarantee amount; and

7           “(6) any other metrics the Secretary finds ap-  
8 propriate.”.

9           (b) STATE LOAN ELIGIBILITY.—

10           (1) DEFINITIONS.—Section 1701 of the Energy  
11 Policy Act of 2005 (42 U.S.C. 16511) is amended  
12 by adding at the end the following:

13           “(6) INDIAN TRIBE, NATIVE CORPORATION,  
14 TRIBAL ENERGY DEVELOPMENT ORGANIZATION.—  
15 The terms ‘Indian tribe’, ‘Native Corporation’, and  
16 ‘tribal energy development organization’ have the  
17 meaning given such terms in section 2601 of the  
18 Energy Policy Act of 1992 (25 U.S.C. 3501).

19           “(7) STATE.—The term ‘State’ has the mean-  
20 ing given the term in section 202 of the Energy  
21 Conservation and Production Act (42 U.S.C. 6802).

22           “(8) STATE ENERGY FINANCING INSTITU-  
23 TION.—

24           “(A) IN GENERAL.—The term ‘State en-  
25 ergy financing institution’ means a quasi-inde-

1           pendent entity or an entity within a State agen-  
2           cy or financing authority established by a State  
3           that may—

4                   “(i) provide financing support or cred-  
5                   it enhancements, including loan guarantees  
6                   and loan loss reserves, for eligible projects;  
7                   and

8                   “(ii) create liquid markets for eligible  
9                   projects, including warehousing and  
10                  securitization, or take other steps to reduce  
11                  financial barriers to the deployment of ex-  
12                  isting and new eligible projects.

13                  “(B) INCLUSION.—The term ‘State energy  
14                  financing institution’ includes an entity or orga-  
15                  nization established to achieve the purposes de-  
16                  scribed in clauses (i) and (ii) of subparagraph  
17                  (A) by an Indian tribe, Native Corporation, or  
18                  tribal energy development organization.”.

19                  (2) TERMS AND CONDITIONS.—Section 1702 of  
20                  the Energy Policy Act of 2005 (42 U.S.C. 16512)  
21                  is further amended—

22                   (A) in subsection (a), by inserting “, in-  
23                   cluding projects receiving financial support or  
24                   credit enhancements from a State energy fi-  
25                   nancing institution,” after “for projects”;

1 (B) in subsection (d)(1), by inserting “, in-  
 2 cluding a guarantee for a project receiving fi-  
 3 nancial support or credit enhancements from a  
 4 State energy financing institution,” after “No  
 5 guarantee”; and

6 (C) by adding at the end the following:

7 “(p) STATE ENERGY FINANCING INSTITUTIONS.—

8 “(1) PARTNERSHIPS AUTHORIZED.—State en-  
 9 ergy financing institutions providing financial sup-  
 10 port or credit enhancements for eligible projects may  
 11 enter into partnerships with private entities, Indian  
 12 tribes, Native Corporations, and tribal energy devel-  
 13 opment organizations.

14 “(2) PROHIBITION ON USE OF APPROPRIATED  
 15 FUNDS.—Amounts appropriated to the Department  
 16 before the date of enactment of this subsection shall  
 17 not be available to be used for the cost of guarantees  
 18 made to State energy financing institutions.”.

19 (c) PROJECT ELIGIBILITY EXPANSION.—

20 (1) IN GENERAL.—The Energy Policy Act of  
 21 2005 is amended by adding after section 1703 the  
 22 following new section:

23 **“SEC. 1703A. OTHER ELIGIBLE PROJECTS.**

24 “(a) IN GENERAL.—The Secretary may make guar-  
 25 antees under this section only for projects that—

1           “(1) avoid, reduce, utilize, or sequester air pol-  
2           lutants or anthropogenic emissions of greenhouse  
3           gases; and

4           “(2) employ new or significantly improved tech-  
5           nologies as compared to commercial technologies in  
6           service in the United States at the time the guar-  
7           antee is issued, including projects that employ—

8                   “(A) a system of technologies that combine  
9                   existing technologies in an innovative manner;

10                   “(B) elements of commercial technologies  
11                   in combination with new or significantly im-  
12                   proved technologies; or

13                   “(C) new and innovative technologies de-  
14                   veloped outside the energy sector that enable  
15                   modernization of existing energy infrastructure  
16                   and systems.

17           “(b) CATEGORIES.—Projects from the following cat-  
18           egories shall be eligible for a guarantee under this section:

19                   “(1) Advanced nuclear energy facilities, includ-  
20                   ing manufacturing and deployment of nuclear supply  
21                   components for advanced nuclear reactors.

22                   “(2) Carbon capture, utilization, and sequestra-  
23                   tion practices and technologies, including—

24                           “(A) agricultural and forestry practices  
25                           that store and sequester carbon; and

1           “(B) synthetic technologies to remove car-  
2           bon from the air and oceans.

3           “(3) Energy storage technologies for residen-  
4           tial, industrial, transportation, and power generation  
5           applications.

6           “(4) Technologies and systems for reducing  
7           emissions of greenhouse gases with high global  
8           warming potential, including for reducing methane  
9           leakage from natural gas transmission and distribu-  
10          tion infrastructure.

11          “(5) Application of technologies, including data  
12          analytics, artificial intelligence, and other software  
13          to improve the energy efficiency, operations, and  
14          management of energy infrastructure, including elec-  
15          tric grid operations.

16          “(6) Energy-water use efficiency in water re-  
17          sources infrastructure and water-using technologies.

18          “(7) Technologies for improving the resilience  
19          or reliability of existing energy infrastructure, in-  
20          cluding technologies that incorporate energy storage  
21          and grid modernization initiatives or improve the cy-  
22          bersecurity of energy technologies.

23          “(8) Technologies or processes for reducing  
24          greenhouse gas emissions from industrial applica-  
25          tions, including iron, steel, cement, and ammonia

1 production, hydrogen production, and generation of  
2 high-temperature heat.

3 “(9) Categories of projects and projects de-  
4 scribed in section 1703.

5 “(c) REGIONAL VARIATION.—Notwithstanding sub-  
6 section (a)(2), the Secretary may, to account for regional  
7 variation in deployment of technology, make guarantees  
8 under this section for up to 6 projects that employ the  
9 same or similar technology as another project, provided  
10 no more than 2 projects that use the same or a similar  
11 technology are located in the same region of the United  
12 States.

13 “(d) STATE ENERGY FINANCING INSTITUTIONS.—  
14 Notwithstanding subsection (a), the Secretary may use up  
15 to 25 percent of authority provided for commitments to  
16 guarantee loans under this title for projects—

17 “(1) that are receiving financial support or  
18 credit enhancements from a State energy financing  
19 institution; and

20 “(2) that meet the requirements of paragraph  
21 (1) of subsection (a), but do not meet the require-  
22 ments of paragraph (2) of subsection (a).

23 “(e) EMISSION LEVELS AND TAX CREDITS.—Sub-  
24 sections (d) and (e) of section 1703 shall apply with re-  
25 spect to projects receiving guarantees under this section.”.

1           (2) APPLICABILITY.—Section 1702 of the En-  
2           ergy Policy Act of 2005 (42 U.S.C. 16512) is fur-  
3           ther amended by adding at the end the following:

4           “(q) APPLICABILITY.—The Secretary shall not, for a  
5           period of 10 years after the date of enactment of this sub-  
6           section, enter into a loan guarantee agreement for an eligi-  
7           ble project—

8           “(1) under section 1703A; or

9           “(2) that is receiving financial support or credit  
10          enhancements from a State energy financing institu-  
11          tion.”.

12          (3) CONFORMING AMENDMENTS.—

13                 (A)         DEFINITION         OF         ELIGIBLE  
14                 PROJECTS.—Section 1701(3) of the Energy  
15                 Policy Act of 2005 (42 U.S.C. 16511(3)) is  
16                 amended by inserting “or section 1703A” after  
17                 “section 1703”.

18                 (B)         TABLE OF CONTENTS.—The table of  
19                 contents for the Energy Policy Act of 2005 is  
20                 amended by inserting after the item relating to  
21                 section 1703 the following:

“Sec. 1703A. Other eligible projects.”.

22         **SEC. 9502. AUTHORIZATION OF APPROPRIATIONS.**

23           Section 1704 of the Energy Policy Act of 2005 (42  
24           U.S.C. 16514) is amended by adding at the end the fol-  
25           lowing:



1 “(c) ADMINISTRATIVE AND OTHER EXPENSES.—

2 There are authorized to be appropriated—

3 “(1) \$32,000,000 for each of fiscal years 2021

4 through 2025 to carry out this title; and

5 “(2) for fiscal year 2021, in addition to

6 amounts authorized under paragraph (1),

7 \$25,000,000, to remain available until expended, for

8 administrative expenses described in section

9 1702(h)(1) that are not covered by fees collected

10 pursuant to section 1702(h).”.

## 11 **TITLE X—CRITICAL MATERIALS**

### 12 **SEC. 10101. DEFINITIONS.**

13 In this title:

14 (1) APPROPRIATE CONGRESSIONAL COMMIT-

15 TEES.—The term “appropriate Congressional com-

16 mittees” means the Committee on Science, Space,

17 and Technology of the House of Representatives and

18 the Committee on Commerce, Science, and Trans-

19 portation and the Committee on Energy and Natural

20 Resources of the Senate.

21 (2) CENTER.—The term “Center” means the

22 Critical Materials Information Center established

23 under section 10122(a).

24 (3) DEPARTMENT.—The term “Department”

25 means the Department of Energy.

1           (4) ENERGY CRITICAL MATERIAL.—The term  
2           “energy critical material” means any of a class of  
3           non-fuel materials that have a high risk of a supply  
4           disruption and are critical to one or more existing or  
5           new, energy-related technologies such that a sub-  
6           stantial supply disruption of such material would  
7           significantly inhibit large-scale deployment of tech-  
8           nologies that produce, transmit, store, or conserve  
9           energy.

10           (5) INSTITUTION OF HIGHER EDUCATION.—The  
11           term “institution of higher education” has the  
12           meaning given such term in section 101(a) of the  
13           Higher Education Act of 1965 (20 U.S.C. 1001(a)).

14           (6) PROGRAM.—The term “program” means  
15           the program authorized in section 10121(a).

16           (7) SECRETARY.—The term “Secretary” means  
17           the Secretary of Energy.

## 18           **Subtitle A—Energy Critical** 19           **Materials**

### 20           **SEC. 10121. ENERGY CRITICAL MATERIALS PROGRAM.**

21           (a) AUTHORIZATION OF PROGRAM.—

22           (1) IN GENERAL.—The Secretary shall carry  
23           out a cross-cutting program of research, develop-  
24           ment, demonstration, and commercial application to  
25           assure the long-term, secure, and sustainable supply

1 of energy critical materials sufficient to satisfy the  
2 national security, economic well-being, public health,  
3 and industrial production needs of the United  
4 States. This program may be carried out primarily  
5 by an Energy Innovation Hub established under sec-  
6 tion 206 of the Department of Energy Research Co-  
7 ordination Act (42 U.S.C. 18632).

8 (2) PROGRAM ACTIVITIES.—In carrying out this  
9 program, the Secretary shall focus on areas that the  
10 private sector by itself is not likely to undertake be-  
11 cause of technical and financial uncertainty and sup-  
12 port activities to—

13 (A) identify, develop, and test alternative  
14 minerals, metals, and replacement materials  
15 that—

16 (i) can be substituted for energy crit-  
17 ical materials and maintain or exceed cur-  
18 rent performance; or

19 (ii) enable new component and system  
20 design options that lessen the need for en-  
21 ergy critical materials;

22 particularly those alternative materials with ex-  
23 isting production sources within the United  
24 States and not subject to substantial supply  
25 disruptions;

1 (B) engineer and test diverse applications  
2 that—

3 (i) accelerate recycling and use of re-  
4 cycled energy critical materials;

5 (ii) use alternative materials; or

6 (iii) seek to minimize energy critical  
7 material content;

8 (C) develop innovative technologies and  
9 practices to diversify commercially viable and  
10 sustainable domestic sources of energy critical  
11 materials, including technologies for recovery  
12 from waste streams, more efficient recovery of  
13 coproducts and byproducts, and reduction of  
14 energy intensity, environmental impact, and  
15 costs of the extraction, production, separation,  
16 alloying, and processing of energy critical mate-  
17 rials;

18 (D) improve the understanding of the per-  
19 formance, processing, and adaptability in engi-  
20 neering designs using energy critical materials;

21 (E) develop advanced theoretical, computa-  
22 tional, and experimental tools necessary to sup-  
23 port the crosscutting research and development  
24 needs of diverse critical materials stakeholders;

1           (F) ensure that relevant facilities are avail-  
2           able and equipped to assist in carrying out the  
3           direction of the program;

4           (G) advance new mapping and analytical  
5           technologies and techniques that identify and  
6           characterize domestic critical materials re-  
7           sources; and

8           (H) improve the understanding of energy  
9           critical material supply chains, risks from sup-  
10          ply disruption, supply restriction, volatility in  
11          demand, and ability to substitute.

12          (3) COORDINATION.—In carrying out the pro-  
13          gram under subsection (a) the Secretary of Energy  
14          shall coordinate and leverage resources and expertise  
15          across the Department and from—

16                 (A) Federal agencies;

17                 (B) National Laboratories;

18                 (C) academic institutions;

19                 (D) private sector entities, including small  
20          businesses;

21                 (E) nongovernmental organizations; and

22                 (F) other relevant entities or individuals.

23          (4) EXPANDING PARTICIPATION.—In carrying  
24          out the program, the Secretary shall encourage mul-  
25          tidisciplinary collaborations of participants, including

1 opportunities for students and post-doctoral staff at  
2 institutions of higher education.

3 (5) INTERNATIONAL COLLABORATION.—In car-  
4 rying out the program, the Secretary shall collabo-  
5 rate, to the extent practicable, on activities of mu-  
6 tual interest with the relevant agencies and non-  
7 governmental organizations of foreign countries with  
8 interests relating to energy critical materials.

9 (b) PLAN.—

10 (1) IN GENERAL.—Within 180 days after the  
11 date of enactment of this Act and biennially there-  
12 after, the Secretary shall prepare and submit to the  
13 appropriate Congressional committees a plan to  
14 carry out the program.

15 (2) SPECIFIC REQUIREMENTS.—The plan re-  
16 quired under paragraph (1) shall include a descrip-  
17 tion of—

18 (A) the research and development activities  
19 to be carried out by the program during the  
20 subsequent 2 years;

21 (B) the expected contributions of the pro-  
22 gram to the creation of innovative methods and  
23 technologies for the efficient and sustainable  
24 provision of energy critical materials to the do-  
25 mestic economy;

1           (C) the expected activities of the program  
2           to mitigate the adverse environmental and  
3           health impacts of the extraction, processing,  
4           manufacturing, use, recovery, and recycling of  
5           energy critical materials; and

6           (D) how the program is promoting the  
7           broadest possible participation by academic, in-  
8           dustrial, the public, and other contributors.

9           (3) CONSULTATION.—In preparing each plan  
10          under paragraph (1), the Secretary shall consult  
11          with appropriate representatives of industry, institu-  
12          tions of higher education, Department of Energy na-  
13          tional laboratories, professional and technical soci-  
14          eties, other Federal agencies, States, tribes, the pub-  
15          lic, and other entities, as determined by the Sec-  
16          retary.

17          (c) COORDINATION AND NONDUPLICATION.—To the  
18          maximum extent practicable, the Secretary shall ensure  
19          that the activities carried out under this subtitle are co-  
20          ordinated with, and do not unnecessarily duplicate the ef-  
21          forts of, other programs within the Federal Government.

22          (d) STANDARD OF REVIEW.—Not later than 2 years  
23          after the date of the enactment of this Act the Secretary  
24          of Energy shall conduct a review of activities carried out  
25          under this program described in subsection (a) to deter-

1 mine the achievement of technical milestones established  
2 in subsection (e).

3 (e) CRITICAL MATERIALS CONSORTIUM.—

4 (1) IN GENERAL.—Not later than 1 year after  
5 the date of enactment of this Act, the Secretary of  
6 Energy shall establish and operate a Critical Mate-  
7 rials Consortium (referred to in this section as the  
8 “Consortium”) for the purpose of supporting the  
9 program under subsection (a) by providing, to the  
10 maximum extent practicable, a centralized entity for  
11 multidisciplinary, collaborative, critical materials re-  
12 search and development.

13 (2) LEADERSHIP.—If an Energy Innovation  
14 Hub, consistent with section 206 of the Department  
15 of Energy Research Coordination Act, that is fo-  
16 cused on energy critical materials exists on the date  
17 of enactment of this Act, then the Secretary shall le-  
18 verage the personnel and expertise of such a Hub to  
19 manage the Consortium for at least a 3 year period  
20 following the establishment of the Consortium.

21 (3) MEMBERSHIP.—The members of the Con-  
22 sortium shall be representatives from relevant Fed-  
23 eral agencies, the National Laboratories, institutions  
24 of higher education, private sector entities, multi-in-



1       stitutional collaborations, and other appropriate enti-  
2       ties.

3               (4) ACTIVITIES.—The Consortium shall—

4                       (A) develop and implement a multi-year  
5                       program plan which includes the determination  
6                       of technical goals and milestones and prioritizes  
7                       leveraging of the user facilities, high perform-  
8                       ance computing capabilities, and expertise of  
9                       the Department of Energy and the National  
10                      Laboratories; and

11                     (B) submit an annual report to the Sec-  
12                     retary of Energy summarizing the activities of  
13                     the Consortium which includes an evaluation of  
14                     the Consortium's role in the achievement of  
15                     technical milestones determined in subpara-  
16                     graph (A).

17               (5) DURATION.—The Consortium established  
18       under this subsection shall receive support for a pe-  
19       riod of not more than 5 years, subject to the avail-  
20       ability of appropriations.

21               (6) RENEWAL.—Upon the expiration of any pe-  
22       riod of support of the Consortium, the Secretary of  
23       Energy may renew support for the Consortium, on  
24       a merit-reviewed basis, for a period of not more than  
25       5 years.

1           (7) TERMINATION.—Consistent with the exist-  
2           ing authorities of the Department, the Secretary of  
3           Energy may terminate the Consortium for cause  
4           during the performance period.

5           (f) CRITICAL MATERIALS AND SUPPLY CHAIN RE-  
6 SEARCH FACILITY.—The Secretary shall support con-  
7 struction of a facility that provides an integrated, rapidly  
8 reconfigurable research platform to further enable re-  
9 search and development activities throughout the supply  
10 chain for energy critical materials.

11          (g) AUTHORIZATION OF APPROPRIATIONS.—There  
12 are authorized to be appropriated to the Secretary of En-  
13 ergy \$135,000,000 for each of fiscal years 2021 through  
14 2025 to carry out this section.

15 **SEC. 10122. CRITICAL MATERIALS RESEARCH DATABASE**  
16 **AND INFORMATION CENTER.**

17          (a) IN GENERAL.—In carrying out the program es-  
18 tablished under section 10121, the Secretary, in consulta-  
19 tion with the Director of the National Science Foundation  
20 shall establish and operate a Critical Materials Informa-  
21 tion Center to collect, catalogue, disseminate, and archive  
22 information on energy critical materials in coordination  
23 with the Office of Scientific and Technical Information of  
24 the Department of Energy, and support the development  
25 of a web-based platform to provide public access to a data-

1 base of computed information on known and predicted  
2 critical materials and related material properties and com-  
3 putational tools in order to—

4           (1) accelerate breakthroughs in energy critical  
5 materials identification and design;

6           (2) strengthen the foundation for technologies  
7 that will enable more sustainable recycling, substi-  
8 tution, use, and recovery and minimize the environ-  
9 mental impacts of methods for extraction, proc-  
10 essing, and manufacturing of energy critical mate-  
11 rials; and

12           (3) drive the development of advanced materials  
13 for applications that span the Department’s missions  
14 in energy, environment, and national security.

15       (b) ACTIVITIES.—In carrying out this section, the  
16 Secretary shall—

17           (1) conduct cooperative research with industry,  
18 academia, and other research institutions to facili-  
19 tate the design of novel materials, including critical  
20 materials and substitutes for critical materials;

21           (2) leverage existing high-performance com-  
22 puting systems to conduct high throughput calcula-  
23 tions and develop computing and data mining algo-  
24 rithms for the prediction of material properties, in-  
25 cluding a focus on critical materials;

1           (3) leverage and support research in mineralogy  
2           and mineral chemistry to enhance the under-  
3           standing, prediction, and manipulation of critical  
4           materials;

5           (4) assist scientists and engineers in making  
6           the fullest possible use of the Department's relevant  
7           data holdings, including the scientific and technical  
8           data generated by the research and development ac-  
9           tivities funded under section 1021;

10          (5) seek and incorporate other information on  
11          energy critical materials to enhance the Depart-  
12          ment's utility for program participants and other  
13          users;

14          (6) manage and make available to researchers  
15          and the public accessible, curated, standardized, se-  
16          cure, and privacy protected data sets from the public  
17          and private sectors for the purposes of critical mate-  
18          rials research and development activities.

19          (c) COORDINATION.—To carry out this section, the  
20          Secretary of Energy shall leverage and ensure the coordi-  
21          nation of relevant programs, facilities, and activities  
22          across the Department, including the Critical Materials  
23          Consortium established under section 10121(e).

24          (d) SECURITY.—In carrying out the activities author-  
25          ized by this section, the Secretary of Energy, in consulta-

1 tion with the Director of the National Science Foundation,  
2 shall ensure proper security controls are in place to protect  
3 proprietary or sensitive data, as appropriate.

4 **SEC. 10123. CRITICAL MATERIALS INTERAGENCY SUB-**  
5 **COMMITTEE.**

6 (a) IN GENERAL.—The Critical Minerals Sub-  
7 committee of the National Science and Technology Council  
8 (referred to in this section as the “Subcommittee”), shall  
9 coordinate Federal science and technology efforts to en-  
10 sure secure, reliable, and environmentally sustainable sup-  
11 plies of critical materials to the United States.

12 (b) PURPOSES.—the purposes of the Subcommittee  
13 shall be—

14 (1) to advise and assist the National Science  
15 and Technology Council, including the Committee on  
16 Homeland and National Security, on United States  
17 policies, procedures, and plans as it relates to crit-  
18 ical materials, including—

19 (A) Federal research, development, and  
20 commercial application efforts to minimize the  
21 environmental impacts of methods for extrac-  
22 tions, concentration, separation and purification  
23 of conventional, secondary, and unconventional  
24 sources of critical materials;

1 (B) efficient use, substitution, and reuse of  
2 critical materials;

3 (C) the critical materials workforce of the  
4 United States; and

5 (D) United States private industry invest-  
6 ments in innovation and technology transfer  
7 from federally funded science and technology;

8 (2) to identify emerging opportunities, stimu-  
9 late international cooperation, and foster the devel-  
10 opment of secure and reliable supply chains of crit-  
11 ical materials and establish scenario modeling sys-  
12 tems for supply problems of critical materials and  
13 energy critical materials;

14 (3) to ensure the transparency of information  
15 and data related to critical materials; and

16 (4) to provide recommendations on coordination  
17 and collaboration among the research, development,  
18 and deployment programs and activities of Federal  
19 agencies to promote a secure and reliable supply of  
20 critical materials necessary to maintain national se-  
21 curity, economic well-being, public health, and indus-  
22 trial production.

23 (c) RESPONSIBILITIES.—In carrying out paragraphs  
24 (1) and (2), the Subcommittee may, taking into account

1 the findings and recommendations of relevant advisory  
2 committees—

3           (1) provide recommendations on how Federal  
4 agencies may improve the topographic, geologic, and  
5 geophysical mapping of the United States and im-  
6 prove the discoverability, accessibility, and usability  
7 of the resulting and existing data, to the extent per-  
8 mitted by law and subject to appropriate limitation  
9 for purposes of privacy and security; assess the  
10 progress towards developing critical materials recy-  
11 cling and reprocessing technologies, and techno-  
12 logical alternatives to critical materials;

13           (2) establish a mechanism for the coordination  
14 and evaluation of Federal programs with energy crit-  
15 ical material needs, including Federal programs in-  
16 volving research and development, in a manner that  
17 complements related efforts carried out by the pri-  
18 vate sector and other domestic and international  
19 agencies and organizations;

20           (3) examine options for accessing and devel-  
21 oping critical materials through investment and  
22 trade with our allies and partners and provide rec-  
23 ommendations;

1           (4) evaluate and provide recommendations to  
2           incentivize the development and use of advances in  
3           science and technology in the private industry;

4           (5) assess the need for and make recommenda-  
5           tions to address the challenges the United States  
6           critical materials supply chain workforce faces, in-  
7           cluding aging and retiring personnel and faculty,  
8           and foreign competition for United States talent;

9           (6) develop, and update as necessary, a stra-  
10          tegic plan to guide Federal programs and activities  
11          to enhance scientific and technical capabilities across  
12          critical material supply chains, including a roadmap  
13          that identifies key research and development needs  
14          and coordinates on-going activities for source diver-  
15          sification, more efficient use, recycling, and substi-  
16          tution for critical materials; as well as cross-cutting  
17          mining science, data science techniques, materials  
18          science, manufacturing science and engineering,  
19          computational modeling, and environmental health  
20          and safety research and development; and

21          (7) assess the need for, and make recommenda-  
22          tions concerning, the availability and adequacy of  
23          the supply of technically trained personnel necessary  
24          for energy critical materials research, development,  
25          extraction, and industrial production, with a par-



1 ticular focus on the problem of attracting and main-  
2 taining high-quality professionals for maintaining an  
3 adequate supply of energy critical materials; and

4 (8) report to the appropriate Congressional  
5 committees on activities and findings under this sec-  
6 tion.

7 **Subtitle B—National Materials and**  
8 **Minerals Policy, Research, and**  
9 **Development**

10 **SEC. 10141. AMENDMENTS TO NATIONAL MATERIALS AND**  
11 **MINERALS POLICY, RESEARCH AND DEVEL-**  
12 **OPMENT ACT OF 1980.**

13 (a) PROGRAM PLAN.—Section 5 of the National Ma-  
14 terials and Minerals Policy, Research and Development  
15 Act of 1980 (30 U.S.C. 1604) is amended—

16 (1) by striking “date of enactment of this Act”  
17 each place it appears and inserting “date of enact-  
18 ment of the Clean Economy Jobs and Innovation  
19 Act”;

20 (2) in subsection (b)(1), by striking “Federal  
21 Coordinating Council for Science, Engineering, and  
22 Technology” and inserting “National Science and  
23 Technology Council”;

24 (3) in subsection (c)—

1 (A) in the matter preceding paragraph

2 (1)—

3 (i) by striking “the Federal Emer-  
4 gency” and all that follows through “Agen-  
5 cy, and”; and

6 (ii) by striking “appropriate shall”  
7 and inserting “appropriate, shall”;

8 (B) by striking paragraph (1);

9 (C) in paragraph (2), by striking “in the  
10 case” and all that follows through “sub-  
11 section,”;

12 (D) by redesignating paragraphs (2) and  
13 (3) as paragraphs (1) and (2), respectively; and

14 (E) by amending paragraph (2), as so re-  
15 designated, to read as follows:

16 “(2) assess the adequacy and stability of the  
17 supply of materials necessary to maintain national  
18 security, economic well-being, public health, and in-  
19 dustrial production.”;

20 (4) by striking subsection (d); and

21 (5) by redesignating subsections (e) and (f) as  
22 subsections (d) and (e), respectively.

23 (b) POLICY.—Section 3 of the National Materials and  
24 Minerals Policy, Research and Development Act of 1980  
25 (30 U.S.C. 1602) is amended—

1 (1) by striking “The Congress declares that it”  
2 and inserting “It”; and

3 (2) by striking “The Congress further declares  
4 that implementation” and inserting “Implementa-  
5 tion”.

6 (c) IMPLEMENTATION.—Section 4 of the National  
7 Materials and Minerals Policy, Research and Development  
8 Act of 1980 (30 U.S.C. 1603) is amended, in the matter  
9 preceding paragraph (1)—

10 (1) by striking “For the purpose” and all that  
11 follows through “declares that the” and inserting  
12 “The”; and

13 (2) by striking “departments and agencies,”  
14 and inserting “departments and agencies to imple-  
15 ment the policy specified in section 3”.

16 **SEC. 10142. CONFORMING REPEAL.**

17 The National Critical Materials Act of 1984 (30  
18 U.S.C. 1801 et seq.) is repealed.

19 **TITLE XI—ENVIRONMENTAL**  
20 **JUSTICE**

21 **SEC. 11001. DEFINITIONS.**

22 In this title:

23 (1) ADMINISTRATOR.—The term “Adminis-  
24 trator” means the Administrator of the Environ-  
25 mental Protection Agency.

1           (2) ADVISORY COUNCIL.—The term “Advisory  
2           Council” means the National Environmental Justice  
3           Advisory Council described in section 11009.

4           (3) AGGRIEVED PERSON.—The term “aggrieved  
5           person” means a person aggrieved by discrimination  
6           on the basis of race, color, or national origin.

7           (4) CLEARINGHOUSE.—The term “Clearing-  
8           house” means the Environmental Justice Clearing-  
9           house established by the Administrator under section  
10          11007.

11          (5) COMMUNITY OF COLOR.—The term “com-  
12          munity of color” means any geographically distinct  
13          area the population of color of which is higher than  
14          the average population of color of the State in which  
15          the community is located.

16          (6) COMMUNITY-BASED SCIENCE.—The term  
17          “community-based science” means voluntary public  
18          participation in the scientific process and the incor-  
19          poration of data and information generated outside  
20          of traditional institutional boundaries to address  
21          real-world problems in ways that may include formu-  
22          lating research questions, conducting scientific ex-  
23          periments, collecting and analyzing data, inter-  
24          preting results, making new discoveries, developing  
25          technologies and applications, and solving complex

1 problems, with an emphasis on the democratization  
2 of science and the engagement of diverse people and  
3 communities.

4 (7) DEMONSTRATES.—The term “dem-  
5 onstrates” means meets the burdens of going for-  
6 ward with the evidence and of persuasion.

7 (8) DIRECTOR.—The term “Director” means  
8 the Director of the National Institute of Environ-  
9 mental Health Sciences.

10 (9) DISPARATE IMPACT.—The term “disparate  
11 impact” means an action or practice that, even if  
12 appearing neutral, actually has the effect of sub-  
13 jecting persons to discrimination because of their  
14 race, color, or national origin.

15 (10) DISPROPORTIONATE BURDEN OF ADVERSE  
16 HUMAN HEALTH OR ENVIRONMENTAL EFFECTS.—  
17 The term “disproportionate burden of adverse  
18 human health or environmental effects” means a sit-  
19 uation where there exists higher or more adverse  
20 human health or environmental effects on commu-  
21 nities of color, low-income communities, and Tribal  
22 and indigenous communities.

23 (11) ENVIRONMENTAL JUSTICE.—The term  
24 “environmental justice” means the fair treatment  
25 and meaningful involvement of all individuals, re-

1        regardless of race, color, culture, national origin, edu-  
2        cational level, or income, with respect to the develop-  
3        ment, implementation, and enforcement of environ-  
4        mental laws, regulations, and policies to ensure  
5        that—

6                (A) populations of color, communities of  
7                color, Tribal and indigenous communities, and  
8                low-income communities have access to public  
9                information and opportunities for meaningful  
10              public participation relating to human health  
11              and environmental planning, regulations, and  
12              enforcement;

13              (B) Each population of color or community  
14              of color, Tribal and indigenous community, or  
15              low-income community enjoy the same degree of  
16              protection from pollution or other environ-  
17              mental and health hazards; and

18              (C) the 17 Principles of Environmental  
19              Justice written and adopted at the First Na-  
20              tional People of Color Environmental Leader-  
21              ship Summit held on October 24 through 27,  
22              1991, in Washington, DC, are upheld.

23              (12) ENVIRONMENTAL JUSTICE COMMUNITY.—

24              The term “environmental justice community” means  
25              a community with significant representation of com-

1 communities of color, low-income communities, or Tribal  
2 and indigenous communities, that experiences, or is  
3 at risk of experiencing higher or more adverse  
4 human health or environmental effects.

5 (13) FAIR TREATMENT.—The term “fair treat-  
6 ment” means the conduct of a program, policy, prac-  
7 tice or activity by a Federal agency in a manner that  
8 ensures that no group of individuals (including ra-  
9 cial, ethnic, or socioeconomic groups) experience a  
10 disproportionate burden of adverse human health or  
11 environmental effects resulting from such program,  
12 policy, practice, or activity, as determined through  
13 consultation with, and with the meaningful partici-  
14 pation of, individuals from the communities affected  
15 by a program, policy, practice or activity of a Fed-  
16 eral agency.

17 (14) FEDERAL AGENCY.—The term “Federal  
18 agency” means—

19 (A) each Federal agency represented on  
20 the Working Group; and

21 (B) any other Federal agency that carries  
22 out a Federal program or activity that substan-  
23 tially affects human health or the environment,  
24 as determined by the President.

1 (15) TRIBAL AND INDIGENOUS COMMUNITY.—

2 The term “Tribal and indigenous community” refers  
3 to a population of people who are members of—

4 (A) a federally recognized Indian Tribe;

5 (B) a State-recognized Indian Tribe;

6 (C) an Alaska Native or Native Hawaiian  
7 community or organization; and

8 (D) any other community of indigenous  
9 people located in a State.

10 (16) INDIAN TRIBE.—The term “Indian Tribe”  
11 has the meaning given the term “Indian tribe” in  
12 section 4 of the Indian Self-Determination and Edu-  
13 cation Assistance Act (25 U.S.C. 5304).

14 (17) INFRASTRUCTURE.—The term “infrastruc-  
15 ture” means any system for safe drinking water,  
16 sewer collection, solid waste disposal, electricity gen-  
17 eration, communication, or transportation access (in-  
18 cluding highways, airports, marine terminals, rail  
19 systems, and residential roads) that is used to effec-  
20 tively and safely support—

21 (A) housing;

22 (B) an educational facility;

23 (C) a medical provider;

24 (D) a park or recreational facility; or

25 (E) a local business.



1           (18) LOCAL GOVERNMENT.—The term “local  
2 government” means—

3           (A) a county, municipality, city, town,  
4 township, local public authority, school district,  
5 special district, intrastate district, council of  
6 governments (regardless of whether the council  
7 of governments is incorporated as a nonprofit  
8 corporation under State law), regional or inter-  
9 state governmental entity, or agency or instru-  
10 mentality of a local government; or

11           (B) an Indian Tribe or authorized Tribal  
12 organization, or Alaska Native village or organi-  
13 zation, that is not a Tribal Government.

14           (19) LOW INCOME.—The term “low income”  
15 means an annual household income equal to, or less  
16 than, the greater of—

17           (A) an amount equal to 80 percent of the  
18 median income of the area in which the house-  
19 hold is located, as reported by the Department  
20 of Housing and Urban Development; and

21           (B) 200 percent of the Federal poverty  
22 line.

23           (20) LOW-INCOME COMMUNITY.—The term  
24 “low income community” means any census block

1 group in which 30 percent or more of the population  
2 are individuals with low income.

3 (21) MEANINGFUL.—The term “meaningful”,  
4 with respect to involvement by the public in a deter-  
5 mination by a Federal agency, means that—

6 (A) potentially affected residents of a com-  
7 munity have an appropriate opportunity to par-  
8 ticipate in decisions regarding a proposed activ-  
9 ity that will affect the environment or public  
10 health of the community;

11 (B) the public contribution can influence  
12 the determination by the Federal agency;

13 (C) the concerns of all participants in-  
14 volved are taken into consideration in the deci-  
15 sion-making process; and

16 (D) the Federal agency—

17 (i) provides to potentially affected  
18 members of the public relevant and accu-  
19 rate information regarding the activity po-  
20 tentially affecting the environment or pub-  
21 lic health of affected members of the pub-  
22 lic; and

23 (ii) facilitates the involvement of po-  
24 tentially affected members of the public.

1           (22) POPULATION.—The term “population”  
2 means a census block group or series of geographi-  
3 cally contiguous blocks representing certain common  
4 characteristics, such as (but not limited to) race,  
5 ethnicity, national origin, income-level, health dis-  
6 parities, or other public health and socioeconomic at-  
7 tributes.

8           (23) POPULATION OF COLOR.—The term “pop-  
9 ulation of color” means a population of individuals  
10 who identify as—

- 11                   (A) Black;
- 12                   (B) African American;
- 13                   (C) Asian;
- 14                   (D) Pacific Islander;
- 15                   (E) another non-White race;
- 16                   (F) Hispanic;
- 17                   (G) Latino; or
- 18                   (H) linguistically isolated.

19           (24) PUBLISH.—The term “publish” means to  
20 make publicly available in a form that is—

- 21                   (A) generally accessible, including on the  
22 internet and in public libraries; and
- 23                   (B) accessible for—
  - 24                           (i) individuals who are limited in  
25 English proficiency, in accordance with Ex-

1                   Executive Order No. 13166 (65 Fed. Reg.  
2                   50121 (August 16, 2000)); and

3                   (ii) individuals with disabilities.

4                   (25) STATE.—The term “State” means any  
5                   State of the United States, the District of Columbia,  
6                   the Commonwealth of Puerto Rico, the Virgin Is-  
7                   lands, Guam, American Samoa, and the Common-  
8                   wealth of the Northern Mariana Islands.

9                   (26) TRIBAL GOVERNMENT.—The term “Tribal  
10                  Government” means the governing body of an In-  
11                  dian Tribe.

12                  (27) WORKING GROUP.—The term “Working  
13                  Group” means the interagency Federal Working  
14                  Group on Environmental Justice convened under  
15                  section 1–102 of Executive Order No. 12898 (42  
16                  U.S.C. 4321 note), as amended by Executive Order  
17                  No. 12948 (60 Fed. Reg. 6381 (January 30, 1995))  
18                  and modified by this title.

19                  (28) CLIMATE JUSTICE.—The term “climate  
20                  justice” means the fair treatment and meaningful  
21                  involvement of all individuals, regardless of race,  
22                  color, culture, national origin, educational level, or  
23                  income, with respect to the development, implemen-  
24                  tation, and enforcement of policies and projects that  
25                  address climate change, a recognition of the histor-

1 ical responsibilities for climate change, and a com-  
2 mitment that the people and communities least re-  
3 sponsible for climate change, and most vulnerable to  
4 the impacts of climate change, do not suffer dis-  
5 proportionately as a result of historical injustice and  
6 disinvestment.

7 (29) NATURAL INFRASTRUCTURE.—The term  
8 “natural infrastructure” means infrastructure that  
9 uses, restores, or emulates natural ecological proc-  
10 esses and—

11 (A) is created through the action of nat-  
12 ural physical, geological, biological, and chem-  
13 ical processes over time;

14 (B) is created by human design, engineer-  
15 ing, and construction to emulate or act in con-  
16 cert with natural processes; or

17 (C) involves the use of plants, soils, and  
18 other natural features, including through the  
19 creation, restoration, or preservation of vege-  
20 tated areas using materials appropriate to the  
21 region to manage stormwater and runoff, to at-  
22 tenuate flooding and storm surges, and for  
23 other related purposes.

1 **SEC. 11002. ENVIRONMENTAL JUSTICE COMMUNITY TECH-**  
2 **NICAL ASSISTANCE GRANTS.**

3 (a) IN GENERAL.—The Administrator may award  
4 grants to eligible entities to enable such entities to partici-  
5 pate in decisions impacting the health and safety of their  
6 communities in connection with an actual or potential re-  
7 lease of a covered hazardous air pollutant.

8 (b) TIMING.—

9 (1) GUIDANCE.—Not later than 12 months  
10 after the date of enactment of this section, the Ad-  
11 ministrator shall publish guidance describing the  
12 process for eligible entities to apply for a grant  
13 under this section, including the required content  
14 and form of applications, the manner in which appli-  
15 cations must be submitted, and any applicable dead-  
16 lines.

17 (2) FIRST GRANT.—Not later than 180 days  
18 after the issuance of guidance under paragraph (1),  
19 the Administrator shall award the first grant under  
20 this section.

21 (c) ELIGIBLE ENTITY.—To be eligible for a grant  
22 under this section, an applicant shall be a group of individ-  
23 uals who reside in a community that—

24 (1) is a population of color, a community of  
25 color, a Tribal and indigenous community, or a low-  
26 income community; and

1           (2) is in close proximity to the site of an actual  
2           or potential release of a covered hazardous air pol-  
3           lutant.

4           (d) USE OF FUNDS.—An eligible entity receiving a  
5           grant under this section shall use the grant to participate  
6           in decisions impacting the health and safety of the commu-  
7           nity involved in connection with an actual or potential re-  
8           lease of a covered hazardous air pollutant, including—

9           (1) interpreting information with regard to the  
10          nature of the hazard, cumulative impacts studies,  
11          health impacts studies, remedial investigation and  
12          feasibility studies, agency decisions, remedial design,  
13          and operation and maintenance of necessary mon-  
14          itors; and

15          (2) performing additional air pollution moni-  
16          toring.

17          (e) LIMITATIONS ON AMOUNT; RENEWAL.—

18           (1) AMOUNT.—

19           (A) IN GENERAL.—The amount of a grant  
20           under this section (excluding any renewals of  
21           the grant) may not exceed \$50,000 for any  
22           grant recipient.

23           (B) EXCEPTION.—The Administrator may  
24           waive the limitation in subparagraph (A) with  
25           respect to an applicant in any case where the

1 Administrator determines that such waiver is  
2 necessary for the community involved to obtain  
3 the necessary technical assistance.

4 (2) RENEWAL.—Grants may be renewed for  
5 each step in the regulatory, removal, or remediation  
6 process in connection with a facility with the poten-  
7 tial to release a covered hazardous air pollutant.

8 (f) DEFINITION OF COVERED HAZARDOUS AIR POL-  
9 LUTANT.—In this section, the term “covered hazardous  
10 air pollutant” means a hazardous air pollutant (as defined  
11 in section 112 of the Clean Air Act) that—

12 (1) is listed on the toxics release inventory  
13 under section 313(c) of the Emergency Planning  
14 and Community Right-To-Know Act of 1986; or

15 (2) is identified as carcinogenic by an assess-  
16 ment under the Integrated Risk Information System  
17 (IRIS) of the Environmental Protection Agency.

18 **SEC. 11003. INTERAGENCY FEDERAL WORKING GROUP ON**  
19 **ENVIRONMENTAL JUSTICE.**

20 (a) IN GENERAL.—Not later than 90 days after the  
21 date of enactment of this Act, the Administrator shall con-  
22 vene, as appropriate to carry out this section, the Working  
23 Group.

24 (b) REQUIREMENTS.—



1           (1) COMPOSITION.—The Working Group shall  
2           be comprised of the following (or a designee):

3                   (A) The Secretary of Agriculture.

4                   (B) The Secretary of Commerce.

5                   (C) The Secretary of Defense.

6                   (D) The Secretary of Energy.

7                   (E) The Secretary of Health and Human  
8           Services.

9                   (F) The Secretary of Homeland Security.

10                  (G) The Secretary of Housing and Urban  
11           Development.

12                  (H) The Secretary of the Interior.

13                  (I) The Secretary of Labor.

14                  (J) The Secretary of Transportation.

15                  (K) The Attorney General.

16                  (L) The Administrator.

17                  (M) The Director of the Office of Environ-  
18           mental Justice.

19                  (N) The Chairman of the Consumer Prod-  
20           uct Safety Commission.

21                  (O) The Chairperson of the Chemical Safe-  
22           ty Board.

23                  (P) The Director of the Office of Manage-  
24           ment and Budget.

1           (Q) The Director of the Office of Science  
2 and Technology Policy.

3           (R) The Chair of the Council on Environ-  
4 mental Quality.

5           (S) The Assistant to the President for Do-  
6 mestic Policy.

7           (T) The Director of the National Economic  
8 Council.

9           (U) The Chairman of the Council of Eco-  
10 nomic Advisers.

11          (V) The Secretary of Education.

12          (W) The Deputy Assistant to the President  
13 for Environmental Policy.

14          (X) The Director of the National Institutes  
15 of Health.

16          (Y) The Director of the National Park  
17 Service.

18          (Z) The Assistant Secretary of the Bureau  
19 of Indian Affairs.

20          (AA) The Chairperson of the National En-  
21 vironmental Justice Advisory Council.

22          (BB) Such other Federal officials as the  
23 President may designate.

24          (2) FUNCTIONS.—The Working Group shall—

1 (A) report to the President through the  
2 Chair of the Council on Environmental Quality;

3 (B) provide guidance to Federal agencies  
4 regarding criteria for identifying disproportion-  
5 ately high and adverse human health or envi-  
6 ronmental effects—

7 (i) on populations of color, commu-  
8 nities of color, Tribal and indigenous com-  
9 munities, and low-income communities;  
10 and

11 (ii) on the basis of race, color, na-  
12 tional origin, or income;

13 (C) coordinate with, provide guidance to,  
14 and serve as a clearinghouse for, each Federal  
15 agency with respect to the implementation and  
16 updating of an environmental justice strategy  
17 required under this title, in order to ensure that  
18 the administration, interpretation, and enforce-  
19 ment of programs, activities, and policies are  
20 carried out in a consistent manner;

21 (D) assist in coordinating research by, and  
22 stimulating cooperation among, the Environ-  
23 mental Protection Agency, the Department of  
24 Health and Human Services, the Department of  
25 Housing and Urban Development, and other

1 Federal agencies conducting research or other  
2 activities in accordance with this title;

3 (E) identify, based in part on public rec-  
4 ommendations contained in Federal agency  
5 progress reports, important areas for Federal  
6 agencies to take into consideration and address,  
7 as appropriate, in environmental justice strate-  
8 gies and other efforts;

9 (F) assist in coordinating data collection  
10 and maintaining and updating appropriate  
11 databases, as required by this title;

12 (G) examine existing data and studies re-  
13 lating to environmental justice;

14 (H) hold public meetings and otherwise so-  
15 licit public participation under paragraph (3);  
16 and

17 (I) develop interagency model projects re-  
18 lating to environmental justice that demonstrate  
19 cooperation among Federal agencies.

20 (3) PUBLIC PARTICIPATION.—The Working  
21 Group shall—

22 (A) hold public meetings or otherwise so-  
23 licit public participation and community-based  
24 science for the purpose of fact-finding with re-  
25 spect to the implementation of this title; and

1 (B) prepare for public review and publish  
2 a summary of any comments and recommenda-  
3 tions provided.

4 (c) JUDICIAL REVIEW AND RIGHTS OF ACTION.—

5 Any person may commence a civil action—

6 (1) to seek relief from, or to compel, an agency  
7 action under this section (including regulations pro-  
8 mulgated pursuant to this section); or

9 (2) otherwise to ensure compliance with this  
10 section (including regulations promulgated pursuant  
11 to this section).

12 **SEC. 11004. FEDERAL AGENCY ACTIONS TO ADDRESS ENVI-**  
13 **RONMENTAL JUSTICE.**

14 (a) FEDERAL AGENCY RESPONSIBILITIES.—

15 (1) ENVIRONMENTAL JUSTICE MISSION.—To  
16 the maximum extent practicable and permitted by  
17 applicable law, each Federal agency shall make  
18 achieving environmental justice part of the mission  
19 of the Federal agency by identifying, addressing,  
20 and mitigating disproportionately high and adverse  
21 human health or environmental effects of the pro-  
22 grams, policies, and activities of the Federal agency  
23 on populations of color, communities of color, Tribal  
24 and indigenous communities, and low-income com-  
25 munities in the United States (including the terri-

1 tories and possessions of the United States and the  
2 District of Columbia).

3 (2) NONDISCRIMINATION.—Each Federal agen-  
4 cy shall conduct any program, policy, or activity that  
5 substantially affects human health or the environ-  
6 ment in a manner that ensures that the program,  
7 policy, or activity does not have the effect of exclud-  
8 ing any individual or group from participation in,  
9 denying any individual or group the benefits of, or  
10 subjecting any individual or group to discrimination  
11 under, the program, policy, or activity because of  
12 race, color, or national origin.

13 (3) STRATEGIES.—

14 (A) AGENCYWIDE STRATEGIES.—Each  
15 Federal agency shall implement and update, not  
16 less frequently than annually, an agencywide  
17 environmental justice strategy that identifies  
18 and includes strategies to address  
19 disproportionately high and adverse human  
20 health or environmental effects of the pro-  
21 grams, policies, spending, and other activities of  
22 the Federal agency with respect to populations  
23 of color, communities of color, Tribal and indig-  
24 enous communities, and low-income commu-  
25 nities, including, as appropriate for the mission

1 of the Federal agency, with respect to the fol-  
2 lowing areas:

3 (i) Implementation of the National  
4 Environmental Policy Act of 1969 (42  
5 U.S.C. 4321 et seq.).

6 (ii) Implementation of title VI of the  
7 Civil Rights Act of 1964 (42 U.S.C. 2000d  
8 et seq.) (including regulations promulgated  
9 pursuant to that title).

10 (iii) Implementation of the Robert T.  
11 Stafford Disaster Relief and Emergency  
12 Assistance Act (42 U.S.C. 5121 et seq.).

13 (iv) Impacts from the lack of infra-  
14 structure, or from deteriorated infrastruc-  
15 ture.

16 (v) Impacts from land use.

17 (vi) Impacts from climate change.

18 (vii) Impacts from commercial trans-  
19 portation.

20 (viii) Strategies for the implementa-  
21 tion of agency programs, policies, and ac-  
22 tivities to provide for—

23 (I) equal protection from environ-  
24 mental and health hazards for popu-  
25 lations of color, communities of color,

1 Tribal and indigenous communities,  
2 and low-income communities;

3 (II) equal opportunity for public  
4 involvement and due process to popu-  
5 lations of color, communities of color,  
6 Tribal and indigenous communities,  
7 and low-income communities in the  
8 development, implementation, and en-  
9 forcement of agency programs, poli-  
10 cies, and activities;

11 (III) improved technical assist-  
12 ance and access to information to  
13 populations of color, communities of  
14 color, Tribal and indigenous commu-  
15 nities, and low-income communities  
16 regarding the impacts of agency pro-  
17 grams, policies, and activities on envi-  
18 ronmental justice communities;

19 (IV) improved agency cooperation  
20 with State governments, Tribal Gov-  
21 ernments, and local governments to  
22 address pollution and public health  
23 burdens for populations of color, com-  
24 munities of color, Tribal and indige-



1           nous communities, and low-income  
2           communities.

3           (B) REVISIONS.—

4           (i) IN GENERAL.—Each strategy de-  
5           veloped and updated pursuant to subpara-  
6           graph (A) shall identify programs, policies,  
7           planning and public participation proc-  
8           esses, rulemaking, agency spending, and  
9           enforcement activities relating to human  
10          health or the environment that may be re-  
11          vised, at a minimum—

12                   (I) to promote enforcement of all  
13                   health, environmental, and civil rights  
14                   laws and regulations in areas con-  
15                   taining populations of color, commu-  
16                   nities of color, Tribal and indigenous  
17                   communities, and low-income commu-  
18                   nities;

19                   (II) to ensure greater public par-  
20                   ticipation;

21                   (III) to provide increased access  
22                   to infrastructure;

23                   (IV) to improve research and  
24                   data collection relating to the health  
25                   and environment of populations of

1 color, communities of color, Tribal  
2 and indigenous communities, and low-  
3 income communities, including  
4 through the increased use of commu-  
5 nity-based science; and

6 (V) to identify differential pat-  
7 terns of use of natural resources  
8 among populations of color, commu-  
9 nities of color, Tribal and indigenous  
10 communities, and low-income commu-  
11 nities.

12 (ii) TIMETABLES.—Each strategy im-  
13 plemented and updated pursuant to sub-  
14 paragraph (A) shall include a timetable for  
15 undertaking revisions identified pursuant  
16 to clause (i).

17 (C) PROGRESS REPORTS.—Not later than  
18 1 year after the date of enactment of this Act,  
19 and not less frequently than once every 5 years  
20 thereafter, each Federal agency shall submit to  
21 Congress and the Working Group, and shall  
22 publish, a progress report that includes, with  
23 respect to the period covered by the report—

1 (i) a description of the current envi-  
2 ronmental justice strategy of the Federal  
3 agency;

4 (ii) an evaluation of the progress  
5 made by the Federal agency at national  
6 and regional levels regarding implementa-  
7 tion of the environmental justice strategy,  
8 including—

9 (I) metrics used by the Federal  
10 agency to measure performance; and

11 (II) the progress made by the  
12 Federal agency toward—

13 (aa) the achievement of the  
14 metrics described in subclause

15 (I); and

16 (bb) mitigating identified in-  
17 stances of environmental injus-  
18 tice;

19 (iii) a description of the participation  
20 by the Federal agency in interagency col-  
21 laboration;

22 (iv) responses to recommendations  
23 submitted by members of the public to the  
24 Federal agency relating to the environ-  
25 mental justice strategy of the Federal

1                   agency and the implementation by the  
2                   Federal agency of this title; and

3                   (v) any updates or revisions to the en-  
4                   vironmental justice strategy of the Federal  
5                   agency, including those resulting from pub-  
6                   lic comments.

7                   (4) PUBLIC PARTICIPATION.—Each Federal  
8                   agency shall—

9                   (A) ensure that meaningful opportunities  
10                  exist for the public to submit comments and  
11                  recommendations relating to the environmental  
12                  justice strategy, progress reports, and ongoing  
13                  efforts of the Federal agency to incorporate en-  
14                  vironmental justice principles into the pro-  
15                  grams, policies, and activities of the Federal  
16                  agency;

17                  (B) hold public meetings or otherwise so-  
18                  licit public participation and community-based  
19                  science from populations of color, communities  
20                  of color, Tribal and indigenous communities,  
21                  and low-income communities for fact-finding,  
22                  receiving public comments, and conducting in-  
23                  quiries concerning environmental justice; and

1           (C) prepare for public review and publish  
2           a summary of the comments and recommenda-  
3           tions provided.

4           (5) ACCESS TO INFORMATION.—Each Federal  
5           agency shall—

6           (A) publish public documents, notices, and  
7           hearings relating to the programs, policies, and  
8           activities of the Federal agency that affect  
9           human health or the environment; and

10          (B) translate and publish any public docu-  
11          ments, notices, and hearings relating to an ac-  
12          tion of the Federal agency as appropriate for  
13          the affected population, specifically in any case  
14          in which a limited English-speaking population  
15          may be disproportionately affected by that ac-  
16          tion.

17          (6) CODIFICATION OF GUIDANCE.—

18          (A) COUNCIL ON ENVIRONMENTAL QUAL-  
19          ITY.—Notwithstanding any other provision of  
20          law, sections II and III of the guidance issued  
21          by the Council on Environmental Quality enti-  
22          tled “Environmental Justice Guidance Under  
23          the National Environmental Policy Act” and  
24          dated December 10, 1997, are enacted into law.

1                   (B) ENVIRONMENTAL PROTECTION AGEN-  
2                   CY.—Notwithstanding any other provision of  
3                   law, the guidance issued by the Environmental  
4                   Protection Agency entitled “EPA Policy on  
5                   Consultation and Coordination with Indian  
6                   Tribes: Guidance for Discussing Tribal Treaty  
7                   Rights” and dated February 2016 is enacted  
8                   into law.

9                   (b) HUMAN HEALTH AND ENVIRONMENTAL RE-  
10                  SEARCH, DATA COLLECTION, AND ANALYSIS.—

11                  (1) RESEARCH.—Each Federal agency, to the  
12                  maximum extent practicable and permitted by appli-  
13                  cable law, shall—

14                         (A) in conducting environmental or human  
15                         health research, include diverse segments of the  
16                         population in epidemiological and clinical stud-  
17                         ies, including segments at high risk from envi-  
18                         ronmental hazards, such as—

19                                 (i) populations of color, communities  
20                                 of color, Tribal and indigenous commu-  
21                                 nities, populations with low income, and  
22                                 low-income communities;

23                                 (ii) fenceline communities; and

24                                 (iii) workers who may be exposed to  
25                                 substantial environmental hazards;

1 (B) in conducting environmental or human  
2 health analyses, identify multiple and cumu-  
3 lative exposures; and

4 (C) actively encourage and solicit commu-  
5 nity-based science, and provide to populations  
6 of color, communities of color, Tribal and indig-  
7 enous communities, populations with low in-  
8 come, and low income communities the oppor-  
9 tunity to comment regarding the development  
10 and design of research strategies carried out  
11 pursuant to this title.

12 (2) DISPROPORTIONATE IMPACT.—To the max-  
13 imum extent practicable and permitted by applicable  
14 law (including section 552a of title 5, United States  
15 Code (commonly known as the Privacy Act)), each  
16 Federal agency shall—

17 (A) collect, maintain, and analyze informa-  
18 tion assessing and comparing environmental  
19 and human health risks borne by populations  
20 identified by race, national origin, or income;  
21 and

22 (B) use that information to determine  
23 whether the programs, policies, and activities of  
24 the Federal agency have disproportionately high  
25 and adverse human health or environmental ef-

1           fects on populations of color, communities of  
2           color, Tribal and indigenous communities, and  
3           low-income communities.

4           (3) INFORMATION RELATING TO NON-FEDERAL  
5           FACILITIES.—In connection with the implementation  
6           of Federal agency strategies under subsection (a)(3),  
7           each Federal agency, to the maximum extent prac-  
8           ticable and permitted by applicable law, shall collect,  
9           maintain, and analyze information relating to the  
10          race, national origin, and income level, and other  
11          readily accessible and appropriate information, for  
12          fenceline communities in proximity to any facility or  
13          site expected to have a substantial environmental,  
14          human health, or economic effect on the surrounding  
15          populations, if the facility or site becomes the sub-  
16          ject of a substantial Federal environmental adminis-  
17          trative or judicial action.

18          (4) IMPACT FROM FEDERAL FACILITIES.—Each  
19          Federal agency, to the maximum extent practicable  
20          and permitted by applicable law, shall collect, main-  
21          tain, and analyze information relating to the race,  
22          national origin, and income level, and other readily  
23          accessible and appropriate information, for fenceline  
24          communities in proximity to any facility of the Fed-  
25          eral agency that is—



1 (A) subject to the reporting requirements  
2 under the Emergency Planning and Community  
3 Right-To-Know Act of 1986 (42 U.S.C. 11001  
4 et seq.), as required by Executive Order No.  
5 12898 (42 U.S.C. 4321 note); and

6 (B) expected to have a substantial environ-  
7 mental, human health, or economic effect on  
8 surrounding populations.

9 (c) CONSUMPTION OF FISH AND WILDLIFE.—

10 (1) IN GENERAL.—Each Federal agency shall  
11 develop, publish (unless prohibited by law), and re-  
12 vise, as practicable and appropriate, guidance on ac-  
13 tions of the Federal agency that will impact fish and  
14 wildlife consumed by populations that principally  
15 rely on fish or wildlife for subsistence.

16 (2) REQUIREMENT.—The guidance described in  
17 paragraph (1) shall—

18 (A) reflect the latest scientific information  
19 available concerning methods for evaluating the  
20 human health risks associated with the con-  
21 sumption of pollutant-bearing fish or wildlife;  
22 and

23 (B) publish the risks of such consumption  
24 patterns.

1 (d) MAPPING AND SCREENING TOOL.—The Adminis-  
2 trator shall continue to make available to the public an  
3 environmental justice mapping and screening tool (such  
4 as EJScreen or an equivalent tool) that includes, at a min-  
5 imum, the following features:

6 (1) Nationally consistent data.

7 (2) Environmental data.

8 (3) Demographic data, including data relating  
9 to race, ethnicity, and income.

10 (4) Capacity to produce maps and reports by  
11 geographical area.

12 (5) Data on national parks and other federally  
13 protected natural, historic, and cultural sites.

14 (e) JUDICIAL REVIEW AND RIGHTS OF ACTION.—  
15 Any person may commence a civil action—

16 (1) to seek relief from, or to compel, an agency  
17 action under this section (including regulations pro-  
18 mulgated pursuant to this section); or

19 (2) otherwise to ensure compliance with this  
20 section (including regulations promulgated pursuant  
21 to this section).

22 (f) INFORMATION SHARING.—In carrying out this  
23 section, each Federal agency, to the maximum extent  
24 practicable and permitted by applicable law, shall share  
25 information and eliminate unnecessary duplication of ef-

1 forts through the use of existing data systems and cooper-  
2 ative agreements among Federal agencies and with State,  
3 local, and Tribal Governments.

4 **SEC. 11005. TRAINING OF EMPLOYEES OF FEDERAL AGEN-**  
5 **CIES.**

6 (a) INITIAL TRAINING.—Not later than 1 year after  
7 the date of enactment of this Act, each employee of the  
8 Department of Energy, the Environmental Protection  
9 Agency, the Department of the Interior, and the National  
10 Oceanic and Atmospheric Administration shall complete  
11 an environmental justice training program to ensure that  
12 each such employee—

13 (1) has received training in environmental jus-  
14 tice; and

15 (2) is capable of—

16 (A) appropriately incorporating environ-  
17 mental justice concepts into the daily activities  
18 of the employee; and

19 (B) increasing the meaningful participation  
20 of individuals from environmental justice com-  
21 munities in the activities of the applicable agen-  
22 cy.

23 (b) MANDATORY PARTICIPATION.—Effective on the  
24 date that is 1 year after the date of enactment of this  
25 Act, each individual hired by the Department of Energy,

1 the Environmental Protection Agency, the Department of  
2 the Interior, and the National Oceanic and Atmospheric  
3 Administration after that date shall be required to partici-  
4 pate in environmental justice training.

5 (c) REQUIREMENT RELATING TO CERTAIN EMPLOY-  
6 EES.—

7 (1) IN GENERAL.—With respect to each Fed-  
8 eral agency that participates in the Working Group,  
9 not later than 30 days after the date on which an  
10 individual is appointed to the position of environ-  
11 mental justice coordinator, or any other position the  
12 responsibility of which involves the conduct of envi-  
13 ronmental justice activities, the individual shall be  
14 required to possess documentation of the completion  
15 by the individual of environmental justice training.

16 (2) EVALUATION.—Not later than 3 years after  
17 the date of enactment of this Act, the Inspector  
18 General of each Federal agency that participates in  
19 the Working Group shall evaluate the training pro-  
20 grams of such Federal agency to determine if such  
21 Federal agency has improved the rate of training of  
22 the employees of such Federal agency to ensure that  
23 each employee has received environmental justice  
24 training.

1 **SEC. 11006. ENVIRONMENTAL JUSTICE BASIC TRAINING**  
2 **PROGRAM.**

3 (a) ESTABLISHMENT.—The Administrator shall es-  
4 tablish a basic training program, in coordination and con-  
5 sultation with nongovernmental environmental justice or-  
6 ganizations, to increase the capacity of residents of envi-  
7 ronmental justice communities to identify and address dis-  
8 proportionately adverse human health or environmental ef-  
9 fects by providing culturally and linguistically appro-  
10 priate—

11 (1) training and education relating to—

12 (A) basic and advanced techniques for the  
13 detection, assessment, and evaluation of the ef-  
14 fects of hazardous substances on human health;

15 (B) methods to assess the risks to human  
16 health presented by hazardous substances;

17 (C) methods and technologies to detect  
18 hazardous substances in the environment;

19 (D) basic biological, chemical, and physical  
20 methods to reduce the quantity and toxicity of  
21 hazardous substances;

22 (E) the rights and safeguards currently af-  
23 farded to individuals through policies and laws  
24 intended to help environmental justice commu-  
25 nities address disparate impacts and discrimi-  
26 nation, including—

1 (i) laws adopted to protect human  
2 health and the environment; and

3 (ii) section 602 of the Civil Rights Act  
4 of 1964 (42 U.S.C. 2000d-1);

5 (F) public engagement opportunities  
6 through the policies and laws described in sub-  
7 paragraph (E);

8 (G) materials available on the Clearing-  
9 house described in section 11007;

10 (H) methods to expand access to parks  
11 and other natural and recreational amenities;  
12 and

13 (I) finding and applying for Federal grants  
14 related to environmental justice; and

15 (2) short courses and continuation education  
16 programs for residents of communities who are lo-  
17 cated in close proximity to hazardous substances to  
18 provide—

19 (A) education relating to—

20 (i) the proper manner to handle haz-  
21 ardous substances;

22 (ii) the management of facilities at  
23 which hazardous substances are located  
24 (including facility compliance protocols);  
25 and

1 (iii) the evaluation of the hazards that  
2 facilities described in clause (ii) pose to  
3 human health; and

4 (B) training on environmental and occupa-  
5 tional health and safety with respect to the pub-  
6 lic health and engineering aspects of hazardous  
7 waste control.

8 (b) GRANT PROGRAM.—

9 (1) ESTABLISHMENT.—In carrying out the  
10 basic training program established under subsection  
11 (a), the Administrator may provide grants to, or  
12 enter into any contract or cooperative agreement  
13 with, an eligible entity to carry out any training or  
14 educational activity described in subsection (a).

15 (2) ELIGIBLE ENTITY.—To be eligible to receive  
16 assistance under paragraph (1), an eligible entity  
17 shall be an accredited institution of education in  
18 partnership with—

19 (A) a community-based organization that  
20 carries out activities relating to environmental  
21 justice;

22 (B) a generator of hazardous waste;

23 (C) any individual who is involved in the  
24 detection, assessment, evaluation, or treatment  
25 of hazardous waste;

1 (D) any owner or operator of a facility at  
2 which hazardous substances are located; or

3 (E) any State government, Tribal Govern-  
4 ment, or local government.

5 (c) PLAN.—

6 (1) IN GENERAL.—Not later than 2 years after  
7 the date of enactment of this Act, the Administrator,  
8 in consultation with the Director, shall develop and  
9 publish in the Federal Register a plan to carry out  
10 the basic training program established under sub-  
11 section (a).

12 (2) CONTENTS.—The plan described in para-  
13 graph (1) shall contain—

14 (A) a list that describes the relative pri-  
15 ority of each activity described in subsection  
16 (a); and

17 (B) a description of research and training  
18 relevant to environmental justice issues of com-  
19 munities adversely affected by pollution.

20 (3) COORDINATION WITH FEDERAL AGEN-  
21 CIES.—The Administrator shall, to the maximum ex-  
22 tent practicable, take appropriate steps to coordinate  
23 the activities of the basic training program described  
24 in the plan with the activities of other Federal agen-  
25 cies to avoid any duplication of effort.



1 (d) REPORT.—

2 (1) IN GENERAL.—Not later than 2 years after  
3 the date of enactment of this Act, and every 2 years  
4 thereafter, the Administrator shall submit to the  
5 Committees on Energy and Commerce and Natural  
6 Resources of the House of Representative and the  
7 Committees on Environment and Public Works and  
8 Energy and Natural Resources of the Senate a re-  
9 port describing—

10 (A) the implementation of the basic train-  
11 ing program established under subsection (a);  
12 and

13 (B) the impact of the basic training pro-  
14 gram on improving training opportunities for  
15 residents of environmental justice communities.

16 (2) PUBLIC AVAILABILITY.—The Administrator  
17 shall make the report required under paragraph (1)  
18 available to the public (including by posting a copy  
19 of the report on the website of the Environmental  
20 Protection Agency).

21 (e) AUTHORIZATION OF APPROPRIATIONS.—There is  
22 authorized to be appropriated to carry out this section  
23 \$10,000,000 for each of fiscal years 2021 through 2025.

1 **SEC. 11007. ENVIRONMENTAL JUSTICE CLEARINGHOUSE.**

2 (a) ESTABLISHMENT.—Not later than 1 year after  
3 the date of enactment of this Act, the Administrator shall  
4 establish a public internet-based clearinghouse, to be  
5 known as the Environmental Justice Clearinghouse.

6 (b) CONTENTS.—The Clearinghouse shall be com-  
7 prised of culturally and linguistically appropriate mate-  
8 rials related to environmental justice, including—

9 (1) information describing the activities con-  
10 ducted by the Environmental Protection Agency to  
11 address issues relating to environmental justice;

12 (2) copies of training materials provided by the  
13 Administrator to help individuals and employees un-  
14 derstand and carry out environmental justice activi-  
15 ties;

16 (3) links to web pages that describe environ-  
17 mental justice activities of other Federal agencies;

18 (4) a directory of individuals who possess tech-  
19 nical expertise in issues relating to environmental  
20 justice;

21 (5) a directory of nonprofit and community-  
22 based organizations, including grassroots organiza-  
23 tions led by people of color, that address issues re-  
24 lating to environmental justice at the local, State,  
25 and Federal levels (with particular emphasis given to  
26 nonprofit and community-based organizations that

1 possess the capability to provide advice or technical  
2 assistance to environmental justice communities);  
3 and

4 (6) any other appropriate information as deter-  
5 mined by the Administrator, including information  
6 on any resources available to help address the dis-  
7 proportionate burden of adverse human health or en-  
8 vironmental effects on environmental justice commu-  
9 nities.

10 (c) CONSULTATION.—In developing the Clearing-  
11 house, the Administrator shall consult with individuals  
12 representing academic and community-based organiza-  
13 tions who have expertise in issues relating to environ-  
14 mental justice.

15 (d) ANNUAL REVIEW.—The Advisory Council shall—

16 (1) conduct a review of the Clearinghouse on an  
17 annual basis; and

18 (2) recommend to the Administrator any up-  
19 dates for the Clearinghouse that the Advisory Coun-  
20 cil determines to be necessary for the effective oper-  
21 ation of the Clearinghouse.

22 **SEC. 11008. PUBLIC MEETINGS.**

23 (a) IN GENERAL.—Not later than 2 years after the  
24 date of enactment of this Act, and biennially thereafter,  
25 the Administrator shall hold public meetings on environ-

1 mental justice issues in each region of the Environmental  
2 Protection Agency to gather public input with respect to  
3 the implementation and updating of environmental justice  
4 strategies and efforts of the Environmental Protection  
5 Agency.

6 (b) OUTREACH TO ENVIRONMENTAL JUSTICE COM-  
7 MUNITIES.—The Administrator, in advance of the meet-  
8 ings described in subsection (a), shall to the extent prac-  
9 ticable hold multiple meetings in environmental justice  
10 communities in each region to provide meaningful commu-  
11 nity involvement opportunities.

12 (c) NOTICE.—Notice for the meetings described in  
13 subsections (a) and (b) shall be provided—

14 (1) to applicable representative entities or orga-  
15 nizations present in the environmental justice com-  
16 munity including—

17 (A) local religious organizations;

18 (B) civic associations and organizations;

19 (C) business associations of people of color;

20 (D) environmental and environmental jus-  
21 tice organizations;

22 (E) homeowners', tenants', and neighbor-  
23 hood watch groups;

24 (F) local and Tribal Governments;

25 (G) rural cooperatives;

1 (H) business and trade organizations;

2 (I) community and social service organiza-  
3 tions;

4 (J) universities, colleges, and vocational  
5 schools;

6 (K) labor organizations;

7 (L) civil rights organizations;

8 (M) senior citizens' groups; and

9 (N) public health agencies and clinics;

10 (2) through communication methods that are  
11 accessible in the applicable environmental justice  
12 community, which may include electronic media,  
13 newspapers, radio, and other media particularly tar-  
14 geted at communities of color, low-income commu-  
15 nities, and Tribal and indigenous communities; and

16 (3) at least 30 days before any such meeting.

17 (d) COMMUNICATION METHODS AND REQUIRE-  
18 MENTS.—The Administrator shall—

19 (1) provide translations of any documents made  
20 available to the public pursuant to this section in  
21 any language spoken by more than 5 percent of the  
22 population residing within the applicable environ-  
23 mental justice community, and make available trans-  
24 lation services for meetings upon request; and

1           (2) not require members of the public to  
2           produce a form of identification or register their  
3           names, provide other information, complete a ques-  
4           tionnaire, or otherwise fulfill any condition precedent  
5           to attending a meeting, but if an attendance list,  
6           register, questionnaire, or other similar document is  
7           utilized during meetings, it shall state clearly that  
8           the signing, registering, or completion of the docu-  
9           ment is voluntary.

10          (e) **REQUIRED ATTENDANCE OF CERTAIN EMPLOY-**  
11 **EES.**—In holding a public meeting under subsection (a),  
12 the Administrator shall ensure that at least 1 employee  
13 of the Environmental Protection Agency at the level of As-  
14 sistant Administrator is present at the meeting to serve  
15 as a representative of the Environmental Protection Agen-  
16 cy.

17 **SEC. 11009. NATIONAL ENVIRONMENTAL JUSTICE ADVI-**  
18 **SORY COUNCIL.**

19          (a) **ESTABLISHMENT.**—The President shall establish  
20 an advisory council, to be known as the National Environ-  
21 mental Justice Advisory Council.

22          (b) **MEMBERSHIP.**—The Advisory Council shall be  
23 comprised of 26 members who have knowledge of, or expe-  
24 rience relating to, the effect of environmental conditions

1 on communities of color, low-income communities, and  
2 Tribal and indigenous communities, including—

3 (1) representatives of—

4 (A) community-based organizations that  
5 carry out initiatives relating to environmental  
6 justice, including grassroots organizations led  
7 by people of color;

8 (B) State governments, Tribal Govern-  
9 ments, and local governments;

10 (C) Indian Tribes and other indigenous  
11 groups;

12 (D) nongovernmental and environmental  
13 organizations; and

14 (E) private sector organizations (including  
15 representatives of industries and businesses);  
16 and

17 (2) experts in the fields of—

18 (A) socioeconomic analysis;

19 (B) health and environmental effects;

20 (C) exposure evaluation;

21 (D) environmental law and civil rights law;

22 and

23 (E) environmental health science research.

24 (c) SUBCOMMITTEES; WORKGROUPS.—

1           (1) ESTABLISHMENT.—The Advisory Council  
2           may establish any subcommittee or workgroup to as-  
3           sist the Advisory Council in carrying out any duty  
4           of the Advisory Council described in subsection (d).

5           (2) REPORT.—Upon the request of the Advisory  
6           Council, each subcommittee or workgroup estab-  
7           lished by the Advisory Council under paragraph (1)  
8           shall submit to the Advisory Council a report that  
9           contains—

10                   (A) a description of each recommendation  
11                   of the subcommittee or workgroup; and

12                   (B) any advice requested by the Advisory  
13                   Council with respect to any duty of the Advi-  
14                   sory Council.

15           (d) DUTIES.—The Advisory Council shall provide  
16           independent advice and recommendations to the Environ-  
17           mental Protection Agency with respect to issues relating  
18           to environmental justice, including advice—

19                   (1) to help develop, facilitate, and conduct re-  
20                   views of the direction, criteria, scope, and adequacy  
21                   of the scientific research and demonstration projects  
22                   of the Environmental Protection Agency relating to  
23                   environmental justice;

24                   (2) to improve participation, cooperation, and  
25                   communication with respect to such issues—



1 (A) within the Environmental Protection  
2 Agency;

3 (B) between, and among, the Environ-  
4 mental Protection Agency and Federal agencies,  
5 State and local governments, Indian Tribes, en-  
6 vironmental justice leaders, interest groups, and  
7 the public;

8 (3) requested by the Administrator to help im-  
9 prove the response of the Environmental Protection  
10 Agency in securing environmental justice for com-  
11 munities of color, low-income communities, and  
12 Tribal and indigenous communities; and

13 (4) on issues relating to—

14 (A) the developmental framework of the  
15 Environmental Protection Agency with respect  
16 to the integration by the Environmental Protec-  
17 tion Agency of socioeconomic programs into the  
18 strategic planning, annual planning, and man-  
19 agement accountability of the Environmental  
20 Protection Agency to achieve environmental jus-  
21 tice results throughout the Environmental Pro-  
22 tection Agency;

23 (B) the measurement and evaluation of the  
24 progress, quality, and adequacy of the Environ-  
25 mental Protection Agency in planning, devel-

1           oping, and implementing environmental justice  
2           strategies, project, and programs;

3           (C) any existing and future information  
4           management systems, technologies, and data  
5           collection activities of the Environmental Pro-  
6           tection Agency (including recommendations to  
7           conduct analyses that support and strengthen  
8           environmental justice programs in administra-  
9           tive and scientific areas);

10          (D) the administration of grant programs  
11          relating to environmental justice assistance; and

12          (E) education, training, and other outreach  
13          activities conducted by the Environmental Pro-  
14          tection Agency relating to environmental jus-  
15          tice.

16          (e) DESIGNATED FEDERAL OFFICER.—The Director  
17          of the Office of Environmental Justice of the Environ-  
18          mental Protection Agency is designated as the Federal of-  
19          ficer required under section 10(e) of the Federal Advisory  
20          Committee Act (5 U.S.C. App.) for the Advisory Council.

21          (f) MEETINGS.—

22                (1) IN GENERAL.—The Advisory Council shall  
23                meet not less frequently than 3 times each calendar  
24                year.

1           (2) OPEN TO PUBLIC.—Each meeting of the  
2     Advisory Council shall be held open to the public.

3           (3) DUTIES OF DESIGNATED FEDERAL OFFI-  
4     CER.—The designated Federal officer described in  
5     subsection (e) (or a designee) shall—

6           (A) be present at each meeting of the Ad-  
7     visory Council;

8           (B) ensure that each meeting is conducted  
9     in accordance with an agenda approved in ad-  
10    vance by the designated Federal officer;

11          (C) provide an opportunity for interested  
12    persons—

13           (i) to file comments before or after  
14    each meeting of the Advisory Council; or

15           (ii) to make statements at such a  
16    meeting, to the extent that time permits;

17          (D) ensure that a representative of the  
18    Working Group and a high-level representative  
19    from each regional office of the Environmental  
20    Protection Agency are invited to, and encour-  
21    aged to attend, each meeting of the Advisory  
22    Council; and

23          (E) provide technical assistance to States  
24    seeking to establish State-level environmental

1 justice advisory councils or implement other en-  
2 vironmental justice policies or programs.

3 (g) RESPONSES FROM ADMINISTRATOR.—

4 (1) PUBLIC COMMENT INQUIRIES.—The Admin-  
5 istrator shall provide a written response to each in-  
6 quiry submitted to the Administrator by a member  
7 of the public before or after each meeting of the Ad-  
8 visory Council by not later than 120 days after the  
9 date of submission.

10 (2) RECOMMENDATIONS FROM ADVISORY COUN-  
11 CIL.—The Administrator shall provide a written re-  
12 sponse to each recommendation submitted to the Ad-  
13 ministrator by the Advisory Council by not later  
14 than 120 days after the date of submission.

15 (h) TRAVEL EXPENSES.—A member of the Advisory  
16 Council may be allowed travel expenses, including per  
17 diem in lieu of subsistence, at such rate as the Adminis-  
18 trator determines to be appropriate while away from the  
19 home or regular place of business of the member in the  
20 performance of the duties of the Advisory Council.

21 (i) DURATION.—The Advisory Council shall remain  
22 in existence unless otherwise provided by law.

23 **SEC. 11010. ENVIRONMENTAL JUSTICE GRANT PROGRAMS.**

24 (a) IN GENERAL.—The Administrator shall continue  
25 to carry out the Environmental Justice Small Grants Pro-

1 gram and the Environmental Justice Collaborative Prob-  
2 lem-Solving Cooperative Agreement Program, as those  
3 programs are in existence on the date of enactment of this  
4 Act.

5 (b) CARE GRANTS.—The Administrator shall con-  
6 tinue to carry out the Community Action for a Renewed  
7 Environment grant programs I and II, as in existence on  
8 January 1, 2012.

9 (c) AUTHORIZATION OF APPROPRIATIONS.—There is  
10 authorized to be appropriated to carry out the programs  
11 described in subsections (a) and (b) \$50,000,000 for each  
12 of fiscal years 2021 through 2030.

13 **SEC. 11011. ENVIRONMENTAL JUSTICE COMMUNITY SOLID**  
14 **WASTE DISPOSAL TECHNICAL ASSISTANCE**  
15 **GRANTS.**

16 (a) IN GENERAL.—The Administrator may award  
17 grants to eligible entities to enable such entities to partici-  
18 pate in decisions impacting the health and safety of their  
19 communities relating to the permitting or permit renewal  
20 of a solid waste disposal facility or hazardous waste facil-  
21 ity.

22 (b) TIMING.—

23 (1) GUIDANCE.—Not later than 12 months  
24 after the date of enactment of this section, the Ad-  
25 ministrator shall publish guidance describing the

1 process for eligible entities to apply for a grant  
2 under this section, including the required content  
3 and form of applications, the manner in which appli-  
4 cations must be submitted, and any applicable dead-  
5 lines.

6 (2) FIRST GRANT.—Not later than 180 days  
7 after the issuance of guidance under paragraph (1),  
8 the Administrator shall award the first grant under  
9 this section.

10 (c) ELIGIBLE ENTITY.—To be eligible for a grant  
11 under this section, an applicant shall be a group of individ-  
12 uals who reside in a community that—

13 (1) is a population of color, a community of  
14 color, a Tribal and indigenous community, or a low-  
15 income community; and

16 (2) is in close proximity to a facility described  
17 in subsection (a) for which a decision relating to a  
18 permit or permit renewal for such facility is re-  
19 quired.

20 (d) USE OF FUNDS.—An eligible entity receiving a  
21 grant under this section shall use the grant to participate  
22 in decisions impacting the health and safety of the commu-  
23 nity involved that are related to the permitting or permit  
24 renewal of a solid waste disposal facility or hazardous  
25 waste facility, including—

- 1 (1) interpreting information with regard to—  
2 (A) cumulative impacts studies;  
3 (B) health impacts studies;  
4 (C) relevant agency decisions; and  
5 (D) operation and maintenance of nec-  
6 essary monitors; and  
7 (2) performing environmental monitoring.

8 (e) LIMITATIONS ON AMOUNT; RENEWAL.—

9 (1) AMOUNT.—

10 (A) IN GENERAL.—The amount of a grant  
11 under this section (excluding any renewals of  
12 the grant) may not exceed \$50,000 for any  
13 grant recipient.

14 (B) EXCEPTION.—The Administrator may  
15 waive the limitation in subparagraph (A) with  
16 respect to an applicant in any case where the  
17 Administrator determines that such waiver is  
18 necessary for the community involved to obtain  
19 the necessary technical assistance.

20 (2) RENEWAL.—Grants may be renewed for  
21 each step in the process for the permitting or permit  
22 renewal of a solid waste disposal facility or haz-  
23 ardous waste facility.

1 **SEC. 11012. ENVIRONMENTAL JUSTICE COMMUNITY, STATE,**  
2 **AND TRIBAL GRANT PROGRAMS.**

3 (a) ENVIRONMENTAL JUSTICE COMMUNITY GRANT  
4 PROGRAM.—

5 (1) ESTABLISHMENT.—The Administrator shall  
6 establish a program under which the Administrator  
7 shall provide grants to eligible entities to assist the  
8 eligible entities in—

9 (A) building capacity to address issues re-  
10 lating to environmental justice; and

11 (B) carrying out any activity described in  
12 paragraph (4).

13 (2) ELIGIBILITY.—To be eligible to receive a  
14 grant under paragraph (1), an eligible entity shall be  
15 a nonprofit, community-based organization that con-  
16 ducts activities, including providing medical and pre-  
17 ventive health services, to reduce the dispropor-  
18 tionate health impacts of environmental pollution in  
19 the environmental justice community at which the  
20 eligible entity proposes to conduct an activity that is  
21 the subject of the application described in paragraph  
22 (3).

23 (3) APPLICATION.—To be eligible to receive a  
24 grant under paragraph (1), an eligible entity shall  
25 submit to the Administrator an application at such



1 time, in such manner, and containing such informa-  
2 tion as the Administrator may require, including—

3 (A) an outline describing the means by  
4 which the project proposed by the eligible entity  
5 will—

6 (i) with respect to environmental and  
7 public health issues at the local level, in-  
8 crease the understanding of the environ-  
9 mental justice community at which the eli-  
10 gible entity will conduct the project;

11 (ii) improve the ability of the environ-  
12 mental justice community to address each  
13 issue described in clause (i);

14 (iii) facilitate collaboration and co-  
15 operation among various stakeholders (in-  
16 cluding members of the environmental jus-  
17 tice community); and

18 (iv) support the ability of the environ-  
19 mental justice community to proactively  
20 plan and implement just sustainable com-  
21 munity development and revitalization ini-  
22 tiatives, including countering displacement  
23 and gentrification;

1 (B) a proposed budget for each activity of  
2 the project that is the subject of the applica-  
3 tion;

4 (C) a list of proposed outcomes with re-  
5 spect to the proposed project;

6 (D) a description of the ways by which the  
7 eligible entity may leverage the funds of the eli-  
8 gible entity, or the funds made available  
9 through a grant under this subsection, to de-  
10 velop a project that is capable of being sus-  
11 tained beyond the period of the grant; and

12 (E) a description of the ways by which the  
13 eligible entity is linked to, and representative  
14 of, the environmental justice community at  
15 which the eligible entity will conduct the  
16 project.

17 (4) USE OF FUNDS.—An eligible entity may  
18 only use a grant under this subsection to carry out  
19 culturally and linguistically appropriate projects and  
20 activities that are driven by the needs, opportunities,  
21 and priorities of the environmental justice commu-  
22 nity at which the eligible entity proposes to conduct  
23 the project or activity to address environmental jus-  
24 tice concerns and improve the health or environment

1 of the environmental justice community, including  
2 activities—

3 (A) to create or develop collaborative part-  
4 nerships;

5 (B) to educate and provide outreach serv-  
6 ices to the environmental justice community;

7 (C) to identify and implement projects to  
8 address environmental or public health con-  
9 cerns; or

10 (D) to develop a comprehensive under-  
11 standing of environmental or public health  
12 issues.

13 (5) REPORT.—

14 (A) IN GENERAL.—Not later than 1 year  
15 after the date of enactment of this Act, and an-  
16 nually thereafter, the Administrator shall sub-  
17 mit to the Committees on Energy and Com-  
18 merce and Natural Resources of the House of  
19 Representatives and the Committees on Envi-  
20 ronment and Public Works and Energy and  
21 Natural Resources of the Senate a report de-  
22 scribing the ways by which the grant program  
23 under this subsection has helped community-  
24 based nonprofit organizations address issues re-  
25 lating to environmental justice.

1           (B) PUBLIC AVAILABILITY.—The Adminis-  
2           trator shall make each report required under  
3           subparagraph (A) available to the public (in-  
4           cluding by posting a copy of the report on the  
5           website of the Environmental Protection Agen-  
6           cy).

7           (6) AUTHORIZATION OF APPROPRIATIONS.—  
8           There is authorized to be appropriated to carry out  
9           this subsection \$25,000,000 for each of fiscal years  
10          2021 through 2025.

11         (b) STATE GRANT PROGRAM.—

12           (1) ESTABLISHMENT.—The Administrator shall  
13           establish a program under which the Administrator  
14           shall provide grants to States to enable the States—

15                 (A) to establish culturally and linguistically  
16                 appropriate protocols, activities, and mecha-  
17                 nisms for addressing issues relating to environ-  
18                 mental justice; and

19                 (B) to carry out culturally and linguis-  
20                 tically appropriate activities to reduce or elimi-  
21                 nate disproportionately adverse human health  
22                 or environmental effects on environmental jus-  
23                 tice communities in the State, including reduc-  
24                 ing economic vulnerabilities that result in the

1 environmental justice communities being dis-  
2 proportionately affected.

3 (2) ELIGIBILITY.—

4 (A) APPLICATION.—To be eligible to re-  
5 ceive a grant under paragraph (1), a State shall  
6 submit to the Administrator an application at  
7 such time, in such manner, and containing such  
8 information as the Administrator may require,  
9 including—

10 (i) a plan that contains a description  
11 of the means by which the funds provided  
12 through a grant under paragraph (1) will  
13 be used to address issues relating to envi-  
14 ronmental justice at the State level; and

15 (ii) assurances that the funds pro-  
16 vided through a grant under paragraph (1)  
17 will be used only to supplement the  
18 amount of funds that the State allocates  
19 for initiatives relating to environmental  
20 justice.

21 (B) ABILITY TO CONTINUE PROGRAM.—To  
22 be eligible to receive a grant under paragraph  
23 (1), a State shall demonstrate to the Adminis-  
24 trator that the State has the ability to continue  
25 each program that is the subject of funds pro-

1 vided through a grant under paragraph (1)  
2 after receipt of the funds.

3 (3) REPORT.—

4 (A) IN GENERAL.—Not later than 1 year  
5 after the date of enactment of this Act, and an-  
6 nually thereafter, the Administrator shall sub-  
7 mit to the Committees on Energy and Com-  
8 merce and Natural Resources of the House of  
9 Representatives and the Committees on Envi-  
10 ronment and Public Works and Energy and  
11 Natural Resources of the Senate a report de-  
12 scribing—

13 (i) the implementation of the grant  
14 program established under paragraph (1);

15 (ii) the impact of the grant program  
16 on improving the ability of each partici-  
17 pating State to address environmental jus-  
18 tice issues; and

19 (iii) the activities carried out by each  
20 State to reduce or eliminate disproportion-  
21 ately adverse human health or environ-  
22 mental effects on environmental justice  
23 communities in the State.

24 (B) PUBLIC AVAILABILITY.—The Adminis-  
25 trator shall make each report required under

1           subparagraph (A) available to the public (in-  
2           cluding by posting a copy of the report on the  
3           website of the Environmental Protection Agen-  
4           cy).

5           (4) AUTHORIZATION OF APPROPRIATIONS.—

6           There is authorized to be appropriated to carry out  
7           this subsection \$15,000,000 for each of fiscal years  
8           2021 through 2025.

9           (c) TRIBAL GRANT PROGRAM.—

10           (1) ESTABLISHMENT.—The Administrator shall  
11           establish a program under which the Administrator  
12           shall provide grants to Tribal Governments to enable  
13           the Indian Tribes—

14                   (A) to establish culturally and linguistically  
15                   appropriate protocols, activities, and mecha-  
16                   nisms for addressing issues relating to environ-  
17                   mental justice; and

18                   (B) to carry out culturally and linguis-  
19                   tically appropriate activities to reduce or elimi-  
20                   nate disproportionately adverse human health  
21                   or environmental effects on environmental jus-  
22                   tice communities in Tribal and indigenous com-  
23                   munities, including reducing economic  
24                   vulnerabilities that result in the Tribal and in-

1           indigenous communities being disproportionately  
2           affected.

3           (2) ELIGIBILITY.—

4           (A) APPLICATION.—To be eligible to re-  
5           ceive a grant under paragraph (1), a Tribal  
6           Government shall submit to the Administrator  
7           an application at such time, in such manner,  
8           and containing such information as the Admin-  
9           istrator may require, including—

10           (i) a plan that contains a description  
11           of the means by which the funds provided  
12           through a grant under paragraph (1) will  
13           be used to address issues relating to envi-  
14           ronmental justice in Tribal and indigenous  
15           communities; and

16           (ii) assurances that the funds pro-  
17           vided through a grant under paragraph (1)  
18           will be used only to supplement the  
19           amount of funds that the Tribal Govern-  
20           ment allocates for initiatives relating to en-  
21           vironmental justice.

22           (B) ABILITY TO CONTINUE PROGRAM.—To  
23           be eligible to receive a grant under paragraph  
24           (1), a Tribal Government shall demonstrate to  
25           the Administrator that the Tribal Government



1 has the ability to continue each program that is  
2 the subject of funds provided through a grant  
3 under paragraph (1) after receipt of the funds.

4 (3) REPORT.—

5 (A) IN GENERAL.—Not later than 1 year  
6 after the date of enactment of this Act, and an-  
7 nually thereafter, the Administrator shall sub-  
8 mit to the Committees on Energy and Com-  
9 merce and Natural Resources of the House of  
10 Representatives and the Committees on Envi-  
11 ronment and Public Works and Energy and  
12 Natural Resources of the Senate a report de-  
13 scribing—

14 (i) the implementation of the grant  
15 program established under paragraph (1);

16 (ii) the impact of the grant program  
17 on improving the ability of each partici-  
18 pating Indian Tribe to address environ-  
19 mental justice issues; and

20 (iii) the activities carried out by each  
21 Tribal Government to reduce or eliminate  
22 disproportionately adverse human health or  
23 environmental effects on applicable envi-  
24 ronmental justice communities in Tribal  
25 and indigenous communities.

1           (B) PUBLIC AVAILABILITY.—The Adminis-  
2           trator shall make each report required under  
3           subparagraph (A) available to the public (in-  
4           cluding by posting a copy of the report on the  
5           website of the Environmental Protection Agen-  
6           cy).

7           (4) AUTHORIZATION OF APPROPRIATIONS.—  
8           There is authorized to be appropriated to carry out  
9           this subsection \$25,000,000 for each of fiscal years  
10          2021 through 2025.

11          (d) COMMUNITY-BASED PARTICIPATORY RESEARCH  
12          GRANT PROGRAM.—

13               (1) ESTABLISHMENT.—The Administrator, in  
14               consultation with the Director, shall establish a pro-  
15               gram under which the Administrator shall provide  
16               not more than 25 multiyear grants to eligible enti-  
17               ties to carry out community-based participatory re-  
18               search—

19                       (A) to address issues relating to environ-  
20                       mental justice;

21                       (B) to improve the environment of resi-  
22                       dents and workers in environmental justice  
23                       communities; and

1 (C) to improve the health outcomes of resi-  
2 dents and workers in environmental justice  
3 communities.

4 (2) ELIGIBILITY.—To be eligible to receive a  
5 multiyear grant under paragraph (1), an eligible en-  
6 tity shall be a partnership comprised of—

7 (A) an accredited institution of higher edu-  
8 cation; and

9 (B) a community-based organization.

10 (3) APPLICATION.—To be eligible to receive a  
11 multiyear grant under paragraph (1), an eligible en-  
12 tity shall submit to the Administrator an application  
13 at such time, in such manner, and containing such  
14 information as the Administrator may require, in-  
15 cluding—

16 (A) a detailed description of the partner-  
17 ship of the eligible entity that, as determined by  
18 the Administrator, demonstrates the participa-  
19 tion of members of the community at which the  
20 eligible entity proposes to conduct the research;  
21 and

22 (B) a description of—

23 (i) the project proposed by the eligible  
24 entity; and

1 (ii) the ways by which the project  
2 will—

3 (I) address issues relating to en-  
4 vironmental justice;

5 (II) assist in the improvement of  
6 health outcomes of residents and  
7 workers in environmental justice com-  
8 munities; and

9 (III) assist in the improvement of  
10 the environment of residents and  
11 workers in environmental justice com-  
12 munities.

13 (4) PUBLIC AVAILABILITY.—The Administrator  
14 shall make the results of the grants available pro-  
15 vided under this subsection to the public, including  
16 by posting on the website of the Environmental Pro-  
17 tection Agency a copy of the grant awards and an  
18 annual report at the beginning of each fiscal year  
19 describing the research findings associated with each  
20 grant provided under this subsection.

21 (5) AUTHORIZATION OF APPROPRIATIONS.—  
22 There is authorized to be appropriated to carry out  
23 this subsection \$10,000,000 for each of fiscal years  
24 2021 through 2025.

1 **SEC. 11013. PROTECTIONS FOR ENVIRONMENTAL JUSTICE**  
2 **COMMUNITIES AGAINST HARMFUL FEDERAL**  
3 **ACTIONS.**

4 (a) PURPOSE; DEFINITIONS.—

5 (1) PURPOSE.—The purpose of this section is  
6 to establish additional protections relating to Fed-  
7 eral actions affecting environmental justice commu-  
8 nities in recognition of the disproportionate burden  
9 of adverse human health or environmental effects  
10 faced by such communities.

11 (2) DEFINITIONS.—In this section:

12 (A) FEDERAL ACTION.—The term “Fed-  
13 eral action” means a proposed action that re-  
14 quires the preparation of an environmental im-  
15 pact statement, environmental assessment, cat-  
16 egorical exclusion, or other document under the  
17 National Environmental Policy Act of 1969 (42  
18 U.S.C. 4321 et seq.).

19 (B) ENVIRONMENTAL IMPACT STATE-  
20 MENT.—The term “environmental impact state-  
21 ment” means the detailed statement of environ-  
22 mental impacts of a proposed action required to  
23 be prepared pursuant to the National Environ-  
24 mental Policy Act of 1969 (42 U.S.C. 4321 et  
25 seq.).

1           (b) PREPARATION OF A COMMUNITY IMPACT RE-  
2 PORT.—A Federal agency proposing to take a Federal ac-  
3 tion that has the potential to cause negative environmental  
4 or public health impacts on an environmental justice com-  
5 munity shall prepare a community impact report assessing  
6 the potential impacts of the proposed action.

7           (c) CONTENTS.—The community impact report de-  
8 scribed in subsection (b) shall—

9               (1) assess the degree to which a proposed Fed-  
10 eral action affecting an environmental justice com-  
11 munity will cause multiple or cumulative exposure to  
12 human health and environmental hazards that influ-  
13 ence, exacerbate or contribute to adverse health out-  
14 comes;

15               (2) assess relevant public health data and in-  
16 dustry data concerning the potential for multiple or  
17 cumulative exposure to human health or environ-  
18 mental hazards in the area of the environmental jus-  
19 tice community and historical patterns of exposure  
20 to environmental hazards and agencies shall assess  
21 these multiple, or cumulative effects, even if certain  
22 effects are not within the control or subject to the  
23 discretion of the Federal agency proposing the Fed-  
24 eral action;

1           (3) assess the impact of such proposed Federal  
2           action on such environmental justice community's  
3           ability to access public parks, outdoor spaces, and  
4           public recreation opportunities;

5           (4) evaluate alternatives to or mitigation meas-  
6           ures for the proposed Federal action that will—

7                   (A) eliminate or reduce any identified ex-  
8                   posure to human health and environmental haz-  
9                   ards described in paragraph (1) to a level that  
10                  is reasonably expected to avoid human health  
11                  impacts in environmental justice communities;  
12                  and

13                   (B) not negatively impact an environ-  
14                   mental justice community's ability to access  
15                   public parks, outdoor spaces, and public recre-  
16                   ation opportunities; and

17           (5) analyze any alternative developed by mem-  
18           bers of an affected environmental justice community  
19           that meets the purpose and need of the proposed ac-  
20           tion.

21           (d) DELEGATION.—Federal agencies shall not dele-  
22           gate responsibility for the preparation of a community im-  
23           pact report prepared under this section to any other enti-  
24           ty.

1 (e) NATIONAL ENVIRONMENTAL POLICY ACT RE-  
2 QUIREMENTS FOR ENVIRONMENTAL JUSTICE COMMU-  
3 NITIES.—When carrying out the requirements of the Na-  
4 tional Environmental Policy Act of 1969 (42 U.S.C. 4321  
5 et seq.) for a proposed Federal action that may affect an  
6 environmental justice community, a Federal agency  
7 shall—

8 (1) consider all potential direct, indirect, and  
9 cumulative impacts caused by the action, alter-  
10 natives to such action, and mitigation measures on  
11 the environmental justice community required by the  
12 National Environmental Policy Act of 1969 (42  
13 U.S.C. 4321 et seq.);

14 (2) require any public comment period carried  
15 out during the scoping phase of the environmental  
16 review process to be no less than 90 days;

17 (3) provide early and meaningful community in-  
18 volvement opportunities by—

19 (A) holding multiple hearings in such com-  
20 munity regarding the proposed Federal action  
21 in each prominent language within the environ-  
22 mental justice community; and

23 (B) providing notice of any step or action  
24 in the National Environmental Policy Act proc-  
25 ess that involves public participation to any rep-



1           representative entities or organizations present in  
2           the environmental justice community includ-  
3           ing—

4                   (i) local religious organizations;

5                   (ii) civic associations and organiza-  
6           tions;

7                   (iii) business associations of people of  
8           color;

9                   (iv) environmental and environmental  
10          justice organizations, including community-  
11          based grassroots organizations led by peo-  
12          ple of color;

13                  (v) homeowners', tenants', and neigh-  
14          borhood watch groups;

15                  (vi) local and Tribal Governments;

16                  (vii) rural cooperatives;

17                  (viii) business and trade organiza-  
18          tions;

19                  (ix) community and social service or-  
20          ganizations;

21                  (x) universities, colleges, and voca-  
22          tional schools;

23                  (xi) labor and other worker organiza-  
24          tions;

25                  (xii) civil rights organizations;

1 (xiii) senior citizens' groups; and

2 (xiv) public health agencies and clin-  
3 ics; and

4 (4) provide translations of publicly available  
5 documents made available pursuant to the National  
6 Environmental Policy Act in any language spoken by  
7 more than 5 percent of the population residing with-  
8 in the environmental justice community.

9 (f) COMMUNICATION METHODS AND REQUIRE-  
10 MENTS.—Any notice provided under subsection (e)(3)(B)  
11 shall be provided—

12 (1) through communication methods that are  
13 accessible in the environmental justice community.  
14 Such methods may include electronic media, news-  
15 papers, radio, direct mailings, canvassing, and other  
16 outreach methods particularly targeted at commu-  
17 nities of color, low-income communities, and Tribal  
18 and indigenous communities; and

19 (2) at least 30 days before any hearing in such  
20 community or the start of any public comment pe-  
21 riod.

22 (g) REQUIREMENTS FOR ACTIONS REQUIRING AN  
23 ENVIRONMENTAL IMPACT STATEMENT.—For any pro-  
24 posed Federal action affecting an environmental justice  
25 community requiring the preparation of an environmental

1 impact statement, the Federal agency shall provide the fol-  
2 lowing information when giving notice of the proposed ac-  
3 tion:

4 (1) A description of the proposed action.

5 (2) An outline of the anticipated schedule for  
6 completing the process under the National Environ-  
7 mental Policy Act, with a description of key mile-  
8 stones.

9 (3) An initial list of alternatives and potential  
10 impacts.

11 (4) An initial list of other existing or proposed  
12 sources of multiple or cumulative exposure to envi-  
13 ronmental hazards that contribute to higher rates of  
14 serious illnesses within the environmental justice  
15 community.

16 (5) An agency point of contact.

17 (6) Timely notice of locations where comments  
18 will be received or public meetings held.

19 (7) Any telephone number or locations where  
20 further information can be obtained.

21 (h) NATIONAL ENVIRONMENTAL POLICY ACT RE-  
22 QUIREMENTS FOR INDIAN TRIBES.—When carrying out  
23 the requirements of the National Environmental Policy  
24 Act for a proposed Federal action that may affect an In-  
25 dian Tribe, a Federal agency shall—

1           (1) seek Tribal representation in the process in  
2           a manner that is consistent with the government-to-  
3           government relationship between the United States  
4           and Tribal Governments, the Federal Government's  
5           trust responsibility to federally recognized Tribes,  
6           and any treaty rights;

7           (2) ensure that an Indian Tribe is invited to  
8           hold the status of a cooperating agency throughout  
9           the National Environmental Policy Act process for  
10          any proposed action that could impact an Indian  
11          Tribe including actions that could impact off res-  
12          ervation lands and sacred sites; and

13          (3) invite an Indian Tribe to hold the status of  
14          a cooperating agency in accordance with paragraph  
15          (2) no later than the commencement of the scoping  
16          process for a proposed action requiring the prepara-  
17          tion of an environmental impact statement.

18          (i) AGENCY DETERMINATIONS.—Federal agency de-  
19          terminations about the analysis of a community impact  
20          report described in this section shall be subject to judicial  
21          review to the same extent as any other analysis performed  
22          under the National Environmental Policy Act.

23          (j) EFFECTIVE DATE.—This section shall take effect  
24          one year after the date of enactment of this Act.

1 (k) SAVINGS CLAUSE.—Nothing in this section di-  
2 minishes—

3 (1) any right granted through the National En-  
4 vironmental Policy Act of 1969 (42 U.S.C. 4321 et  
5 seq.) to the public; or

6 (2) the requirements under that Act to consider  
7 direct, indirect, and cumulative impacts.

8 **SEC. 11014. PROHIBITED DISCRIMINATION.**

9 Section 601 of the Civil Rights Act of 1964 (42  
10 U.S.C. 2000d) is amended—

11 (1) by striking “No” and inserting “(a) No”;  
12 and

13 (2) by adding at the end the following:

14 “(b)(1)(A) Discrimination (including exclusion from  
15 participation and denial of benefits) based on disparate  
16 impact is established under this title if—

17 “(i) an entity subject to this title (re-  
18 ferred to in this title as a ‘covered entity’)  
19 has a program, policy, practice, or activity  
20 that causes a disparate impact on the basis  
21 of race, color, or national origin and the  
22 covered entity fails to demonstrate that the  
23 challenged program, policy, practice, or ac-  
24 tivity is related to and necessary to achieve  
25 the nondiscriminatory goal of the program,

1 policy, practice, or activity alleged to have  
2 been operated in a discriminatory manner;  
3 or

4 “(ii) a less discriminatory alternative  
5 program, policy, practice, or activity exists,  
6 and the covered entity refuses to adopt  
7 such alternative program, policy, practice,  
8 or activity.

9 “(B) With respect to demonstrating that a  
10 particular program, policy, practice, or activity  
11 does not cause a disparate impact, the covered  
12 entity shall demonstrate that each particular  
13 challenged program, policy, practice, or activity  
14 does not cause a disparate impact, except that  
15 if the covered entity demonstrates to the courts  
16 that the elements of the covered entity’s deci-  
17 sion-making process are not capable of separa-  
18 tion for analysis, the decision-making process  
19 may be analyzed as 1 program, policy, practice,  
20 or activity.

21 “(2) A demonstration that a program, policy,  
22 practice, or activity is necessary to achieve the goals  
23 of a program, policy, practice, or activity may not be  
24 used as a defense against a claim of intentional dis-  
25 crimination under this title.

1       “(c) No person in the United States shall be sub-  
2 jected to discrimination, including retaliation or intima-  
3 tion, because such person opposed any program, policy,  
4 practice, or activity prohibited by this title, or because  
5 such person made a charge, testified, assisted, or partici-  
6 pated in any manner in an investigation, proceeding, or  
7 hearing under this title.”.

8 **SEC. 11015. RIGHT OF ACTION.**

9       (a) IN GENERAL.—Section 602 of the Civil Rights  
10 Act of 1964 (42 U.S.C. 2000d–1) is amended—

11           (1) by inserting “(a)” before “Each Federal de-  
12 partment and agency which is empowered”; and

13           (2) by adding at the end the following:

14       “(b) Any person aggrieved by the failure to comply  
15 with this title, including any regulation promulgated pur-  
16 suant to this title, may file suit in any district court of  
17 the United States having jurisdiction of the parties, with-  
18 out respect to the amount in controversy and without re-  
19 gard to the citizenship of the parties.”.

20       (b) EFFECTIVE DATE.—

21           (1) IN GENERAL.—This section, including the  
22 amendments made by this section, takes effect on  
23 the date of enactment of this Act.

24           (2) APPLICATION.—This section, including the  
25 amendments made by this section, applies to all ac-

1 tions or proceedings pending on or after the date of  
2 enactment of this Act.

3 **SEC. 11016. RIGHTS OF RECOVERY.**

4 Title VI of the Civil Rights Act of 1964 (42 U.S.C.  
5 2000d et seq.) is amended by inserting after section 602  
6 the following:

7 **“SEC. 602A. ACTIONS BROUGHT BY AGGRIEVED PERSONS.**

8 “(a) CLAIMS BASED ON PROOF OF INTENTIONAL  
9 DISCRIMINATION.—In an action brought by an aggrieved  
10 person under this title against a covered entity who has  
11 engaged in unlawful intentional discrimination (not a  
12 practice that is unlawful because of its disparate impact)  
13 prohibited under this title (including its implementing reg-  
14 ulations), the aggrieved person may recover equitable and  
15 legal relief (including compensatory and punitive dam-  
16 ages), attorney’s fees (including expert fees), and costs of  
17 the action, except that punitive damages are not available  
18 against a government, government agency, or political  
19 subdivision.

20 “(b) CLAIMS BASED ON THE DISPARATE IMPACT  
21 STANDARD OF PROOF.—In an action brought by an ag-  
22 grieved person under this title against a covered entity  
23 who has engaged in unlawful discrimination based on dis-  
24 parate impact prohibited under this title (including imple-  
25 menting regulations), the aggrieved person may recover



1 attorney's fees (including expert fees), and costs of the  
2 action.".

3 **SEC. 11017. PUBLIC HEALTH RISKS ASSOCIATED WITH CU-**  
4 **MULATIVE ENVIRONMENTAL STRESSORS.**

5 (a) PROPOSED PROTOCOL.—Not later than 180 days  
6 after the date of enactment of this section, the Adminis-  
7 trator, in consultation with the Advisory Council, shall  
8 publish a proposal for a protocol for assessing and ad-  
9 dressing the cumulative public health risks associated with  
10 multiple environmental stressors. The Administrator shall  
11 allow 90 days for public comment on such proposal. The  
12 environmental stressors addressed under such proposal  
13 shall include—

14 (1) impacts associated with global climate  
15 change, including extreme heat, extremes in tem-  
16 perature change, drought, wildfires, sea level rise,  
17 flooding, storms, water shortage, food shortage, eco-  
18 system disruption, and the spread of infectious dis-  
19 ease;

20 (2) exposure to pollutants, emissions, dis-  
21 charges, waste, chemicals, or other materials subject  
22 to regulation under the Clean Air Act, the Federal  
23 Water Pollution Control Act, the Safe Drinking  
24 Water Act, the Toxic Substances Control Act, the  
25 Solid Waste Disposal Act, the Comprehensive Envi-

1       ronmental Response, Compensation, and Liability  
2       Act of 1980, the Emergency Planning and Commu-  
3       nity Right-to-Know Act of 1986, and other laws ad-  
4       ministered by the Administrator; and

5               (3) other environmental stressors determined by  
6       the Administrator to impact public health.

7       (b) FINAL PROTOCOL.—Not later than 1 year after  
8       the enactment of this section, the Administrator shall pub-  
9       lish the final protocol for assessing and addressing the cu-  
10      mulative public health risks associated with multiple envi-  
11      ronmental stressors.

12      (c) IMPLEMENTATION.—Not later than 3 years after  
13      the enactment of this section, the Administrator shall im-  
14      plement the protocol described under subsection (b).

15      **SEC. 11018. CLIMATE JUSTICE GRANT PROGRAM.**

16      (a) ESTABLISHMENT.—The Administrator shall es-  
17      tablish a program under which the Administrator shall  
18      provide grants to eligible entities to assist the eligible enti-  
19      ties in—

20               (1) building capacity to address issues relating  
21      to climate justice; and

22               (2) carrying out any activity described in sub-  
23      section (d).

24      (b) ELIGIBILITY.—To be eligible to receive a grant  
25      under subsection (a), an eligible entity shall be a tribal

1 government, local government, or nonprofit, community-  
2 based organization.

3 (c) APPLICATION.—To be eligible to receive a grant  
4 under subsection (a), an eligible entity shall submit to the  
5 Administrator an application at such time, in such man-  
6 ner, and containing such information as the Administrator  
7 may require, including—

8 (1) an outline describing the means by which  
9 the project proposed by the eligible entity will—

10 (A) with respect to climate justice issues at  
11 the local level, increase the understanding of  
12 the environmental justice community at which  
13 the eligible entity will conduct the project;

14 (B) improve the ability of the environ-  
15 mental justice community to address each issue  
16 described in subparagraph (A);

17 (C) facilitate collaboration and cooperation  
18 among various stakeholders (including members  
19 of the environmental justice community); and

20 (D) support the ability of the environ-  
21 mental justice community to proactively plan  
22 and implement climate justice initiatives;

23 (2) a proposed budget for each activity of the  
24 project that is the subject of the application;

1           (3) a list of proposed outcomes with respect to  
2           the proposed project;

3           (4) a description of the ways by which the eligi-  
4           ble entity may leverage the funds of the eligible enti-  
5           ty, or the funds made available through a grant  
6           under this subsection, to develop a project that is ca-  
7           pable of being sustained beyond the period of the  
8           grant; and

9           (5) a description of the ways by which the eligi-  
10          ble entity is linked to, and representative of, the en-  
11          vironmental justice community at which the eligible  
12          entity will conduct the project.

13          (d) USE OF FUNDS.—An eligible entity may only use  
14 a grant under this subsection to carry out culturally and  
15 linguistically appropriate projects and activities that are  
16 driven by the needs, opportunities, and priorities of the  
17 environmental justice community at which the eligible en-  
18 tity proposes to conduct the project or activity to address  
19 climate justice concerns of the environmental justice com-  
20 munity, including activities—

21           (1) to create or develop collaborative partner-  
22           ships;

23           (2) to educate and provide outreach services to  
24           the environmental justice community on climate jus-  
25           tice;

1           (3) to identify and implement projects to ad-  
2           dress climate justice concerns, including community  
3           solar and wind energy projects, energy efficiency,  
4           home and building electrification, home and building  
5           weatherization, energy storage, solar and wind en-  
6           ergy supported microgrids, battery electric vehicles,  
7           electric vehicle charging infrastructure, natural in-  
8           frastructure, and climate resilient infrastructure.

9           (e) LIMITATIONS ON AMOUNT.—The amount of a  
10          grant under this section may not exceed \$2,000,000 for  
11          any grant recipient.

12          (f) REPORT.—

13               (1) IN GENERAL.—Not later than 1 year after  
14               the date of enactment of this Act, and annually  
15               thereafter, the Administrator shall submit to the  
16               Committees on Energy and Commerce and Natural  
17               Resources of the House of Representatives and the  
18               Committees on Environment and Public Works and  
19               Energy and Natural Resources of the Senate a re-  
20               port describing the ways by which the grant pro-  
21               gram under this subsection has helped eligible enti-  
22               ties address issues relating to energy and climate  
23               justice.

24               (2) PUBLIC AVAILABILITY.—The Administrator  
25               shall make each report required under paragraph (1)

1 available to the public (including by posting a copy  
2 of the report on the website of the Environmental  
3 Protection Agency).

4 (g) AUTHORIZATION OF APPROPRIATIONS.—There is  
5 authorized to be appropriated to carry out this subsection  
6 \$1,000,000,000 for each of fiscal years 2021 through  
7 2025. The Administrator may not use more than 2 per-  
8 cent of the amount appropriated for each fiscal year for  
9 administrative expenses, including outreach and technical  
10 assistance to eligible entities.

11 **SEC. 11019. ENVIRONMENTAL JUSTICE FOR COMMUNITIES**  
12 **OVERBURDENED BY ENVIRONMENTAL VIOLA-**  
13 **TIONS.**

14 (a) IDENTIFICATION OF COMMUNITIES.—Not later  
15 than 180 days after the date of enactment of this section,  
16 the Administrator shall, in consultation with the Advisory  
17 Council and co-regulators in State and local agencies,  
18 identify at least 100 communities—

19 (1) that are environmental justice communities;  
20 and

21 (2) in which there have been over the previous  
22 5 years a number of violations of environmental law  
23 that the Administrator determines to be greater  
24 than the national average of such violations.

1 (b) ANALYSIS AND RECOMMENDATIONS.—Not later  
2 than 1 year after the enactment of this section, with re-  
3 spect to each community identified under subsection (a),  
4 and in consultation with the Advisory Council, the Admin-  
5 istrator shall—

6 (1) undertake an analysis of the conditions  
7 which have led to the number of violations identified  
8 under subsection (a)(1), including through commu-  
9 nity-based science implemented through engagement  
10 with the residents of each such community;

11 (2) identify the root cause of the number of vio-  
12 lations described under subsection (a)(1); and

13 (3) recommend measures that the Adminis-  
14 trator shall take, in coordination with co-regulators  
15 in State and local agencies, to reduce the number of  
16 violations of environmental law to a number that the  
17 Administrator determines to be significantly below  
18 the national average.

19 (c) IMPLEMENTATION.—Not later than 2 years after  
20 the date of enactment of this section, the Administrator  
21 shall complete the implementation of the measures identi-  
22 fied under subsection (b)(3).

1       **TITLE XII—OTHER MATTERS**  
2       **Subtitle A—Blue Collar to Green**  
3       **Collar Jobs Development**  
4       **PART 1—OFFICE OF ECONOMIC IMPACT,**  
5       **DIVERSITY, AND EMPLOYMENT**

6       **SEC. 12101. NAME OF OFFICE.**

7       (a) IN GENERAL.—Section 211 of the Department of  
8       Energy Organization Act (42 U.S.C. 7141) is amended—

9               (1) in the section heading, by striking “MINOR-  
10       ITY ECONOMIC IMPACT” and inserting “ECONOMIC  
11       IMPACT, DIVERSITY, AND EMPLOYMENT”; and

12              (2) in subsection (a), by striking “Office of Mi-  
13       nority Economic Impact” and inserting “Office of  
14       Economic Impact, Diversity, and Employment”.

15       (b) CONFORMING AMENDMENT.—The table of con-  
16       tents for the Department of Energy Organization Act is  
17       amended by amending the item relating to section 211 to  
18       read as follows:

      “Sec. 211. Office of Economic Impact, Diversity, and Employment.”.

19       **SEC. 12102. ENERGY WORKFORCE DEVELOPMENT PRO-**  
20       **GRAMS.**

21       Section 211 of the Department of Energy Organiza-  
22       tion Act (42 U.S.C. 7141) is amended—

23              (1) by redesignating subsections (f) and (g) as  
24       subsections (g) and (h), respectively; and



1           (2) by inserting after subsection (e) the fol-  
2           lowing:

3           “(f) The Secretary, acting through the Director, shall  
4           support the establishment and execution of the programs  
5           described in sections 12111 and 12112 of the Clean Econ-  
6           omy Jobs and Innovation Act.”.

7           **SEC. 12103. AUTHORIZATION.**

8           Subsection (h) of section 211 of the Department of  
9           Energy Organization Act (42 U.S.C. 7141), as redesignig-  
10          nated by section 12102 of this Act, is amended by striking  
11          “not to exceed \$3,000,000 for fiscal year 1979, not to ex-  
12          ceed \$5,000,000 for fiscal year 1980, and not to exceed  
13          \$6,000,000 for fiscal year 1981. Of the amounts so appro-  
14          priated each fiscal year, not less than 50 percent shall be  
15          available for purposes of financial assistance under sub-  
16          section (e).” and inserting “\$100,000,000 for each of fis-  
17          cal years 2021 through 2025.”.

18          **PART 2—ENERGY WORKFORCE DEVELOPMENT**

19          **SEC. 12111. ENERGY WORKFORCE DEVELOPMENT.**

20          (a) IN GENERAL.—Subject to the availability of ap-  
21          propriations for such purpose, the Secretary of Labor and  
22          the Secretary of Energy, acting through the Director of  
23          the Office of Economic Impact, Diversity, and Employ-  
24          ment, shall jointly establish and carry out a comprehen-  
25          sive, nationwide program to improve education and train-

1 ing for jobs in energy-related industries, including manu-  
2 facturing, engineering, construction, and retrofitting jobs  
3 in such energy-related industries in order to the increase  
4 number of skilled workers trained to work in such energy-  
5 related industries, including by—

6           (1) encouraging underrepresented groups, in-  
7 cluding religious and ethnic minorities, women, vet-  
8 erans, individuals with disabilities, unemployed en-  
9 ergy workers, and socioeconomically disadvantaged  
10 individuals to enter into the science, technology, en-  
11 gineering, and mathematics (in this section referred  
12 to as “STEM”) fields;

13           (2) encouraging the Nation’s educational insti-  
14 tutions to equip students with the skills,  
15 mentorships, training, and technical expertise nec-  
16 essary to fill the employment opportunities vital to  
17 managing and operating the Nation’s energy-related  
18 industries;

19           (3) providing students and other candidates for  
20 employment with the necessary skills and certifi-  
21 cations for skilled jobs in such energy-related indus-  
22 tries; and

23           (4) strengthening and more fully engaging De-  
24 partment of Energy programs and laboratories in

1 carrying out the Department's Minorities in Energy  
2 Initiative.

3 (b) DIRECT ASSISTANCE.—

4 (1) IN GENERAL.—In carrying out the program  
5 established under subsection (a), the Secretaries  
6 may provide financial assistance awards, technical  
7 assistance, and other assistance the Secretaries de-  
8 termine appropriate, to educational institutions and  
9 training programs and providers, including those  
10 serving unemployed and underemployed energy  
11 workers.

12 (2) DISTRIBUTION.—The Secretaries shall dis-  
13 tribute assistance described in paragraph (1) in a  
14 manner proportional to the needs of energy-related  
15 industries and demand for jobs in energy-related in-  
16 dustries, consistent with information developed  
17 under subsection (e), and to the extent practicable,  
18 ensure a geographically diverse distribution, includ-  
19 ing a geographically diverse distribution among re-  
20 gions of the country and among urban, suburban,  
21 and rural areas.

22 (c) PRIORITY.—In carrying out the program estab-  
23 lished under subsection (a) the Secretaries shall prioritize  
24 the education and training of individuals from underrep-  
25 resented populations for jobs in energy-related industries.

1 (d) COLLABORATION AND OUTREACH.—In carrying  
2 out the program established under subsection (a), the Sec-  
3 retaries shall—

4 (1) collaborate with—

5 (A) to the maximum extent possible, State  
6 or local workforce development boards and  
7 State workforce agencies, to maximize program  
8 efficiency;

9 (B) educational institutions and training  
10 programs and providers; and

11 (C) employers and labor organizations in  
12 energy-related industries providing opportuni-  
13 ties to participate in internships, fellowships,  
14 traineeships, and apprenticeships to students,  
15 including students of minority-serving institu-  
16 tions and unemployed or underemployed energy  
17 workers, and other candidates, such as under-  
18 represented populations; and

19 (2) conduct outreach activities to—

20 (A) encourage individuals from underrep-  
21 resented populations and unemployed or under-  
22 employed energy workers to enter into the  
23 STEM fields; and

24 (B) encourage and foster collaboration,  
25 mentorships, and partnerships among energy-

1 related industries, and training programs and  
2 providers, that provide effective training pro-  
3 grams for jobs in energy-related industries and  
4 educational institutions that seek to establish  
5 these types of programs in order to share best  
6 practices and approaches that best suit local,  
7 State, and national needs.

8 (e) CLEARINGHOUSE.—

9 (1) ESTABLISHMENT.—In carrying out the pro-  
10 gram established under subsection (a), the Secretary  
11 of Labor, in collaboration with Secretary of Energy,  
12 the Secretary of Education, the Secretary of Com-  
13 merce, and the Director of the Bureau of the Cen-  
14 sus, and energy-related industries, shall establish a  
15 clearinghouse on a publicly accessible website to—

16 (A) develop, maintain, and update informa-  
17 tion and other resources, by State and by re-  
18 gion, on—

19 (i) training programs for jobs in en-  
20 ergy-related industries; and

21 (ii) the current and future workforce  
22 needs of energy-related industries, and job  
23 opportunities in such energy-related indus-  
24 tries, including identification of jobs in en-

1 energy-related industries for which there is  
2 the greatest demand; and

3 (B) act as a resource for educational insti-  
4 tutions and training programs and providers  
5 that would like to develop and implement train-  
6 ing programs for such jobs.

7 (2) REPORT.—The Secretaries shall annually  
8 publish a report on the information and other re-  
9 sources developed, maintained, and updated on the  
10 clearinghouse established under paragraph (1), in-  
11 cluding—

12 (A) a report providing comprehensive and  
13 detailed description of the workforce needs of  
14 such energy-related industries, and job opportu-  
15 nities in such energy-related industries, by  
16 State and by region; and

17 (B) publish an annual report on job cre-  
18 ation in the energy-related industries described  
19 in subsection (f)(1).

20 (f) GUIDELINES TO DEVELOP SKILLS FOR AN EN-  
21 ERGY INDUSTRY WORKFORCE.—

22 (1) IN GENERAL.—In carrying out the program  
23 established under subsection (a), the Secretaries, in  
24 collaboration with the Secretary of Education, the  
25 Secretary of Commerce, and the National Science

1 Foundation, shall develop voluntary guidelines or  
2 best practices for educational institutions to help  
3 provide students with the skills necessary for jobs in  
4 energy-related industries, including jobs in—

5 (A) the energy efficiency industry, includ-  
6 ing jobs in energy efficiency (including architec-  
7 ture, design, and construction of new energy ef-  
8 ficient buildings), conservation, weatherization,  
9 retrofitting, inspecting, auditing, and software  
10 development;

11 (B) the renewable energy industry, includ-  
12 ing jobs in the development, engineering, manu-  
13 facturing, and production of energy from re-  
14 newable energy sources (such as solar, hydro-  
15 power, wind, and geothermal energy);

16 (C) the community energy resiliency indus-  
17 try, including jobs in the installation of rooftop  
18 solar, in battery storage, and in microgrid tech-  
19 nologies;

20 (D) the fuel cell and hydrogen energy in-  
21 dustry;

22 (E) the advanced automotive technology  
23 industry, including jobs relating to electric vehi-  
24 cle batteries, connectivity and automation, and  
25 advanced combustion engines;

1 (F) the manufacturing industry, including  
2 jobs as operations technicians, in operations  
3 and design in additive manufacturing, 3-D  
4 printing, and advanced composites and ad-  
5 vanced aluminum and other metal alloys, and in  
6 industrial energy efficiency management sys-  
7 tems, including power electronics, and other in-  
8 novative technologies;

9 (G) the chemical manufacturing industry,  
10 including jobs in construction (such as welders,  
11 pipefitters, and tool and die makers), as instru-  
12 ment and electrical technicians, machinists,  
13 chemical process operators, engineers, quality  
14 and safety professionals, and reliability engi-  
15 neers;

16 (H) the utility industry, including jobs in  
17 smart grid technology, cybersecurity manage-  
18 ment, and the generation, transmission, and  
19 distribution of electricity and natural gas, such  
20 as electricians and utility dispatchers, techni-  
21 cians, operators, lineworkers, engineers, sci-  
22 entists, and information technology specialists;

23 (I) the alternative fuels industry, including  
24 jobs in biofuel and bioproducts development and  
25 production;



1           (J) the pipeline industry, including jobs in  
2 pipeline construction and maintenance and jobs  
3 as engineers and technical advisors;

4           (K) the nuclear energy industry, including  
5 jobs as scientists, engineers, technicians, mathe-  
6 maticians, and security personnel;

7           (L) the oil and gas industry, including jobs  
8 as scientists, engineers, technicians, mathemati-  
9 cians, petrochemical engineers, and geologists;  
10 and

11           (M) the coal industry, including jobs as  
12 coal miners, engineers, developers and manufac-  
13 turers of state-of-the-art coal facilities, tech-  
14 nology vendors, coal transportation workers and  
15 operators, and mining equipment vendors.

16           (2) ENERGY EFFICIENCY AND CONSERVATION  
17 INITIATIVES.—The guidelines or best practices devel-  
18 oped under paragraph (1) shall include grade-spe-  
19 cific guidelines for elementary schools and secondary  
20 schools for teaching energy efficiency technology, ar-  
21 chitecture, design, and construction of new energy-  
22 efficient buildings and building energy retrofits,  
23 manufacturing efficiency technology, community en-  
24 ergy resiliency, and conservation initiatives.

1           (3) STEM EDUCATION.—The guidelines or best  
2 practices developed under paragraph (1) shall pro-  
3 mote STEM education and energy related programs  
4 of study in educational institutions as it relates to  
5 job opportunities in energy-related industries listed  
6 under such paragraph.

7           (g) OUTREACH TO MINORITY SERVING INSTITU-  
8 TIONS.—In carrying out the program established under  
9 subsection (a), the Secretaries shall—

10           (1) give special consideration to increasing out-  
11 reach to minority-serving institutions;

12           (2) make resources available to minority-serving  
13 institutions with the objective of increasing the num-  
14 ber of skilled minorities and women trained for jobs  
15 in energy-related industries, including manufac-  
16 turing, engineering, construction, and retrofitting  
17 jobs in such energy-related industries;

18           (3) encourage energy-related industries to im-  
19 prove the opportunities for students of minority-  
20 serving institutions to participate in industry intern-  
21 ships, apprenticeships, and cooperative work-study  
22 programs; and

23           (4) partner with the Department of Energy lab-  
24 oratories to increase underrepresented groups' par-  
25 ticipation in internships, fellowships, traineeships,

1 and employment at all Department of Energy lab-  
2 oratories.

3 (h) OUTREACH TO DISPLACED, UNEMPLOYED AND  
4 UNDEREMPLOYED ENERGYWORKERS.—In carrying out  
5 the program established under subsection (a), the Secre-  
6 taries shall—

7 (1) give special consideration to increasing out-  
8 reach to employers and job trainers preparing dis-  
9 placed, unemployed, and underemployed energy  
10 workers for emerging jobs in energy-related indus-  
11 tries, including manufacturing, engineering, con-  
12 struction, and retrofitting jobs in such energy-re-  
13 lated industries;

14 (2) make resources available to institutions  
15 serving displaced and unemployed energy workers  
16 with the objective of increasing the number of indi-  
17 viduals trained for jobs in energy-related industries,  
18 including manufacturing, engineering, construction,  
19 and retrofitting jobs in such energy-related indus-  
20 tries; and

21 (3) encourage energy-related industries to im-  
22 prove opportunities for displaced and unemployed  
23 energy workers to participate in industry intern-  
24 ships, apprenticeships, and work-study programs.

1 (i) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated to carry out this section  
3 \$15,000,000 for each of fiscal years 2021 through 2025.

4 **SEC. 12112. ENERGY WORKFORCE GRANT PROGRAM.**

5 (a) PROGRAM.—

6 (1) ESTABLISHMENT.—Subject to the avail-  
7 ability of appropriations for such purpose, the Sec-  
8 retary of Labor and the Secretary of Energy, acting  
9 through the Director of the Office of Economic Im-  
10 pact, Diversity, and Employment, shall jointly estab-  
11 lish and carry out a program to provide grants to  
12 eligible entities to pay the eligible wages of, or eligi-  
13 ble stipends for, individuals during the time period  
14 that such individuals are receiving training to work  
15 in the renewable energy sector, energy efficiency sec-  
16 tor, or grid modernization sector.

17 (2) GUIDELINES.—Not later than 60 days after  
18 the date of enactment of this Act, the Secretaries,  
19 in consultation with stakeholders, contractors, and  
20 organizations that work to advance existing residen-  
21 tial energy efficiency, shall establish guidelines to  
22 identify training that is eligible for purposes of the  
23 program established pursuant to paragraph (1).

24 (b) ELIGIBILITY.—

1           (1) IN GENERAL.—To be eligible to receive a  
2 grant under the program established under sub-  
3 section (a), an eligible entity shall be directly in-  
4 volved with energy efficiency or renewable energy  
5 technology and provide services related to—

6           (A) renewable electric energy generation,  
7 including solar, wind, geothermal, hydropower,  
8 and other renewable electric energy generation  
9 technologies;

10           (B) energy efficiency, including energy-effi-  
11 cient lighting, heating, ventilation, and air con-  
12 ditioning, air source heat pumps, advanced  
13 building materials, insulation and air sealing,  
14 and other high-efficiency products and services,  
15 including auditing and inspection, architecture,  
16 design, and construction of new energy efficient  
17 buildings and building energy retrofits;

18           (C) grid modernization or energy storage,  
19 including smart grid, microgrid and other dis-  
20 tributed energy solutions, demand response  
21 management, and home energy management  
22 technology; or

23           (D) fuel cell and hybrid fuel cell genera-  
24 tion.

1           (2) DEFINITIONS.—In this subsection, the fol-  
2           lowing terms apply:

3                   (A) ELIGIBLE ENTITY.—The term “eligible  
4           entity” means—

5                           (i) an employer in an industry de-  
6                           scribed in paragraph (1); or

7                           (ii) a labor organization, a joint-labor  
8                           management organization, a State or local  
9                           workforce board, or a training program or  
10                          provider that provides training to individ-  
11                          uals to work for an employer described in  
12                          clause (i), or works on behalf of any such  
13                          employers.

14                   (B) ELIGIBLE STIPEND.—The term “eligi-  
15           ble stipend” means a stipend that meets the  
16           criteria identified pursuant to the guidelines es-  
17           tablished under subsection (a)(2).

18                   (C) ELIGIBLE WAGES.—The term “eligible  
19           wages” means wages that meet the criteria  
20           identified pursuant to the guidelines established  
21           under subsection (a)(2).

22           (c) USE OF GRANTS.—

23                   (1) ELIGIBLE WAGES.—An eligible entity  
24           with—

1 (A) 20 or fewer employees may use a grant  
2 provided under the program established under  
3 subsection (a) to pay up to—

4 (i) 45 percent of an employee's eligi-  
5 ble wages for the duration of the applicable  
6 training for such employee, if the training  
7 is provided by the eligible entity; and

8 (ii) 90 percent of an employee's eligi-  
9 ble wages for the duration of the applicable  
10 training for such employee, if the training  
11 is provided by an entity other than the eli-  
12 gible entity;

13 (B) 21 to 99 employees may use a grant  
14 provided under the program established under  
15 subsection (a) to pay up to—

16 (i) 37.5 percent of an employee's eligi-  
17 ble wages for the duration of the applicable  
18 training for such employee, if the training  
19 is provided by the eligible entity; and

20 (ii) 75 percent of an employee's eligi-  
21 ble wages for the duration of the applicable  
22 training for such employee, if the training  
23 is provided by an entity other than the eli-  
24 gible entity; and

1 (C) 100 employees or more may use a  
2 grant provided under the program established  
3 under subsection (a) to pay up to—

4 (i) 25 percent of an employee's eligi-  
5 ble wages for the duration of the applicable  
6 training for such employee, if the training  
7 is provided by the eligible entity; and

8 (ii) 50 percent of an employee's eligi-  
9 ble wages for the duration of the applicable  
10 training for such employee, if the training  
11 is provided by an entity other than the eli-  
12 gible entity.

13 (2) STIPEND.—An eligible entity may use a  
14 grant provided under the program established under  
15 subsection (a) to pay up to 100 percent of an eligi-  
16 ble stipend for an individual for the duration of the  
17 applicable training for such individual.

18 (d) PRIORITY FOR TARGETED COMMUNITIES.—In  
19 providing grants under the program established under  
20 subsection (a), the Secretary shall give priority to an eligi-  
21 ble entity that—

22 (1) recruits or trains individuals who are—

23 (A) from the community that the eligible  
24 entity serves; and



1 (B)(i) from underrepresented populations;

2 or

3 (ii) unemployed or underemployed energy

4 workers; and

5 (2) will provide individuals receiving training

6 with the opportunity to obtain or retain employment

7 at an eligible entities.

8 (e) LIMIT.—An eligible entity may not receive more

9 than \$100,000 under the program established under sub-

10 section (a) per fiscal year.

11 (f) REPORT.—The Secretaries shall submit to Con-

12 gress, annually for each year the program established

13 under subsection (a) is carried out, a report on such pro-

14 gram, including—

15 (1) an assessment of such program for the pre-

16 vious year, including the number of jobs filled by in-

17 dividuals trained pursuant to such program; and

18 (2) recommendations on how to improve such

19 program.

20 (g) AUTHORIZATION OF APPROPRIATIONS.—There is

21 authorized to be appropriated to carry out this section

22 \$50,000,000 for each of fiscal years 2021 through 2025.

23 (h) MONITORING.—The Secretary of Labor, in con-

24 sultation with the Secretary of Energy, shall collect data

25 to monitor current and future trends and shortages within

1 the clean energy technology industry, which includes  
2 skilled technical personnel, electric power engineers, trans-  
3 mission engineers, and other occupations or fields of work  
4 under—

5 (1) the agriculture and forestry industry;

6 (2) the electric utility industry;

7 (3) the manufacturing industry;

8 (4) the wholesale trade industry;

9 (5) the professional and business services indus-  
10 try; and

11 (6) the manufacturing and operation and main-  
12 tenance industries for component parts of clean en-  
13 ergy technologies.

14 (i) REPORT ON CURRENT TRENDS AND SHORT-  
15 AGES.—Not later than 120 days after the date of enact-  
16 ment of this Act, and on a quarterly basis thereafter, the  
17 Secretary shall submit to Congress, based on the data col-  
18 lected under subsection (h), a report on—

19 (1) trends and shortages as of the date of such  
20 report, and recommendations to prepare the work-  
21 force to address such trends and shortages to meet  
22 the demands of a clean energy economy; and

23 (2) other recommendations the Secretary deter-  
24 mines appropriate.

1 (j) REPORT ON FUTURE TRENDS AND SHORT-  
2 AGES.—Not later than 1 year after the date of enactment  
3 of this Act, the Secretary shall submit to Congress, based  
4 on the data collected under subsection (h), a report on—

5 (1) trends and shortages projected in the next  
6 10 years, and recommendations to address such  
7 trends and shortages to prepare the workforce to  
8 meet the demands of a clean energy economy; and

9 (2) other recommendations the Secretary deter-  
10 mines appropriate.

11 **SEC. 12113. DEFINITIONS.**

12 In this part:

13 (1) CAREER AND TECHNICAL EDUCATION.—The  
14 term “career and technical education” has the  
15 meaning given such term in section 3 or the Carl D.  
16 Perkins Career and Technical Education Act of  
17 2006 (20 U.S.C. 2302).

18 (2) COMMUNITY-BASED ORGANIZATION.—The  
19 term “community-based organization” has the  
20 meaning given such term in section 3 of the Work-  
21 force Innovation and Opportunity Act (29 U.S.C.  
22 3102).

23 (3) TRAINING PROGRAMS AND PROVIDERS.—  
24 The term “training programs and providers” means  
25 State or local workforce development boards, com-

1 munity-based organizations, qualified youth or con-  
2 servation corps, Job Corps authorized under subtitle  
3 C of title I the Workforce Innovation and Oppor-  
4 tunity Act (29 U.S.C. 3101 et seq.), labor organiza-  
5 tions, joint-labor management organizations, pre-ap-  
6 prenticeship programs, and apprenticeship pro-  
7 grams.

8 (4) EDUCATIONAL INSTITUTION.—The term  
9 “educational institution” means an elementary  
10 school, secondary school, or institution of higher  
11 education, including educational institutions pro-  
12 viding career and technical education programs and  
13 programs of study.

14 (5) ELEMENTARY SCHOOL AND SECONDARY  
15 SCHOOL.—The terms “elementary school” and “sec-  
16 ondary school” have the meanings given such terms  
17 in section 8101 of the Elementary and Secondary  
18 Education Act of 1965 (20 U.S.C. 7801).

19 (6) ENERGY-RELATED INDUSTRY.—The term  
20 “energy-related industry” includes the energy effi-  
21 ciency industry, renewable energy industry, commu-  
22 nity energy resiliency industry, fuel cell and hydro-  
23 gen energy industry, advanced automotive tech-  
24 nology industry, chemical manufacturing industry,  
25 electric utility industry, gas utility industry, alter-

1 native fuels industry, pipeline industry, nuclear en-  
2 ergy industry, oil and gas industry, and coal indus-  
3 try.

4 (7) INSTITUTION OF HIGHER EDUCATION.—The  
5 term “institution of higher education” has the  
6 meaning given such term in section 102 of the High-  
7 er Education Act of 1965 (20 U.S.C. 1002), except  
8 that such term does not include institutions de-  
9 scribed in subparagraph (A) or (C) of subsection  
10 (a)(1) of such section 102.

11 (8) JOBS IN ENERGY-RELATED INDUSTRIES.—  
12 The term “jobs in energy-related industries” in-  
13 cludes manufacturing, engineering, construction, and  
14 retrofitting jobs in energy-related industries.

15 (9) LABOR ORGANIZATION.—The term “labor  
16 organization” has the meaning given such term in  
17 section 2 of the National Labor Relations Act (29  
18 U.S.C. 152).

19 (10) MINORITY-SERVING INSTITUTION.—The  
20 term “minority-serving institution” means an insti-  
21 tution of higher education that is of one of the fol-  
22 lowing:

23 (A) A Hispanic-serving institution (as de-  
24 fined in section 502(a) of the Higher Education  
25 Act of 1965 (20 U.S.C. 1101a(a))).

1 (B) A Tribal College or University (as de-  
2 fined in section 316(b) of the Higher Education  
3 Act of 1965 (20 U.S.C. 1059c(b))).

4 (C) An Alaska Native-serving institution  
5 (as defined in section 317(b) of the Higher  
6 Education Act of 1965 (20 U.S.C. 1059d(b))).

7 (D) A Native Hawaiian-serving institution  
8 (as defined in section 317(b) of the Higher  
9 Education Act of 1965 (20 U.S.C. 1059d(b))).

10 (E) A Predominantly Black Institution (as  
11 defined in section 318(b) of the Higher Edu-  
12 cation Act of 1965 (20 U.S.C. 1059e(b))).

13 (F) A Native American-serving nontribal  
14 institution (as defined in section 319(b) of the  
15 Higher Education Act of 1965 (20 U.S.C.  
16 1059f(b))).

17 (G) An Asian American and Native Amer-  
18 ican Pacific Islander-serving institution (as de-  
19 fined in section 320(b) of the Higher Education  
20 Act of 1965 (20 U.S.C. 1059g(b))).

21 (H) A historically Black college or univer-  
22 sity (having the meaning given the term “part  
23 B institution” in section 322 of the Higher  
24 Education Act of 1965 (20 U.S.C. 1061)).

1           (11) QUALIFIED YOUTH OR CONSERVATION  
2           CORPS.—The term “qualified youth or conservation  
3           corps” has the meaning given such term in section  
4           203(11) of the Public Lands Corps Act of 1993 (16  
5           U.S.C. 1722(11)).

6           (12) SECRETARIES.—The term “Secretaries”  
7           means the Secretary of Labor and the Secretary of  
8           Energy.

9           (13) STATE OR LOCAL WORKFORCE DEVELOP-  
10          MENT BOARD.—The term “State or workforce devel-  
11          opment board” or “local workforce development  
12          board” have the meanings given the terms “State  
13          board” and “local board”, respectively, in section 3  
14          of the Workforce Innovation and Opportunity Act  
15          (29 U.S.C. 3102).

16          (14) STATE WORKFORCE AGENCY.—The term  
17          “State workforce agency” means the State agency  
18          with responsibility for workforce investment activi-  
19          ties under chapters 2 and 3 of subtitle B of title I  
20          of the Workforce Innovation and Opportunity Act  
21          (29 U.S.C. 3121 et seq., 3131 et seq.).

22          (15) STEM.—The term “STEM” means  
23          science, technology, engineering, and mathematics.

24          (16) UNDERREPRESENTED POPULATIONS.—  
25          The term “underrepresented populations” means a

1 group of individuals (such as a group of individuals  
2 from the same gender or race), the members of  
3 which comprise fewer than 25 percent of the individ-  
4 uals employed in occupations in energy-related in-  
5 dustries.

6 **SEC. 12114. RENEWABLE ENERGY TRANSITION GRANT PRO-**  
7 **GRAM.**

8 (a) IN GENERAL.—The Secretary of Energy, in co-  
9 ordination with the Secretary of Labor, shall establish a  
10 grant program for local governments for the purpose of  
11 developing a plan to transition workers from employment  
12 in fossil fuel industries to employment in sustainable in-  
13 dustries.

14 (b) ELIGIBILITY.—The Secretary of Energy may  
15 award grants under subsection (a) to local governments—

16 (1) that establish industry or sector partner-  
17 ships (as defined in section 3 of the Workforce Inno-  
18 vation and Opportunity Act (29 U.S.C. 3102));

19 (2) that are in localities that the Secretary of  
20 Energy determines to have a percentage of tradi-  
21 tional energy sector jobs that is average or above av-  
22 erage relative to the United States.

23 (c) DETERMINATION OF PERCENTAGE OF TRADI-  
24 TIONAL ENERGY SECTOR JOBS.—In making the deter-  
25 mination under subsection (b)(2), the Secretary of Energy



1 shall take into consideration information from the report  
2 entitled “U.S. Energy and Employment Report” issued by  
3 the Secretary in January, 2017.

4 (d) USE OF FUNDS.—Funds under subsection (a)  
5 may be used for the following purposes:

6 (1) To develop a transition plan described in  
7 subsection (a).

8 (2) To develop an apprenticeship program to  
9 train individuals employed in fossil fuel industries  
10 and individuals who are new to the workforce for  
11 jobs in sustainable industries.

12 (e) TRANSITION PLAN REQUIREMENTS.—A transi-  
13 tion plan funded under subsection (a) shall include a plan  
14 for unemployment insurance, job transition training, and  
15 community services for the communities affected by the  
16 transition.

17 (f) AUTHORIZATION.—There are authorized to be ap-  
18 propriated such sums as necessary to carry out this sec-  
19 tion.

20 **SEC. 12115. ENERGY JOBS COUNCIL AND ANNUAL ENERGY**  
21 **EMPLOYMENT REPORT.**

22 (a) ENERGY JOBS COUNCIL.—

23 (1) ESTABLISHMENT.—Not later than 90 days  
24 after the date of enactment of this Act, the Sec-  
25 retary of Energy (referred to in this section as the

1 “Secretary”) shall establish a council, to be known  
2 as the “Energy Jobs Council” (referred to in this  
3 section as the “Council”).

4 (2) MEMBERSHIP.—The Council shall be com-  
5 prised of—

6 (A) to be appointed by the Secretary—

7 (i) one or more representatives of the  
8 Energy Information Administration; and

9 (ii) one or more representatives of a  
10 State energy office that are serving as  
11 members of the State Energy Advisory  
12 Board established by section 365(g) of the  
13 Energy Policy and Conservation Act (42  
14 U.S.C. 6325(g));

15 (B) to be appointed by the Secretary of  
16 Commerce—

17 (i) one or more representatives of the  
18 Department of Commerce; and

19 (ii) one or more representatives of the  
20 Bureau of the Census;

21 (C) one or more representatives of the Bu-  
22 reau of Labor Statistics, to be appointed by the  
23 Secretary of Labor; and

24 (D) one or more representatives of any  
25 other Federal agency the assistance of which is

1 required to carry out this Act, as determined by  
2 the Secretary, to be appointed by the head of  
3 the applicable agency.

4 (b) SURVEY AND ANALYSIS.—

5 (1) IN GENERAL.—The Council shall—

6 (A) conduct a survey of employers in the  
7 energy, energy efficiency, renewable energy, and  
8 motor vehicle sectors of the economy of the  
9 United States; and

10 (B) perform an analysis of the employment  
11 figures and demographics in those sectors, in-  
12 cluding the number of personnel in each sector  
13 who devote a substantial portion of working  
14 hours, as determined by the Secretary, to com-  
15 pliance matters.

16 (2) METHODOLOGY.—In conducting the survey  
17 and analysis under paragraph (1), the Council shall  
18 employ a methodology that—

19 (A) was approved in 2016 by the Office of  
20 Management and Budget for use in the docu-  
21 ment entitled “OMB Control Number 1910–  
22 5179”;

23 (B) uses a representative, stratified sam-  
24 pling of businesses in the United States; and

1 (C) is designed to elicit a comparable num-  
2 ber of responses from businesses in each State  
3 and with the same North American Industry  
4 Classification System codes as were received for  
5 the 2016 and 2017 reports entitled “U.S. En-  
6 ergy and Employment Report”.

7 (3) CONSULTATION.—In conducting the survey  
8 and analysis under paragraph (1), the Council shall  
9 consult with key stakeholders, including—

10 (A) as the Council determines to be appro-  
11 priate, the heads of relevant Federal agencies  
12 and offices, including—

- 13 (i) the Secretary of Commerce;  
14 (ii) the Secretary of Transportation;  
15 (iii) the Director of the Bureau of the  
16 Census;  
17 (iv) the Commissioner of the Bureau  
18 of Labor Statistics; and  
19 (v) the Administrator of the Environ-  
20 mental Protection Agency;

21 (B) States;

22 (C) the State Energy Advisory Board es-  
23 tablished by section 365(g) of the Energy Pol-  
24 icy and Conservation Act (42 U.S.C. 6325(g));  
25 and

1 (D) energy industry trade associations.

2 (c) REPORT.—

3 (1) IN GENERAL.—Not later than 1 year after  
4 the date of enactment of this Act, and annually  
5 thereafter, the Secretary shall—

6 (A) make publicly available on the website  
7 of the Department of Energy a report, to be en-  
8 titled the “U.S. Energy and Employment Re-  
9 port”, describing the employment figures and  
10 demographics in the energy, energy efficiency,  
11 and motor vehicle sectors of the United States  
12 based on the survey and analysis conducted  
13 under subsection (b); and

14 (B) subject to the requirements of the  
15 Confidential Information Protection and Statis-  
16 tical Efficiency Act of 2002 (44 U.S.C. 3501  
17 note; Public Law 107–347), make the data col-  
18 lected by the Council publicly available on the  
19 website of the Department of Energy.

20 (2) CONTENTS.—

21 (A) IN GENERAL.—The report under para-  
22 graph (1) shall include employment figures and  
23 demographic data for—

24 (i) the energy sector of the economy  
25 of the United States, including—

1 (I) the electric power generation  
2 and fuels sector; and

3 (II) the transmission, storage,  
4 and distribution sector;

5 (ii) the energy efficiency sector of the  
6 economy of the United States; and

7 (iii) the motor vehicle sector of the  
8 economy of the United States.

9 (B) INCLUSION.—With respect to each sec-  
10 tor described in subparagraph (A), the report  
11 under paragraph (1) shall include employment  
12 figures and demographic data sorted by—

13 (i) each technology, subtechnology,  
14 and fuel type of those sectors; and

15 (ii) subject to the requirements of the  
16 Confidential Information Protection and  
17 Statistical Efficiency Act of 2002 (44  
18 U.S.C. 3501 note; Public Law 107–347)—

19 (I) each State;

20 (II) each territory of the United  
21 States;

22 (III) the District of Columbia;  
23 and

24 (IV) each county (or equivalent  
25 jurisdiction) in the United States.

1           **PART 3—MEASURING GREEN COLLAR JOB**  
2   **DEVELOPMENT**

3   **SEC. 12121. MEASURING GREEN JOBS.**

4           (a) IN GENERAL.—The Secretary of Labor, in con-  
5 sultation with the Secretary of Energy, and acting through  
6 the Bureau of Labor Statistics, where appropriate, shall  
7 collect and analyze labor market data to track workforce  
8 trends resulting from renewable energy and energy effi-  
9 ciency technology initiatives carried out under this section.  
10 Activities carried out under this section shall include the  
11 following:

12           (1) Tracking and documentation of academic  
13 and occupational competencies as well as future skill  
14 needs with respect to renewable energy and energy  
15 efficiency technology.

16           (2) Tracking and documentation of occupa-  
17 tional information and workforce training data with  
18 respect to renewable energy and energy efficiency  
19 technology.

20           (3) Collaborating with State agencies, workforce  
21 investments boards, industry, organized labor, and  
22 community and nonprofit organizations to dissemi-  
23 nate information on successful innovations for labor  
24 market services and worker training with respect to  
25 renewable energy and energy efficiency technology.

1           (4) Serving as a clearinghouse for best practices  
2           in workforce development, job placement and col-  
3           laborative training partnerships.

4           (5) Encouraging the establishment of workforce  
5           training initiatives with respect to renewable energy  
6           and energy efficiency technologies.

7           (6) Linking research and development in renew-  
8           able energy and energy efficiency technology with  
9           the development of standards and curricula for cur-  
10          rent and future jobs.

11          (7) Assessing new employment and work prac-  
12          tices including career ladder and upgrade training as  
13          well as high performance work systems.

14          (8) Providing technical assistance and capacity  
15          building to national and State energy partnerships,  
16          including industry and labor representatives.

17          (b) AUTHORIZATION OF APPROPRIATIONS.—There  
18          are authorized to be appropriated to carry out this section  
19          \$10,000,000 for each fiscal years 2021 through 2025.

20          **PART 4—CLEAN ENERGY ECONOMY WORKFORCE**

21          **SEC. 12131. CLEAN ENERGY ECONOMY WORKFORCE PRO-**

22                                **GRAM.**

23          (a) DEFINITIONS.—In this section:



1           (1) COAL-RELATED FACILITY.—The term “coal-  
2 related facility” includes a coal mine or coal-fueled  
3 electric generating facility.

4           (2) COAL-RELATED GENERATING FACILITY.—  
5 The term “coal-related industrial facility” includes a  
6 facility in the manufacturing and transportation  
7 supply chains of a coal-related facility.

8           (3) ELIGIBLE ENTITY.—The term “eligible enti-  
9 ty” means a National Laboratory, business, or labor  
10 organization that demonstrates success in placing  
11 graduates of pre-apprenticeship or apprenticeship  
12 programs in jobs relevant to such programs and—

13               (A) is directly involved with zero-emission  
14 electricity technology, energy efficiency, or other  
15 activity that results in a reduction in green-  
16 house gas emissions, as determined by the Sec-  
17 retary;

18               (B) works on behalf of a business or labor  
19 organization that is directly involved with zero  
20 emission electricity technology, energy effi-  
21 ciency, or other activity that results in a reduc-  
22 tion in greenhouse gas emissions, as determined  
23 by the Secretary;

24               (C) provides services related to—

1 (i) zero emission electricity technology  
2 deployment and maintenance and energy  
3 efficiency;

4 (ii) grid modernization; or

5 (iii) reduction in greenhouse gas emis-  
6 sions through the use of zero-emission en-  
7 ergy technologies;

8 (D) has knowledge of technician workforce  
9 needs of a National Laboratory or covered facil-  
10 ity of the National Nuclear security Administra-  
11 tion and the associated security requirements of  
12 such laboratory or facility;

13 (E) demonstrates experience in imple-  
14 menting and operating apprenticeship programs  
15 or pre-apprenticeship programs that provide a  
16 direct pathway to an energy-related career; or

17 (F) demonstrates success in placing grad-  
18 uates of pre-apprenticeship or apprenticeship  
19 programs in jobs relevant to such programs.

20 (4) ENERGY TRANSITION WORKER.—The term  
21 “Energy Transition Worker” means a worker, in-  
22 cluding workers employed by contractors or sub-  
23 contractors, terminated, laid off from employment,  
24 or whose work hours have been reduced, on or after  
25 the date of enactment of this Act, from a coal-re-

1       lated facility, coal-related industrial facility or other  
2       energy related entity.

3               (5) NATIONAL LABORATORY.—The term “Na-  
4       tional Laboratory” means any of the following lab-  
5       oratories owned by the Department of Energy:

6               (A) Ames Laboratory.

7               (B) Argonne National Laboratory.

8               (C) Brookhaven National Laboratory.

9               (D) Fermi National Accelerator Labora-  
10       tory.

11              (E) Idaho National Laboratory.

12              (F) Lawrence Berkeley National Labora-  
13       tory.

14              (G) Lawrence Livermore National Labora-  
15       tory.

16              (H) Los Alamos National Laboratory.

17              (I) National Energy Technology Labora-  
18       tory.

19              (J) National Renewable Energy Labora-  
20       tory.

21              (K) Oak Ridge National Laboratory.

22              (L) Pacific Northwest National Labora-  
23       tory.

24              (M) Princeton Plasma Physics Laboratory.

25              (N) Sandia National Laboratories.

1 (O) Savannah River National Laboratory.

2 (P) Stanford Linear Accelerator Center.

3 (Q) Thomas Jefferson National Accel-  
4 erator Facility.

5 (6) PROGRAM.—The term “program” means  
6 the program established under subsection (b).

7 (b) ESTABLISHMENT.—The Secretary of Energy, in  
8 consultation with the Secretary of Labor, shall establish  
9 a program to provide competitively awarded cost shared  
10 grants to eligible entities to pay for pre-apprenticeship  
11 training for individuals or on-the-job training of a new or  
12 existing employee—

13 (1) to work in zero emission electricity genera-  
14 tion, energy efficiency, or grid modernization;

15 (2) to work otherwise on the reduction of green-  
16 house gas emissions; or

17 (3) to participate in a pre-apprenticeship pro-  
18 gram that provides a direct pathway to an energy-  
19 related career in construction through one or more  
20 apprenticeship programs.

21 (c) GRANTS.—

22 (1) IN GENERAL.—An eligible entity desiring a  
23 grant under the program shall submit to the Sec-  
24 retary of Energy an application at such time, in

1 such manner, and containing such information as the  
2 Secretary of Energy may require.

3 (2) PRIORITY FOR TARGETED COMMUNITIES.—

4 In providing grants under the program, the Sec-  
5 retary of Energy shall give priority to an eligible en-  
6 tity that—

7 (A) recruits employees—

8 (i) from the 1 or more communities  
9 that are served by the eligible entity; and

10 (ii) that are minorities, women, vet-  
11 erans, individuals from Indian Tribes or  
12 Tribal organizations, or energy transition  
13 workers;

14 (B) provides trainees with the opportunity  
15 to obtain real-world experience; or

16 (C) has fewer than 100 employees; and

17 (D) in the case of a pre-apprenticeship  
18 program, demonstrates—

19 (i) a multi-year record of successfully  
20 recruiting energy transition workers, mi-  
21 norities, women, and veterans for training  
22 and supporting such individuals to a suc-  
23 cessful completion of a pre-apprenticeship  
24 program; and

1           (ii) a successful multi-year record of  
2           placing the majority of pre-apprenticeship  
3           program graduates into apprenticeship  
4           programs in the construction industry.

5           (3) USE OF GRANT FOR FEDERAL SHARE.—

6           (A) IN GENERAL.—An eligible entity shall  
7           use a grant received under the program to—

8                   (i) pay the Federal share of the cost  
9                   of providing pre-apprenticeship training or  
10                  on-the-job training for an individual, in ac-  
11                  cordance with subparagraph(B); or

12                   (ii) in the case of a pre-apprenticeship  
13                  program—

14                           (I) recruiting minorities, women,  
15                           and veterans for training;

16                           (II) supporting those individuals  
17                           in the successful completion of the  
18                           pre-apprenticeship program; and

19                           (III) carrying out any other ac-  
20                           tivity of the pre-apprenticeship pro-  
21                           gram, as determined to be appropriate  
22                           by the Secretary of Labor, in con-  
23                           sultation with the Secretary.

1 (B) FEDERAL SHARE AMOUNT.—The Fed-  
2 eral share described in subparagraph (A)(i)  
3 shall not exceed—

4 (i) in the case of an eligible entity  
5 with 20 or fewer employees, 45 percent of  
6 the cost of on-the-job-training for an em-  
7 ployee;

8 (ii) in the case of an eligible entity  
9 with not fewer than 21 employees and not  
10 more than 99 employees, 37.5 percent of  
11 the cost of on-the-job-training for an em-  
12 ployee;

13 (iii) in the case of an eligible entity  
14 with not fewer than 100 employees, 20  
15 percent of the cost of on-the-job-training  
16 for an employee; and

17 (iv) in the case of an eligible entity  
18 that administers a pre-apprenticeship pro-  
19 gram, 75 percent of the cost of the pre-ap-  
20 prenticeship program.

21 (4) EMPLOYER PAYMENT OF NON-FEDERAL  
22 SHARE.—

23 (A) IN GENERAL.—The non-Federal share  
24 of the cost of providing on-the-job training for  
25 an employee under a grant received under the

1 program shall be paid in cash or in kind by the  
2 employer of the employee receiving the training  
3 or by a nonprofit organization.

4 (B) INCLUSIONS.—The non-Federal share  
5 described in subparagraph (A) may include the  
6 amount of wages paid by the employer to the  
7 employee during the time that the employee is  
8 receiving on-the-job training, as fairly evaluated  
9 by the Secretary of Labor.

10 (5) CONSTRUCTION.—In providing grants under  
11 the program for training, recruitment, and support  
12 relating to construction, eligible entities shall only  
13 include pre-apprenticeship programs that have an  
14 articulation agreement with one or more apprentice-  
15 ship programs.

16 (6) GRANT AMOUNT.—An eligible entity may  
17 not receive more than \$1,000,000 per fiscal year in  
18 grant funds under the program.

19 (d) AUTHORIZATION OF APPROPRIATIONS.—There  
20 are authorized to be appropriated \$25,000,000 to the Sec-  
21 retary of Energy to carry out the program for each of the  
22 fiscal years 2021 through 2030.



1           **Subtitle B—Buy American and**  
2           **Wage Rate Requirements**

3   **SEC. 12201. USE OF AMERICAN IRON, STEEL, AND MANU-**  
4           **FACTURED GOODS.**

5           (a) None of the funds made available pursuant to this  
6 Act, or provisions of law added or amended by this Act,  
7 may be used for a project for the construction, alteration,  
8 maintenance, or repair of a public building or public work  
9 unless all of the iron, steel, and manufactured goods used  
10 in the project are produced in the United States.

11          (b) Subsection (a) shall not apply in any case or cat-  
12 egory of cases in which the head of the Federal depart-  
13 ment or agency involved finds that—

14           (1) applying subsection (a) would be incon-  
15 sistent with the public interest;

16           (2) iron, steel, and the relevant manufactured  
17 goods are not produced in the United States in suffi-  
18 cient and reasonably available quantities and of a  
19 satisfactory quality; or

20           (3) inclusion of iron, steel, and manufactured  
21 goods produced in the United States will increase  
22 the cost of the overall project by more than 25 per-  
23 cent.

24          (c) If the head of a Federal department or agency  
25 determines that it is necessary to waive the application

1 of subsection (a) based on a finding under subsection (b),  
2 the head of the department or agency shall publish in the  
3 Federal Register a detailed written justification as to why  
4 the provision is being waived.

5 (d) This section shall be applied in a manner con-  
6 sistent with United States obligations under international  
7 agreements.

8 **SEC. 12202. WAGE RATE REQUIREMENTS.**

9 Notwithstanding any other provision of law and in  
10 a manner consistent with other provisions in this Act, all  
11 laborers and mechanics employed by contractors and sub-  
12 contractors on projects funded directly by or assisted in  
13 whole or in part by and through the Federal Government  
14 pursuant to this Act, or provisions of law added or amend-  
15 ed by this Act, shall be paid wages at rates not less than  
16 those prevailing on projects of a character similar in the  
17 locality as determined by the Secretary of Labor in accord-  
18 ance with subchapter IV of chapter 31 of title 40, United  
19 States Code. With respect to the labor standards specified  
20 in this section, the Secretary of Labor shall have the au-  
21 thority and functions set forth in Reorganization Plan  
22 Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and  
23 section 3145 of title 40, United States Code.

1 **SEC. 12203. APPRENTICESHIPS.**

2 (a) IN GENERAL.—Any funds made available under  
3 this Act to fund an apprenticeship or pre-apprenticeship  
4 program shall only be used for, or provided to, apprentice-  
5 ship and pre-apprenticeship programs as defined this sec-  
6 tion, including any funds awarded for the purposes of  
7 grants, contracts, or cooperative agreements, or the devel-  
8 opment, implementation, or administration of a program  
9 funded in whole or part by federal funds under this Act.

10 (b) APPRENTICESHIP DEFINED.—In this Act, the  
11 term “apprenticeship” means an apprenticeship—

12 (1) registered under the Act of August 16,  
13 1937 (commonly known as the “National Appren-  
14 ticeship Act”; 50 Stat. 664, chapter 663; 29 U.S.C.  
15 50 et seq.); and

16 (2) that complies with the requirements of sub-  
17 part A of part 29 of title 29, Code of Federal Regu-  
18 lations, and part 30 of such title (as in effect on  
19 September 18, 2020).

20 (c) PRE-APPRENTICESHIP DEFINED.—In this Act,  
21 the term “pre-apprenticeship” or “pre-apprenticeship pro-  
22 gram” means a training model or program that—

23 (1) is designed to prepare participants to enter  
24 an apprenticeship program;

1           (2) is carried out by a sponsor that has a writ-  
2           ten agreement with 1 or more sponsors of appren-  
3           ticeship programs; and

4           (3) includes each of the following:

5           (A) Training (including a curriculum for  
6           the training) aligned with industry standards  
7           related to an apprenticeship program and re-  
8           viewed and approved annually by sponsors of  
9           the apprenticeship program that are parties to  
10          the written agreement, and that will prepare  
11          participants by teaching the skills and com-  
12          petencies needed to enter 1 or more apprentice-  
13          ship programs.

14          (B) Hands-on training and theoretical edu-  
15          cation for participants that does not displace a  
16          paid employee.

17          (C) A formal agreement with a sponsor of  
18          an apprenticeship program that would enable  
19          participants who successfully complete the pre-  
20          apprenticeship program—

21                 (i) to enter into the apprenticeship  
22                 program if a place in the program is avail-  
23                 able and if the participant meets the quali-  
24                 fications of the apprenticeship program;  
25                 and

1 (ii) to earn credits towards the ap-  
2 prenticeship program.

### 3 **Subtitle C—Natural Resources**

#### 4 **SEC. 12301. OFFSHORE WIND CAREER TRAINING GRANT** 5 **PROGRAM.**

6 (a) GRANTS AUTHORIZED.—Beginning 180 days  
7 after the date of the enactment of this section, the Sec-  
8 retary may award offshore wind career training grants to  
9 eligible entities for the purpose of establishing or expand-  
10 ing educational or career training programs that provide  
11 individuals in such programs skills and competencies nec-  
12 essary for employment in the offshore wind industry.

13 (b) ALLOCATION OF GRANTS.—

14 (1) LIMITATION ON GRANT QUANTITY AND  
15 SIZE.—An eligible entity may not be awarded—

16 (A) more than one grant under this section  
17 for which the eligible entity is the lead appli-  
18 cant; or

19 (B) a grant under this section in excess of  
20 \$2,500,000.

21 (2) ALLOCATION TO COMMUNITY COLLEGES.—

22 Not less than 25 percent of the total amount award-  
23 ed under this section for a fiscal year shall be  
24 awarded to eligible entities that are community col-  
25 leges.

1 (c) PARTNERSHIPS.—An eligible entity seeking to re-  
2 ceive a grant under this section shall establish or partner  
3 with one or more of the following:

4 (1) Another eligible entity (including an eligible  
5 entity that is a community college).

6 (2) A State or local government agency respon-  
7 sible for education, workforce development or off-  
8 shore wind energy activities.

9 (3) A qualified intermediary.

10 (d) USE OF GRANT.—An eligible entity may use a  
11 grant awarded under this section for the following activi-  
12 ties:

13 (1) Occupational skills training, including cur-  
14 riculum development and class-room instruction.

15 (2) Safety and health training.

16 (3) The provision of English language acquisi-  
17 tion and employability skills.

18 (4) Individual referral and tuition assistance for  
19 a community college training program.

20 (5) Career pathway development or expansion  
21 for offshore wind industry occupations.

22 (6) The development or expansion of work-  
23 based learning or incumbent worker training pro-  
24 grams aligned with career pathways in a field re-  
25 lated to the offshore wind industry, such as paid in-

1       ternships, registered apprenticeships and programs  
2       articulating to an apprenticeship program, cus-  
3       tomized training, or transitional jobs.

4               (7) Curriculum development at the under-grad-  
5       uate and postgraduate levels.

6               (8) Development and support of offshore wind  
7       energy major, minor, or certificate programs.

8               (9) Such other activities, as determined by the  
9       Secretary, to meet the purposes of this section.

10       (e) GRANT PROPOSALS.—

11               (1) SUBMISSION PROCEDURE FOR GRANT PRO-  
12       POSALS.—An eligible entity seeking to receive a  
13       grant under this section shall submit a grant pro-  
14       posal to the Secretary at such time, in such manner,  
15       and containing such information as the Secretary  
16       may require.

17               (2) CONTENT OF GRANT PROPOSALS.—A grant  
18       proposal submitted to the Secretary under this sec-  
19       tion shall include a detailed description of—

20                       (A) the specific project for which the grant  
21       proposal is submitted, including the manner in  
22       which the grant will be used to develop, offer,  
23       or improve an educational or career training  
24       program that will provide individuals in such

1 program the skills and competencies necessary  
2 for employment in the offshore wind industry;

3 (B) any previous experience of the eligible  
4 entity in providing such educational or career  
5 training programs;

6 (C) the extent to which such project will  
7 meet the educational or career training needs;

8 (D) the quantitative data that dem-  
9 onstrates the demand for employment for such  
10 program in the geographic area served by the  
11 eligible entity, including wages and benefits for  
12 such employment;

13 (E) a description of the entities involved in  
14 the industry or sector partnership; and

15 (F) a description of the activities the eligi-  
16 ble entity will carry out.

17 (f) CRITERIA FOR AWARD OF GRANTS.—

18 (1) IN GENERAL.—Subject to appropriations,  
19 the Secretary shall award grants under this section  
20 based on an evaluation of—

21 (A) the merits of the grant proposal;

22 (B) the available or projected employment  
23 opportunities, including the projected wages  
24 and benefits, available to individuals who com-  
25 plete the educational or career training program



1 that the eligible entity proposes to develop,  
2 offer, or improve; and

3 (C) the availability and capacity of existing  
4 educational or career training programs in the  
5 community to meet future demand for such  
6 programs.

7 (2) PRIORITY.—Priority in awarding grants  
8 under this section shall be given to an eligible entity  
9 that—

10 (A) is—

11 (i) an institution of higher education  
12 that has formed a partnership with a labor  
13 organization or joint-labor management or-  
14 ganization; or

15 (ii) a labor organization or joint-labor  
16 management organization that has formed  
17 a partnership with an institute of higher  
18 education;

19 (B) has entered into a memorandum of un-  
20 derstanding with one or more employers in the  
21 offshore wind industry to partner on the estab-  
22 lishment or expansion of programs funded  
23 under this Act;

24 (C) is located in an economically distressed  
25 area;

1 (D) serves a high number or high percent-  
2 age of individuals who are—

3 (i) dislocated workers (particularly  
4 workers dislocated from the offshore oil  
5 and gas, onshore fossil fuel, nuclear en-  
6 ergy, or fishing industries);

7 (ii) veterans, members of the reserve  
8 components of the Armed Forces, or  
9 former members of such reserve compo-  
10 nents;

11 (iii) unemployed, underemployed, or  
12 disconnected;

13 (iv) individuals with barriers to em-  
14 ployment;

15 (v) in-school and out-of-school youth;

16 or

17 (vi) formerly incarcerated, adju-  
18 dicated, nonviolent offenders;

19 (E) an eligible entity that proposes to  
20 serve a high percentage or number of low-in-  
21 come or minority students; or

22 (F) demonstration of or established plans  
23 for the eligible entity to be included on the list  
24 of eligible providers of training services de-  
25 scribed in section 122(d) of the Workforce In-

1           novation and Opportunity Act (29 U.S.C.  
2           3152(d)).

3           (3) GEOGRAPHIC DISTRIBUTION.—The Sec-  
4           retary shall, to the extent practicable, award grants  
5           under this section in a manner that provides for a  
6           reasonable geographic distribution, except that the  
7           Secretary shall not be required to award grants  
8           equally among different regions of the United  
9           States.

10          (g) MATCHING REQUIREMENTS.—A grant awarded  
11         under this section may not be used to satisfy any non-  
12         Federal funds matching requirement under any other pro-  
13         vision of law.

14          (h) GRANTEE DATA COLLECTION.—

15                 (1) IN GENERAL.—A grantee, with respect to  
16                 the educational or career training program for which  
17                 the grantee received a grant under this section, shall  
18                 collect and report to the Secretary on an annual  
19                 basis the following:

20                         (A) The number of participants enrolled in  
21                         the educational or career training program.

22                         (B) The number of participants that have  
23                         completed the educational or career training  
24                         programing the last 12 months.

1 (C) The services received by such partici-  
2 pants, including a description of training, edu-  
3 cation, and supportive services.

4 (D) The amount spent by the grantee per  
5 participant.

6 (E) The percentage of job placement of  
7 participants in the offshore wind industry or re-  
8 lated fields.

9 (F) The percentage of employment reten-  
10 tion—

11 (i) if the eligible entity is not an insti-  
12 tution of higher education, 1 year after  
13 completion of the educational or career  
14 training program; or

15 (ii) if the eligible entity is an institu-  
16 tion of higher education, 1 year after com-  
17 pletion of the educational or career train-  
18 ing program or 1 year after the participant  
19 is no longer enrolled in such institution of  
20 higher education, whichever is later.

21 (G) The percentage of program partici-  
22 pants who obtain a recognized postsecondary  
23 credential, or a secondary school diploma or its  
24 recognized equivalent during participation in or  
25 within 1 year after exit from the program.

1           (2) DISAGGREGATION OF DATA.—The data col-  
2           lected and reported under this subsection shall be  
3           disaggregated by each population specified in section  
4           3(24) of the Workforce Innovation and Opportunity  
5           Act (29 U.S.C. 3102(24)) and by race, ethnicity,  
6           sex, and age.

7           (3) ASSISTANCE FROM SECRETARY.—The Sec-  
8           retary shall assist grantees in the collection of data  
9           under this subsection by making available, where  
10          practicable, low-cost means of tracking the labor  
11          market outcomes of participants (including through  
12          coordination with the Secretary of Labor) and by  
13          providing standardized reporting forms, where ap-  
14          propriate. The Secretary shall provide technical as-  
15          sistance and oversight to assist the eligible entities  
16          in applying for and administering grants.

17          (j) GUIDELINES.—Not later than 90 days after the  
18          date of the enactment of this section, the Secretary shall—

19               (1) promulgate guidelines for the submission of  
20               grant proposals; and

21               (2) publish and maintain such guidelines on a  
22               public website of the Secretary.

23          (k) REPORTING REQUIREMENT.—Not later than 18  
24          months after the date of the enactment of this section,  
25          and every 2 years thereafter, the Secretary shall submit

1 a report to the Committee on Natural Resources of the  
2 House of Representatives, the Committee on Energy and  
3 Natural Resources of the Senate, the Committee on Edu-  
4 cation and Labor of the House of Representatives, and  
5 the Committee on Health, Education, Labor, and Pen-  
6 sions of the Senate on the grant program established by  
7 this section. The report shall include a description of the  
8 grantees and the activities for which grantees used a grant  
9 awarded under this section.

10 (l) AUTHORIZATION OF APPROPRIATIONS.—There  
11 are authorized to be appropriated for purposes of this sec-  
12 tion \$25,000,000 for each of fiscal years 2021 through  
13 2025. The Secretary may use not more than 2 percent  
14 of the amount appropriated for each fiscal year for admin-  
15 istrative expenses, including the expenses of providing the  
16 technical assistance and oversight activities.

17 (m) DEFINITIONS.—In this section:

18 (1) COMMUNITY COLLEGE.—The term “commu-  
19 nity college” has the meaning given the term “junior  
20 or community college” in section 312(f) of the High-  
21 er Education Act of 1965 (20 U.S.C. 1058(f)).

22 (2) ELIGIBLE ENTITY.—The term “eligible enti-  
23 ty” means an entity that is—

1 (A) an institution of higher education, as  
2 such term is defined in section 101 of the High-  
3 er Education Act of 1965 (20 U.S.C. 1001)); or

4 (B) a labor organization or a joint labor  
5 management organization.

6 (3) GRANTEE.—The term “grantee” means an  
7 eligible entity that has received a grant under this  
8 section.

9 (4) LEAD APPLICANT.—The term “lead appli-  
10 cant” means the eligible entity that is primarily re-  
11 sponsible for the preparation, conduct, and adminis-  
12 tration of the project for which the grant was award-  
13 ed.

14 (5) SECRETARY.—The term “Secretary” means  
15 the Secretary of the Interior, in consultation with  
16 the Secretary of Energy, the Secretary of Education,  
17 and the Secretary of Labor.

18 (6) CARL D. PERKINS CAREER AND TECHNICAL  
19 EDUCATION ACT TERMS.—The terms “area career  
20 and technical education school”, “qualified inter-  
21 mediary”, “Tribal educational agency”, and “work-  
22 based learning” have the meanings given the terms  
23 in section 3 of the Carl D. Perkins Career and Tech-  
24 nical Education Act of 2006 (20 U.S.C. 2302).

1           (7) WORKFORCE INNOVATION AND OPPOR-  
2           TUNITY ACT TERMS.—The terms “career pathway”,  
3           “dislocated worker”, “English language acquisition”,  
4           “in-school youth”, “individuals with barriers to em-  
5           ployment”, “industry or sector partnership”, “on-  
6           the-job training”, “out-of-school youth”, “recognized  
7           postsecondary credential”, “supportive services”,  
8           have the meanings given the terms in section 3 of  
9           the Workforce Innovation and Opportunity Act (29  
10          U.S.C. 3102).

11 **SEC. 12302. DATA PRESERVATION.**

12          Subsection (k) of the National Geological and Geo-  
13          physical Data Preservation Program Act of 2005 (42  
14          U.S.C. 15908(k)) is amended by striking “2006 through  
15          2010” and inserting “2021 through 2025”.

16 **SEC. 12303. EXTENSION OF AUTHORITY FOR NON-OIL AND**  
17                               **GAS OPERATIONS ON THE OUTER CONTI-**  
18                               **NENTAL SHELF.**

19          Section 4(a)(1) of the Outer Continental Shelf Lands  
20          Act (43 U.S.C. 1333(a)(1)) is amended to read as follows:

21                       “(1) JURISDICTION OF THE UNITED STATES ON  
22                       THE OUTER CONTINENTAL SHELF.—

23                               “(A) IN GENERAL.—The Constitution and  
24                       laws and civil and political jurisdiction of the  
25                       United States are extended, to the same extent



1 as if the outer Continental Shelf were an area  
2 of exclusive Federal jurisdiction located within  
3 a State, to—

4 “(i) the subsoil and seabed of the  
5 outer Continental Shelf;

6 “(ii) all artificial islands on the outer  
7 Continental Shelf;

8 “(iii) all installations and other de-  
9 vices permanently or temporarily attached  
10 to the seabed, which may be erected there-  
11 on for the purpose of exploring for, devel-  
12 oping, or producing resources therefrom or  
13 producing or supporting the production of  
14 energy from sources other than oil and  
15 gas; and

16 “(iv) any such installation or other  
17 device (other than a ship or vessel) for the  
18 purpose of transporting such resources or  
19 transmitting energy.

20 “(B) LEASES ISSUED EXCLUSIVELY  
21 UNDER THIS ACT.—Mineral or energy leases on  
22 the outer Continental Shelf shall be maintained  
23 or issued only under the provisions of this  
24 Act.”.

1           **Subtitle D—Clean Energy and**  
2           **Sustainability Accelerator**

3   **SEC. 12401. CLEAN ENERGY AND SUSTAINABILITY ACCEL-**  
4           **ERATOR.**

5           Title XVI of the Energy Policy Act of 2005 (Public  
6 Law 109–58, as amended) is amended by adding at the  
7 end the following new subtitle:

8           **“Subtitle C—Clean Energy and**  
9           **Sustainability Accelerator**

10   **“SEC. 1621. DEFINITIONS.**

11           “In this subtitle:

12                   “(1) ACCELERATOR.—The term ‘Accelerator’  
13 means the Clean Energy and Sustainability Accel-  
14 erator established under section 1622.

15                   “(2) BOARD.—The term ‘Board’ means the  
16 Board of Directors of the Accelerator.

17                   “(3) CHIEF EXECUTIVE OFFICER.—The term  
18 ‘chief executive officer’ means the chief executive of-  
19 ficer of the Accelerator.

20                   “(4) CLIMATE-IMPACTED COMMUNITIES.—The  
21 term ‘climate-impacted communities’ includes—

22                           “(A) communities of color, which include  
23 any geographically distinct area the population  
24 of color of which is higher than the average

1 population of color of the State in which the  
2 community is located;

3 “(B) communities that are already or are  
4 likely to be the first communities to feel the di-  
5 rect negative effects of climate change;

6 “(C) distressed neighborhoods, dem-  
7 onstrated by indicators of need, including pov-  
8 erty, childhood obesity rates, academic failure,  
9 and rates of juvenile delinquency, adjudication,  
10 or incarceration;

11 “(D) low-income communities, defined as  
12 any census block group in which 30 percent or  
13 more of the population are individuals with low  
14 income;

15 “(E) low-income households, defined as a  
16 household with annual income equal to, or less  
17 than, the greater of—

18 “(i) an amount equal to 80 percent of  
19 the median income of the area in which the  
20 household is located, as reported by the  
21 Department of Housing and Urban Devel-  
22 opment; and

23 “(ii) 200 percent of the Federal pov-  
24 erty line; and

1           “(F) rural areas, which include any area  
2           other than—

3                   “(i) a city or town that has a popu-  
4                   lation of greater than 50,000 inhabitants;  
5                   and

6                   “(ii) any urbanized area contiguous  
7                   and adjacent to a city or town described in  
8                   clause (i).

9           “(5) CLIMATE RESILIENT INFRASTRUCTURE.—  
10           The term ‘climate resilient infrastructure’ means  
11           any project that builds or enhances infrastructure so  
12           that such infrastructure—

13                   “(A) is planned, designed, and operated in  
14                   a way that anticipates, prepares for, and adapts  
15                   to changing climate conditions; and

16                   “(B) can withstand, respond to, and re-  
17                   cover rapidly from disruptions caused by these  
18                   climate conditions.

19           “(6) ELECTRIFICATION.—The term ‘electrifica-  
20           tion’ means the installation, construction, or use of  
21           end-use electric technology that replaces existing fos-  
22           sil-fuel-based technology.

23           “(7) ENERGY EFFICIENCY.—The term ‘energy  
24           efficiency’ means any project, technology, function,  
25           or measure that results in the reduction of energy

1 use required to achieve the same level of service or  
2 output prior to the application of such project, tech-  
3 nology, function, or measure, or substantially re-  
4 duces greenhouse gas emissions relative to emissions  
5 that would have occurred prior to the application of  
6 such project, technology, function, or measure.

7 “(8) FUEL SWITCHING.—The term ‘fuel switch-  
8 ing’ means any project that replaces a fossil-fuel-  
9 based heating system with an electric-powered sys-  
10 tem or one powered by biomass-generated heat.

11 “(9) GREEN BANK.—The term ‘green bank’  
12 means a dedicated public or nonprofit specialized fi-  
13 nance entity that—

14 “(A) is designed to drive private capital  
15 into market gaps for low- and zero-emission  
16 goods and services;

17 “(B) uses finance tools to mitigate climate  
18 change;

19 “(C) does not take deposits;

20 “(D) is funded by government, public, pri-  
21 vate, or charitable contributions; and

22 “(E) invests or finances projects—

23 “(i) alone; or

24 “(ii) in conjunction with other inves-  
25 tors.

1           “(10) QUALIFIED PROJECTS.—The term ‘quali-  
2           fied projects’ means the following kinds of tech-  
3           nologies and activities that are eligible for financing  
4           and investment from the Clean Energy and Sustain-  
5           ability Accelerator, either directly or through State  
6           and local green banks funded by the Clean Energy  
7           and Sustainability Accelerator:

8                   “(A) Renewable energy generation, includ-  
9                   ing the following:

10                           “(i) Solar.

11                           “(ii) Wind.

12                           “(iii) Geothermal.

13                           “(iv) Hydropower.

14                           “(v) Ocean and hydrokinetic.

15                           “(vi) Fuel cell.

16                   “(B) Building energy efficiency, fuel  
17                   switching, and electrification.

18                   “(C) Industrial decarbonization.

19                   “(D) Grid technology such as trans-  
20                   mission, distribution, and storage to support  
21                   clean energy distribution, including smart-grid  
22                   applications.

23                   “(E) Agriculture and forestry projects that  
24                   reduce net greenhouse gas emissions.

1           “(F) Clean transportation, including the  
2 following:

3           “(i) Battery electric vehicles.

4           “(ii) Plug-in hybrid electric vehicles.

5           “(iii) Hydrogen vehicles.

6           “(iv) Other zero-emissions fueled vehi-  
7 cles.

8           “(v) Related vehicle charging and  
9 fueling infrastructure.

10          “(G) Climate resilient infrastructure.

11          “(H) Any other key areas identified by the  
12 Board as consistent with the mandate of the  
13 Accelerator as described in section 1623.

14          “(11) RENEWABLE ENERGY GENERATION.—

15          The term ‘renewable energy generation’ means elec-  
16 tricity created by sources that are continually replen-  
17 ished by nature, such as the sun, wind, and water.

18          **“SEC. 1622. ESTABLISHMENT.**

19          “(a) IN GENERAL.—Not later than 1 year after the  
20 date of enactment of this subtitle, there shall be estab-  
21 lished a nonprofit corporation to be known as the ‘Clean  
22 Energy and Sustainability Accelerator’.

23          “(b) LIMITATION.—The Accelerator shall not be an  
24 agency or instrumentality of the Federal Government.

1       “(c) FULL FAITH AND CREDIT.—The full faith and  
2 credit of the United States shall not extend to the Accel-  
3 erator.

4       “(d) NONPROFIT STATUS.—The Accelerator shall  
5 maintain its status as an organization exempt from tax-  
6 ation under the Internal Revenue Code of 1986 (26 U.S.C.  
7 1 et seq.).

8       **“SEC. 1623. MANDATE.**

9       “The Accelerator shall make the United States a  
10 world leader in combating the causes and effects of climate  
11 change through the rapid deployment of mature tech-  
12 nologies and scaling of new technologies by maximizing  
13 the reduction of emissions in the United States for every  
14 dollar deployed by the Accelerator, including by—

15               “(1) providing financing support for invest-  
16 ments in the United States in low- and zero-emis-  
17 sions technologies and processes in order to rapidly  
18 accelerate market penetration;

19               “(2) catalyzing and mobilizing private capital  
20 through Federal investment and supporting a more  
21 robust marketplace for clean technologies, while  
22 avoiding competition with private investment;

23               “(3) enabling climate-impacted communities to  
24 benefit from and afford projects and investments  
25 that reduce emissions;



1           “(4) providing support for workers and commu-  
2           nities impacted by the transition to a low-carbon  
3           economy;

4           “(5) supporting the creation of green banks  
5           within the United States where green banks do not  
6           exist; and

7           “(6) causing the rapid transition to a clean en-  
8           ergy economy without raising energy costs to end  
9           users and seeking to lower costs where possible.

10 **“SEC. 1624. FINANCE AND INVESTMENT DIVISION.**

11           “(a) IN GENERAL.—There shall be within the Accel-  
12           erator a finance and investment division, which shall be  
13           responsible for—

14           “(1) the Accelerator’s greenhouse gas emissions  
15           mitigation efforts by directly financing qualifying  
16           projects or doing so indirectly by providing capital to  
17           State and local green banks;

18           “(2) originating, evaluating, underwriting, and  
19           closing the Accelerator’s financing and investment  
20           transactions in qualified projects;

21           “(3) partnering with private capital providers  
22           and capital markets to attract coinvestment from  
23           private banks, investors, and others in order to drive  
24           new investment into underpenetrated markets, to in-  
25           crease the efficiency of private capital markets with

1 respect to investing in greenhouse gas reduction  
2 projects, and to increase total investment caused by  
3 the Accelerator;

4 “(4) managing the Accelerator’s portfolio of as-  
5 sets to ensure performance and monitor risk;

6 “(5) ensuring appropriate debt and risk mitiga-  
7 tion products are offered; and

8 “(6) overseeing prudent, noncontrolling equity  
9 investments.

10 “(b) PRODUCTS AND INVESTMENT TYPES.—The fi-  
11 nance and investment division of the Accelerator may pro-  
12 vide capital to qualified projects in the form of—

13 “(1) senior, mezzanine, and subordinated debt;

14 “(2) credit enhancements including loan loss re-  
15 serves and loan guarantees;

16 “(3) aggregation and warehousing;

17 “(4) equity capital; and

18 “(5) any other financial product approved by  
19 the Board.

20 “(c) STATE AND LOCAL GREEN BANK CAPITALIZA-  
21 TION.—The finance and investment division of the Accel-  
22 erator shall make capital available to State and local green  
23 banks to enable such banks to finance qualifying projects  
24 in their markets that are better served by a locally based

1 entity, rather than through direct investment by the Accel-  
2 erator.

3 “(d) INVESTMENT COMMITTEE.—The debt, risk miti-  
4 gation, and equity investments made by the Accelerator  
5 shall be—

6 “(1) approved by the investment committee of  
7 the Board; and

8 “(2) consistent with an investment policy that  
9 has been established by the investment committee of  
10 the Board in consultation with the risk management  
11 committee of the Board.

12 **“SEC. 1625. START-UP DIVISION.**

13 “There shall be within the Accelerator a Start-up Di-  
14 vision, which shall be responsible for providing technical  
15 assistance and start-up funding to States and other polit-  
16 ical subdivisions that do not have green banks to establish  
17 green banks in those States and political subdivisions, in-  
18 cluding by working with relevant stakeholders in those  
19 States and political subdivisions.

20 **“SEC. 1626. ZERO-EMISSIONS FLEET AND RELATED INFRA-  
21 STRUCTURE FINANCING PROGRAM.**

22 “Not later than 1 year after the date of establishment  
23 of the Accelerator, the Accelerator shall explore the estab-  
24 lishment of a program to provide low- and zero-interest  
25 loans, up to 30 years in length, to any school, metropolitan

1 planning organization, or nonprofit organization seeking  
2 financing for the acquisition of zero-emissions vehicle  
3 fleets or associated infrastructure to support zero-emis-  
4 sions vehicle fleets.

5 **“SEC. 1627. PROJECT PRIORITIZATION AND REQUIRE-**  
6 **MENTS.**

7 “(a) EMISSIONS REDUCTION MANDATE.—In invest-  
8 ing in projects that mitigate greenhouse gas emissions, the  
9 Accelerator shall maximize the reduction of emissions in  
10 the United States for every dollar deployed by the Accel-  
11 erator.

12 “(b) ENVIRONMENTAL JUSTICE PRIORITIZATION.—

13 “(1) IN GENERAL.—In order to address envi-  
14 ronmental justice needs, the Accelerator shall, as ap-  
15 plicable, prioritize the provision of program benefits  
16 and investment activity that are expected to directly  
17 or indirectly result in the deployment of projects to  
18 serve, as a matter of official policy, climate-impacted  
19 communities.

20 “(2) MINIMUM PERCENTAGE.—The Accelerator  
21 shall ensure that over the 30-year period of its char-  
22 ter 20 percent of its investment activity is directed  
23 to serve climate-impacted communities.

24 “(c) CONSUMER PROTECTION.—

1           “(1) PRIORITIZATION.—Consistent with man-  
2           date under section 1623 to maximize the reduction  
3           of emissions in the United States for every dollar de-  
4           ployed by the Accelerator, the Accelerator shall  
5           prioritize qualified projects according to benefits  
6           conferred on consumers and affected communities.

7           “(2) CONSUMER CREDIT PROTECTION.—The  
8           Accelerator shall ensure that any residential energy  
9           efficiency or distributed clean energy project in  
10          which the Accelerator invests directly or indirectly  
11          complies with the requirements of the Consumer  
12          Credit Protection Act (15 U.S.C. 1601 et seq.), in-  
13          cluding, in the case of a financial product that is a  
14          residential mortgage loan, any requirements of title  
15          I of that Act relating to residential mortgage loans  
16          (including any regulations promulgated by the Bu-  
17          reau of Consumer Financial Protection under sec-  
18          tion 129C(b)(3)(C) of that Act (15 U.S.C.  
19          1639c(b)(3)(C))).

20          “(d) LABOR.—

21                 “(1) IN GENERAL.—The Accelerator shall en-  
22                 sure that laborers and mechanics employed by con-  
23                 tractors and subcontractors in construction work fi-  
24                 nanced directly by the Accelerator will be paid wages  
25                 not less than those prevailing on similar construction

1 in the locality, as determined by the Secretary of  
2 Labor under sections 3141 through 3144, 3146, and  
3 3147 of title 40, United States Code.

4 “(2) PROJECT LABOR AGREEMENT.—The Accel-  
5 erator shall ensure that projects financed directly by  
6 the Accelerator with total capital costs of  
7 \$100,000,000 or greater utilize a project labor  
8 agreement.

9 **“SEC. 1628. BOARD OF DIRECTORS.**

10 “(a) IN GENERAL.—The Accelerator shall operate  
11 under the direction of a Board of Directors, which shall  
12 be composed of seven members.

13 “(b) INITIAL COMPOSITION AND TERMS.—

14 “(1) SELECTION.—The initial members of the  
15 Board shall be selected as follows:

16 “(A) APPOINTED MEMBERS.—Three mem-  
17 bers shall be appointed by the President, with  
18 the advice and consent of the Senate, of whom  
19 no more than two shall belong to the same po-  
20 litical party.

21 “(B) ELECTED MEMBERS.—Four members  
22 shall be elected unanimously by the three mem-  
23 bers appointed and confirmed pursuant to sub-  
24 paragraph (A).

1           “(2) TERMS.—The terms of the initial members  
2 of the Board shall be as follows:

3           “(A) The three members appointed and  
4 confirmed under paragraph (1)(A) shall have  
5 initial 5-year terms.

6           “(B) Of the four members elected under  
7 paragraph (1)(B), two shall have initial 3-year  
8 terms, and two shall have initial 4-year terms.

9           “(c) SUBSEQUENT COMPOSITION AND TERMS.—

10           “(1) SELECTION.—Except for the selection of  
11 the initial members of the Board for their initial  
12 terms under subsection (b), the members of the  
13 Board shall be elected by the members of the Board.

14           “(2) DISQUALIFICATION.—A member of the  
15 Board shall be disqualified from voting for any posi-  
16 tion on the Board for which such member is a can-  
17 didate.

18           “(3) TERMS.—All members elected pursuant to  
19 paragraph (1) shall have a term of 5 years.

20           “(d) QUALIFICATIONS.—The members of the Board  
21 shall collectively have expertise in—

22           “(1) the fields of clean energy, electric utilities,  
23 industrial decarbonization, clean transportation, re-  
24 siliency, and agriculture and forestry practices;

25           “(2) climate change science;

1           “(3) finance and investments; and

2           “(4) environmental justice and matters related  
3       to the energy and environmental needs of climate-  
4       impacted communities.

5           “(e) RESTRICTION ON MEMBERSHIP.—No officer or  
6       employee of the Federal or any other level of government  
7       may be appointed or elected as a member of the Board.

8           “(f) QUORUM.—Five members of the Board shall  
9       constitute a quorum.

10          “(g) BYLAWS.—

11               “(1) IN GENERAL.—The Board shall adopt, and  
12       may amend, such bylaws as are necessary for the  
13       proper management and functioning of the Accel-  
14       erator.

15               “(2) OFFICERS.—In the bylaws described in  
16       paragraph (1), the Board shall—

17                       “(A) designate the officers of the Accel-  
18       erator; and

19                       “(B) prescribe the duties of those officers.

20           “(h) VACANCIES.—Any vacancy on the Board shall  
21       be filled through election by the Board.

22           “(i) INTERIM APPOINTMENTS.—A member elected to  
23       fill a vacancy occurring before the expiration of the term  
24       for which the predecessor of that member was appointed  
25       or elected shall serve for the remainder of the term for



1 which the predecessor of that member was appointed or  
2 elected.

3 “(j) REAPPOINTMENT.—A member of the Board may  
4 be elected for not more than one additional term of service  
5 as a member of the Board.

6 “(k) CONTINUATION OF SERVICE.—A member of the  
7 Board whose term has expired may continue to serve on  
8 the Board until the date on which a successor member  
9 is elected.

10 “(l) CHIEF EXECUTIVE OFFICER.—The Board shall  
11 appoint a chief executive officer who shall be responsible  
12 for—

13 “(1) hiring employees of the Accelerator;

14 “(2) establishing the two divisions of the Accel-  
15 erator described in sections 1624 and 1625; and

16 “(3) performing any other tasks necessary for  
17 the day-to-day operations of the Accelerator.

18 “(m) ADVISORY COMMITTEE.—

19 “(1) ESTABLISHMENT.—The Accelerator shall  
20 establish an advisory committee (in this subsection  
21 referred to as the ‘advisory committee’), which shall  
22 be composed of not more than 13 members ap-  
23 pointed by the Board on the recommendation of the  
24 president of the Accelerator.

1           “(2) MEMBERS.—Members of the advisory com-  
2           mittee shall be broadly representative of interests  
3           concerned with the environment, production, com-  
4           merce, finance, agriculture, forestry, labor, services,  
5           and State Government. Of such members—

6                   “(A) not fewer than three shall be rep-  
7                   resentatives of the small business community;

8                   “(B) not fewer than two shall be rep-  
9                   resentatives of the labor community, except that  
10                  no two members may be from the same labor  
11                  union;

12                  “(C) not fewer than two shall be represent-  
13                  atives of the environmental nongovernmental  
14                  organization community, except that no two  
15                  members may be from the same environmental  
16                  organization;

17                  “(D) not fewer than two shall be rep-  
18                  resentatives of the environmental justice non-  
19                  governmental organization community, except  
20                  that no two members may be from the same en-  
21                  vironmental organization;

22                  “(E) not fewer than two shall be rep-  
23                  resentatives of the consumer protection and fair  
24                  lending community, except that no two mem-

1           bers may be from the same consumer protection  
2           or fair lending organization; and

3           “(F) not fewer than two shall be represent-  
4           atives of the financial services industry with  
5           knowledge of and experience in financing trans-  
6           actions for clean energy and other sustainable  
7           infrastructure assets.

8           “(3) MEETINGS.—The advisory committee shall  
9           meet not less frequently than once each quarter.

10          “(4) DUTIES.—The advisory committee shall—

11           “(A) advise the Accelerator on the pro-  
12           grams undertaken by the Accelerator; and

13           “(B) submit to the Congress an annual re-  
14           port with comments from the advisory com-  
15           mittee on the extent to which the Accelerator is  
16           meeting the mandate described in section 1623,  
17           including any suggestions for improvement.

18          “(n) CHIEF RISK OFFICER.—

19           “(1) APPOINTMENT.—Subject to the approval  
20           of the Board, the chief executive officer shall appoint  
21           a chief risk officer from among individuals with ex-  
22           perience at a senior level in financial risk manage-  
23           ment, who—

24           “(A) shall report directly to the Board;  
25           and

1           “(B) shall be removable only by a majority  
2           vote of the Board.

3           “(2) DUTIES.—The chief risk officer, in coordi-  
4           nation with the risk management and audit commit-  
5           tees established under section 1631, shall develop,  
6           implement, and manage a comprehensive process for  
7           identifying, assessing, monitoring, and limiting risks  
8           to the Accelerator, including the overall portfolio di-  
9           versification of the Accelerator.

10 **“SEC. 1629. ADMINISTRATION.**

11           “(a) CAPITALIZATION.—

12           “(1) IN GENERAL.—To the extent and in the  
13           amounts provided in advance in appropriations Acts,  
14           the Secretary of Energy shall transfer to the Accel-  
15           erator—

16           “(A) \$10,000,000,000 on the date on  
17           which the Accelerator is established under sec-  
18           tion 1622; and

19           “(B) \$2,000,000,000 on October 1 of each  
20           of the 5 fiscal years following that date.

21           “(2) AUTHORIZATION OF APPROPRIATIONS.—  
22           For purposes of the transfers under paragraph (1),  
23           there are authorized to be appropriated—

1           “(A) \$10,000,000,000 for the fiscal year in  
2           which the Accelerator is established under sec-  
3           tion 1622; and

4           “(B) \$2,000,000,000 for each of the 5 suc-  
5           ceeding fiscal years.

6           “(b) CHARTER.—The Accelerator shall establish a  
7           charter, the term of which shall be 30 years.

8           “(c) OPERATIONAL FUNDS.—To sustain operations,  
9           the Accelerator shall manage revenue from financing fees,  
10          interest, repaid loans, and other types of funding.

11          “(d) REPORT.—The Accelerator shall submit on a  
12          quarterly basis to the relevant committees of Congress a  
13          report that describes the financial activities, emissions re-  
14          ductions, and private capital mobilization metrics of the  
15          Accelerator for the previous quarter.

16          “(e) RESTRICTION.—The Accelerator shall not accept  
17          deposits.

18          “(f) COMMITTEES.—The Board shall establish com-  
19          mittees and subcommittees, including—

20                  “(1) an investment committee; and

21                  “(2) in accordance with section 1630—

22                          “(A) a risk management committee; and

23                          “(B) an audit committee.

1 **“SEC. 1630. ESTABLISHMENT OF RISK MANAGEMENT COM-**  
2 **MITTEE AND AUDIT COMMITTEE.**

3 “(a) IN GENERAL.—To assist the Board in fulfilling  
4 the duties and responsibilities of the Board under this sub-  
5 title, the Board shall establish a risk management com-  
6 mittee and an audit committee.

7 “(b) DUTIES AND RESPONSIBILITIES OF RISK MAN-  
8 AGEMENT COMMITTEE.—Subject to the direction of the  
9 Board, the risk management committee established under  
10 subsection (a) shall establish policies for and have over-  
11 sight responsibility for—

12 “(1) formulating the risk management policies  
13 of the operations of the Accelerator;

14 “(2) reviewing and providing guidance on oper-  
15 ation of the global risk management framework of  
16 the Accelerator;

17 “(3) developing policies for—

18 “(A) investment;

19 “(B) enterprise risk management;

20 “(C) monitoring; and

21 “(D) management of strategic,  
22 reputational, regulatory, operational, develop-  
23 mental, environmental, social, and financial  
24 risks; and

25 “(4) developing the risk profile of the Accel-  
26 erator, including—

1           “(A) a risk management and compliance  
2           framework; and

3           “(B) a governance structure to support  
4           that framework.

5           “(c) DUTIES AND RESPONSIBILITIES OF AUDIT COM-  
6           MITTEE.—Subject to the direction of the Board, the audit  
7           committee established under subsection (a) shall have  
8           oversight responsibility for—

9           “(1) the integrity of—

10           “(A) the financial reporting of the Accel-  
11           erator; and

12           “(B) the systems of internal controls re-  
13           garding finance and accounting;

14           “(2) the integrity of the financial statements of  
15           the Accelerator;

16           “(3) the performance of the internal audit func-  
17           tion of the Accelerator; and

18           “(4) compliance with the legal and regulatory  
19           requirements related to the finances of the Accel-  
20           erator.

21           **“SEC. 1631. OVERSIGHT.**

22           “(a) EXTERNAL OVERSIGHT.—The inspector general  
23           of the Department of Energy shall have oversight respon-  
24           sibilities over the Accelerator.

25           “(b) REPORTS AND AUDIT.—

1           “(1) ANNUAL REPORT.—The Accelerator shall  
2           publish an annual report which shall be transmitted  
3           by the Accelerator to the President and the Con-  
4           gress.

5           “(2) ANNUAL AUDIT OF ACCOUNTS.—The ac-  
6           counts of the Accelerator shall be audited annually.  
7           Such audits shall be conducted in accordance with  
8           generally accepted auditing standards by inde-  
9           pendent certified public accountants who are cer-  
10          tified by a regulatory authority of the jurisdiction in  
11          which the audit is undertaken.

12          “(3) ADDITIONAL AUDITS.—In addition to the  
13          annual audits under paragraph (2), the financial  
14          transactions of the Accelerator for any fiscal year  
15          during which Federal funds are available to finance  
16          any portion of its operations may be audited by the  
17          Government Accountability Office in accordance with  
18          such rules and regulations as may be prescribed by  
19          the Comptroller General of the United States.

20          **“SEC. 1632. MAXIMUM CONTINGENT LIABILITY.**

21          “The maximum contingent liability of the Accelerator  
22          that may be outstanding at any time shall be not more  
23          than \$70,000,000,000 in the aggregate.”.



## 1       **Subtitle E—Scientific Integrity**

### 2       **SEC. 12501. SENSE OF CONGRESS.**

3       It is the sense of Congress that—

4               (1) science and the scientific process should  
5       help inform and guide public policy decisions on a  
6       wide range of issues, including improvement of pub-  
7       lic health, protection of the environment, and protec-  
8       tion of national security;

9               (2) the public must be able to trust the science  
10       and scientific process informing public policy deci-  
11       sions;

12              (3) science, the scientific process, and the com-  
13       munication of science should be free from politics,  
14       ideology, and financial conflicts of interest;

15              (4) policies and procedures that ensure the in-  
16       tegrity of the conduct and communication of publicly  
17       funded science are critical to ensuring public trust;

18              (5) a Federal agency that funds, conducts, or  
19       oversees research should not suppress, alter, inter-  
20       fere with, or otherwise impede the timely commu-  
21       nication and open exchange of data and findings to  
22       other agencies, policymakers, and the public of re-  
23       search conducted by a scientist or engineer employed  
24       or contracted by a Federal agency that funds, con-  
25       ducts, or oversees scientific research;

1           (6) Federal agencies that fund, conduct, or  
2           oversee research should work to prevent the suppres-  
3           sion or distortion of the data and findings;

4           (7) under the First Amendment to the Con-  
5           stitution, citizens of the United States have the right  
6           to “petition the government for a redress of griev-  
7           ances”; and

8           (8) Congress has further protected those rights  
9           under section 7211 of title 5, United States Code,  
10          which states, “the right of employees, individually or  
11          collectively, to petition Congress or a member of  
12          Congress . . . may not be interfered with or denied”.

13 **SEC. 12502. AMENDMENT TO AMERICA COMPETES ACT.**

14          Section 1009 of the America COMPETES Act (42  
15          U.S.C. 6620) is amended by striking subsections (a) and  
16          (b) and inserting the following:

17          “(a) SCIENTIFIC INTEGRITY POLICIES.—

18                  “(1) IN GENERAL.—Not later than 90 days  
19                  after the date of enactment of the Scientific Integ-  
20                  rity Act, the head of each covered agency shall—

21                          “(A) adopt and enforce a scientific integ-  
22                          rity policy in accordance with subsections (b)  
23                          and (c); and

1           “(B) submit such policy to the Director of  
2           the Office of Science and Technology Policy for  
3           approval.

4           “(2) PUBLICATION.—Not later than 30 days  
5           after the Director of the Office of Science and Tech-  
6           nology Policy approves the scientific integrity policy  
7           under paragraph (1), the head of each covered agen-  
8           cy shall—

9                   “(A) make such policy available to the  
10                  public on the website of the agency; and

11                   “(B) submit such policy to the relevant  
12                  Committees of Congress.

13           “(b) REQUIREMENTS.—A scientific integrity policy  
14           under subsection (a)—

15                   “(1) shall prohibit any covered individual  
16                  from—

17                           “(A) engaging in dishonesty, fraud, deceit,  
18                           misrepresentation, coercive manipulation, or  
19                           other scientific or research misconduct;

20                           “(B) suppressing, altering, interfering  
21                           with, delaying without scientific merit, or other-  
22                           wise impeding the release and communication  
23                           of, scientific or technical findings;

24                           “(C) intimidating or coercing an individual  
25                           to alter or censor, attempting to intimidate or

1           coerce an individual to alter or censor, or retali-  
2           ating against an individual for failure to alter  
3           or censor, scientific or technical findings; or

4           “(D) implementing an institutional barrier  
5           to cooperation with scientists outside the cov-  
6           ered agency and the timely communication of  
7           scientific or technical findings;

8           “(2) shall allow a covered individual to—

9           “(A) disseminate scientific or technical  
10          findings, subject to existing law, by—

11          “(i) participating in scientific con-  
12          ferences; and

13          “(ii) seeking publication in online and  
14          print publications through peer-reviewed,  
15          professional, or scholarly journals;

16          “(B) sit on scientific advisory or governing  
17          boards;

18          “(C) join or hold leadership positions on  
19          scientific councils, societies, unions, and other  
20          professional organizations;

21          “(D) contribute to the academic peer-re-  
22          view process as reviewers or editors; and

23          “(E) participate and engage with the sci-  
24          entific community;

1           “(3) may require a covered individual to, before  
2       disseminating scientific or technical findings as de-  
3       scribed in paragraph (2)(A), submit such findings to  
4       the agency for the purpose of review by the agency  
5       of the data and findings for technical accuracy if the  
6       scientific integrity policy outlines a clear and con-  
7       sistent process for such review; and

8           “(4) shall require that—

9           “(A) scientific conclusions are not made  
10       based on political considerations;

11          “(B) the selection and retention of can-  
12       didates for science and technology positions in  
13       the covered agency are based primarily on the  
14       candidate’s expertise, scientific credentials, ex-  
15       perience, and integrity;

16          “(C) personnel actions regarding covered  
17       individuals, except for political appointees, are  
18       not taken on the basis of political consideration  
19       or ideology;

20          “(D) covered individuals adhere to the  
21       highest ethical and professional standards in  
22       conducting their research and disseminating  
23       their findings;

24          “(E) the appropriate rules, procedures,  
25       and safeguards are in place to ensure the integ-

1 rity of the scientific process within the covered  
2 agency;

3 “(F) scientific or technological information  
4 considered in policy decisions is subject to well-  
5 established scientific processes, including peer  
6 review where appropriate;

7 “(G) procedures, including procedures with  
8 respect to applicable whistleblower protections,  
9 are in place as are necessary to ensure the in-  
10 tegrity of scientific and technological informa-  
11 tion and processes on which the covered agency  
12 relies in its decision making or otherwise uses;  
13 and

14 “(H) enforcement of such policy is con-  
15 sistent with the processes for an administrative  
16 hearing and an administrative appeal.

17 “(c) IMPLEMENTATION.—In carrying out subsection  
18 (a), the head of each covered agency shall—

19 “(1) design the scientific integrity policy to  
20 apply with respect to the covered agency;

21 “(2) ensure that such policy is clear with re-  
22 spect to what activities are permitted and what ac-  
23 tivities are not permitted;

24 “(3) ensure that there is a process for individ-  
25 uals not employed or contracted by the agency, in-

1 including grantees, collaborators, partners, and volun-  
2 teers, to report violations of the scientific integrity  
3 policy;

4 “(4) enforce such policy uniformly throughout  
5 the covered agency; and

6 “(5) make such policy available to the public,  
7 employees, private contractors, and grantees of the  
8 covered agency.

9 “(d) **SCIENTIFIC INTEGRITY OFFICER.**—Not later  
10 than 90 days after the date of enactment of this Act, each  
11 covered agency shall appoint a Scientific Integrity Officer,  
12 who shall—

13 “(1) be a career employee at the covered agency  
14 in a professional position;

15 “(2) have technical knowledge and expertise in  
16 conducting and overseeing scientific research;

17 “(3) direct the activities and duties described in  
18 subsections (e), (f), and (g); and

19 “(4) work closely with the inspector general of  
20 the covered agency, as appropriate.

21 “(e) **ADMINISTRATIVE PROCESS AND TRAINING.**—  
22 Not later than 180 days after the date of enactment of  
23 this Act, the head of each covered agency shall establish—

24 “(1) an administrative process and administra-  
25 tive appeal process for dispute resolution consistent

1 with the scientific integrity policy of the covered  
2 agency adopted under subsection (a); and

3 “(2) a training program to provide—

4 “(A) regular scientific integrity and ethics  
5 training to employees and contractors of the  
6 covered agency;

7 “(B) new covered employees with training  
8 within one month of commencing employment;

9 “(C) information to ensure that covered in-  
10 dividuals are fully aware of their rights and re-  
11 sponsibilities regarding the conduct of scientific  
12 research, publication of scientific research, and  
13 communication with the media and the public  
14 regarding scientific research; and

15 “(D) information to ensure that covered  
16 individuals are fully aware of their rights and  
17 responsibilities for administrative hearings and  
18 appeals established in the covered agency’s sci-  
19 entific integrity policy.

20 “(f) REPORTING.—

21 “(1) ANNUAL REPORT.—Each year, each Sci-  
22 entific Integrity Officer appointed by a covered agen-  
23 cy under subsection (d) shall post an annual report  
24 on the public website of the covered agency that in-  
25 cludes, for the year covered by the report—



1           “(A) the number of complaints of mis-  
2           conduct with respect to the scientific integrity  
3           policy adopted under subsection (a)—

4                   “(i) filed for administrative redress;

5                   “(ii) petitioned for administrative ap-  
6           peal; and

7                   “(iii) still pending from years prior to  
8           the year covered by the report, if any;

9           “(B) an anonymized summary of each such  
10          complaint and the results of each such com-  
11          plaint; and

12          “(C) any changes made to the scientific in-  
13          tegrity policy.

14          “(2) INCIDENT REPORT.—

15               “(A) IN GENERAL.—Not later than 30  
16          days after the date on which an incident de-  
17          scribed in subparagraph (B) occurs, the head of  
18          a covered agency shall submit a report describ-  
19          ing the incident to the Office of Science and  
20          Technology Policy and the relevant Committees  
21          of Congress.

22               “(B) INCIDENT.—An incident described  
23          under this paragraph is an incident in which an  
24          individual, acting outside the channels estab-  
25          lished under subsection (e), overrules the deci-

1           sion of the Scientific Integrity Officer with re-  
2           spect to a dispute regarding a violation of the  
3           scientific integrity policy.

4           “(g) OFFICE OF SCIENCE AND TECHNOLOGY POL-  
5 ICY.—The Director of the Office of Science and Tech-  
6 nology Policy shall—

7           “(1) collate, organize, and publicly share all in-  
8           formation it receives under subsection (f) in one  
9           place on its own website; and

10           “(2) on an annual basis, convene the Scientific  
11           Integrity Officer of each covered agency appointed  
12           under subsection (d) to discuss best practices for im-  
13           plementing the requirements of this section.

14           “(h) PERIODIC REVIEW AND APPROVAL.—

15           “(1) INTERNAL REVIEW.—The head of each  
16           covered agency shall periodically conduct a review of  
17           the scientific integrity policy and change such policy  
18           as appropriate.

19           “(2) REVIEW BY THE OFFICE OF SCIENCE AND  
20           TECHNOLOGY POLICY.—

21           “(A) REVIEW OF SUBSTANTIAL UP-  
22           DATES.—The head of each covered agency shall  
23           submit to the Office of Science and Technology  
24           Policy for approval any substantial changes to  
25           the scientific integrity policy.

1           “(B) QUINQUENNIAL REVIEW.—Not later  
2           than 5 years after the date of the enactment of  
3           the Clean Economy Jobs and Innovation Act,  
4           and quinquennially thereafter, the head of each  
5           covered agency shall submit the scientific integ-  
6           rity policy to the Office of Science and Tech-  
7           nology Policy for review and approval.

8           “(i) COMPTROLLER GENERAL REVIEW.—Not later  
9           than 2 years after the date of the enactment of the Clean  
10          Economy Jobs and Innovation Act, the Comptroller Gen-  
11          eral shall conduct a review of the implementation of the  
12          scientific integrity policy by each covered agency.

13          “(j) DEFINITIONS.—In this section:

14                 “(1) AGENCY.—The term ‘agency’ has the  
15                 meaning given the term in section 551 of title 5,  
16                 United States Code.

17                 “(2) COVERED AGENCY.—The term ‘covered  
18                 agency’ means an agency that funds, conducts, or  
19                 oversees scientific research.

20                 “(3) COVERED INDIVIDUAL.—The term ‘cov-  
21                 ered individual’ means a Federal employee or con-  
22                 tractor who—

23                         “(A) is engaged in, supervises, or manages  
24                         scientific activities;

1           “(B) analyzes or publicly communicates in-  
2           formation resulting from scientific activities; or

3           “(C) uses scientific information or analyses  
4           in making bureau, office, or agency policy, man-  
5           agement, or regulatory decisions.

6           “(4) RELEVANT COMMITTEES OF CONGRESS.—  
7           The term ‘relevant Committees of Congress’  
8           means—

9           “(A) the Committee on Commerce,  
10           Science, and Transportation of the Senate; and

11           “(B) the Committee on Science, Space,  
12           and Technology of the House of Representa-  
13           tives.”.

14 **SEC. 12503. EXISTING POLICIES; CLARIFICATION.**

15           (a) EXISTING SCIENTIFIC INTEGRITY POLICIES.—  
16           Notwithstanding the amendments made by this subtitle,  
17           a covered agency’s scientific integrity policy that was in  
18           effect on the day before the date of enactment of this Act  
19           may satisfy the requirements under the amendments made  
20           by this subtitle if the head of the covered agency—

21           (1) makes a written determination that the pol-  
22           icy satisfies such requirements; and

23           (2) submits the written determination and the  
24           policy to the Director of the Office of Science and  
25           Technology Policy for review and approval.

1 (b) CLARIFICATION.—Nothing in this subtitle shall  
2 affect the application of United States copyright law.

3 (c) COVERED AGENCY DEFINED.—The term “cov-  
4 ered agency” has the meaning given the term in section  
5 1009 of the America COMPETES Act (42 U.S.C. 6620).

## 6 **Subtitle F—Other Matters**

### 7 **SEC. 12601. AUTHORIZATION.**

8 Section 112(a)(1)(B) of the Uranium Mill Tailings  
9 Radiation Control Act of 1978 (42 U.S.C. 7922(a)(1)(B))  
10 is amended by striking “September 30, 2023” and insert-  
11 ing “September 30, 2031”.

### 12 **SEC. 12602. ADDRESSING INSUFFICIENT COMPENSATION** 13 **OF EMPLOYEES AND OTHER PERSONNEL OF** 14 **THE FEDERAL ENERGY REGULATORY COM-** 15 **MISSION.**

16 (a) IN GENERAL.—Section 401 of the Department of  
17 Energy Organization Act (42 U.S.C. 7171) is amended  
18 by adding at the end the following:

19 “(k) ADDRESSING INSUFFICIENT COMPENSATION OF  
20 EMPLOYEES AND OTHER PERSONNEL OF THE COMMIS-  
21 SION.—

22 “(1) IN GENERAL.—Notwithstanding any other  
23 provision of law, if the Chairman publicly certifies  
24 that compensation for a category of employees or  
25 other personnel of the Commission is insufficient to

1 retain or attract employees and other personnel to  
2 allow the Commission to carry out the functions of  
3 the Commission in a timely, efficient, and effective  
4 manner, the Chairman may fix the compensation for  
5 the category of employees or other personnel without  
6 regard to chapter 51 and subchapter III of chapter  
7 53 of title 5, United States Code, or any other civil  
8 service law.

9 “(2) CERTIFICATION REQUIREMENTS.—A cer-  
10 tification issued under paragraph (1) shall—

11 “(A) apply with respect to a category of  
12 employees or other personnel responsible for  
13 conducting work of a scientific, technological,  
14 engineering, or mathematical nature;

15 “(B) specify a maximum amount of rea-  
16 sonable compensation for the category of em-  
17 ployees or other personnel;

18 “(C) be valid for a 5-year period beginning  
19 on the date on which the certification is issued;

20 “(D) be no broader than necessary to  
21 achieve the objective of retaining or attracting  
22 employees and other personnel to allow the  
23 Commission to carry out the functions of the  
24 Commission in a timely, efficient, and effective  
25 manner; and

1           “(E) include an explanation for why the  
2 other approaches available to the Chairman for  
3 retaining and attracting employees and other  
4 personnel are inadequate.

5           “(3) RENEWAL.—

6           “(A) IN GENERAL.—Not later than 90  
7 days before the date of expiration of a certifi-  
8 cation issued under paragraph (1), the Chair-  
9 man shall determine whether the certification  
10 should be renewed for a subsequent 5-year pe-  
11 riod.

12           “(B) REQUIREMENT.—If the Chairman de-  
13 termines that a certification should be renewed  
14 under subparagraph (A), the Chairman may  
15 renew the certification, subject to the certifi-  
16 cation requirements under paragraph (2) that  
17 were applicable to the initial certification.

18           “(4) NEW HIRES.—

19           “(A) IN GENERAL.—An employee or other  
20 personnel that is a member of a category of em-  
21 ployees or other personnel that would have been  
22 covered by a certification issued under para-  
23 graph (1), but was hired during a period in  
24 which the certification has expired and has not  
25 been renewed under paragraph (3) shall not be

1 eligible for compensation at the level that would  
2 have applied to the employee or other personnel  
3 if the certification had been in effect on the  
4 date on which the employee or other personnel  
5 was hired.

6 “(B) COMPENSATION OF NEW HIRES ON  
7 RENEWAL.—On renewal of a certification under  
8 paragraph (3), the Chairman may fix the com-  
9 pensation of the employees or other personnel  
10 described in subparagraph (A) at the level es-  
11 tablished for the category of employees or other  
12 personnel in the certification.

13 “(5) RETENTION OF LEVEL OF FIXED COM-  
14 PENSATION.—A category of employees or other per-  
15 sonnel, the compensation of which was fixed by the  
16 Chairman in accordance with paragraph (1), may, at  
17 the discretion of the Chairman, have the level of  
18 fixed compensation for the category of employees or  
19 other personnel retained, regardless of whether a  
20 certification described under that paragraph is in ef-  
21 fect with respect to the compensation of the category  
22 of employees or other personnel.

23 “(6) CONSULTATION REQUIRED.—The Chair-  
24 man shall consult with the Director of the Office of  
25 Personnel Management in implementing this sub-



1 section, including in the determination of the  
2 amount of compensation with respect to each cat-  
3 egory of employees or other personnel.

4 “(7) EXPERTS AND CONSULTANTS.—

5 “(A) IN GENERAL.—Subject to subpara-  
6 graph (B), the Chairman may—

7 “(i) obtain the services of experts and  
8 consultants in accordance with section  
9 3109 of title 5, United States Code;

10 “(ii) compensate those experts and  
11 consultants for each day (including travel  
12 time) at rates not in excess of the rate of  
13 pay for level IV of the Executive Schedule  
14 under section 5315 of that title; and

15 “(iii) pay to the experts and consult-  
16 ants serving away from the homes or reg-  
17 ular places of business of the experts and  
18 consultants travel expenses and per diem  
19 in lieu of subsistence at rates authorized  
20 by sections 5702 and 5703 of that title for  
21 persons in Government service employed  
22 intermittently.

23 “(B) LIMITATIONS.—The Chairman  
24 shall—

1           “(i) to the maximum extent prac-  
2           ticable, limit the use of experts and con-  
3           sultants pursuant to subparagraph (A);  
4           and

5           “(ii) ensure that the employment con-  
6           tract of each expert and consultant em-  
7           ployed pursuant to subparagraph (A) is  
8           subject to renewal not less frequently than  
9           annually.”.

10       (b) REPORTS.—

11           (1) IN GENERAL.—Not later than 1 year after  
12           the date of enactment of this Act, and every 2 years  
13           thereafter for 10 years, the Chairman of the Federal  
14           Energy Regulatory Commission shall submit to the  
15           Committee on Energy and Commerce of the House  
16           of Representatives and the Committee on Energy  
17           and Natural Resources of the Senate a report on in-  
18           formation relating to hiring, vacancies, and com-  
19           pensation at the Federal Energy Regulatory Com-  
20           mission.

21           (2) INCLUSIONS.—Each report under para-  
22           graph (1) shall include—

23                   (A) an analysis of any trends with respect  
24                   to hiring, vacancies, and compensation at the  
25                   Federal Energy Regulatory Commission; and

1 (B) a description of the efforts to retain  
2 and attract employees or other personnel re-  
3 sponsible for conducting work of a scientific,  
4 technological, engineering, or mathematical na-  
5 ture at the Federal Energy Regulatory Com-  
6 mission.

7 (c) APPLICABILITY.—The amendment made by sub-  
8 section (a) shall apply beginning on the date that is 30  
9 days after the date of enactment of this Act.

10 **SEC. 12603. OFFICE OF PUBLIC PARTICIPATION.**

11 Section 319 of the Federal Power Act (16 U.S.C.  
12 825q-1) is amended—

13 (1) in subsection (a)(1), by inserting “, to fa-  
14 cilitate communication with the public relating to,  
15 and participation by the public in, matters under the  
16 jurisdiction of the Commission, including under this  
17 Act and the Natural Gas Act” before the period at  
18 the end;

19 (2) in subsection (b), by striking paragraph (4)  
20 and inserting the following:

21 “(4) The Office shall promote, through outreach,  
22 publications, and, as appropriate, direct communication  
23 with entities regulated by the Commission—

24 “(A) improved compliance with rules and orders  
25 of the Commission; and

1           “(B) public participation in matters before the  
2           Commission.

3           “(5) The Director may assign staff to intervene, ap-  
4           pear, and participate in administrative, regulatory, or ju-  
5           dicial proceedings on behalf of individuals or entities inter-  
6           vening or participating, or proposing to intervene or par-  
7           ticipate, in proceedings before the Commission by rep-  
8           resenting the interests of such individuals or entities on  
9           any matter before the Commission.

10          “(6) The Office shall advocate for, and act as a liai-  
11          son with, environmental justice communities on matters  
12          under the jurisdiction of the Commission.”; and

13                 (3) by adding at the end the following:

14          “(c) FUNDING.—Funding for the Office shall be de-  
15          rived from fees and charges collected under section 3401  
16          of the Omnibus Budget Reconciliation Act of 1986.

17          “(d) DEFINITIONS.—In this section:

18                 “(1) COMMUNITY OF COLOR.—The term ‘com-  
19                 munity of color’ means any geographically distinct  
20                 area the population of color of which is higher than  
21                 the average population of color of the State in which  
22                 the community is located.

23                 “(2) ENVIRONMENTAL JUSTICE COMMUNITY.—  
24                 The term ‘environmental justice community’ means  
25                 a community with significant representation of com-

1 communities of color, low-income communities, or indig-  
2 enous communities, that experiences, or is at risk of  
3 experiencing, higher or more adverse human health  
4 or environmental effects.

5 “(3) INDIGENOUS COMMUNITY.—The term ‘in-  
6 digenous community’ means—

7 “(A) a federally recognized Indian Tribe;

8 “(B) a State-recognized Indian Tribe;

9 “(C) an Alaska Native or Native Hawaiian  
10 community or organization; and

11 “(D) any other community of indigenous  
12 people.

13 “(4) LOW-INCOME COMMUNITY.—The term  
14 ‘low-income community’ means any census block  
15 group in which 30 percent or more of the population  
16 are individuals with low income.

17 “(5) POPULATION OF COLOR.—The term ‘popu-  
18 lation of color’ means a population of individuals  
19 who identify as—

20 “(A) Black;

21 “(B) African American;

22 “(C) Asian;

23 “(D) Pacific Islander;

24 “(E) another non-White race;

25 “(F) Hispanic;

1                   “(G) Latino; or

2                   “(H) linguistically isolated.”.

3 **SEC. 12604. BACKGROUND OZONE RESEARCH.**

4       (a) STUDY ON BACKGROUND OZONE RESEARCH  
5 NEEDS.—

6           (1) IN GENERAL.—Not later than 60 days after  
7 the date of enactment of this Act, the Administrator  
8 of the Environmental Protection Agency shall seek  
9 to enter an agreement with the National Academies  
10 of Sciences, Engineering, and Medicine (referred to  
11 in this section as the “National Academies”) under  
12 which the National Academies shall conduct a study  
13 on the current and future research needs regarding  
14 background ozone. The study shall—

15           (A) propose a framework of standard  
16 terms and definitions for types of non-local  
17 ground level ozone, including types of back-  
18 ground ozone, to standardize research on  
19 ground-level ozone;

20           (B) examine the current understanding of  
21 background sources of ozone and the contribu-  
22 tion of such sources to ground-level ozone in the  
23 United States to identify gaps in knowledge  
24 that need to be addressed with additional re-  
25 search;

1 (C) examine challenges in quantifying the  
2 sources of background ozone and the contribu-  
3 tions of each such source to ground-level ozone  
4 on a regional scale in the United States and  
5 identifies specific research needs to address  
6 these challenges;

7 (D) include an outline of a plan for a re-  
8 search and development program, including  
9 specifications for costs, timeframes, and respon-  
10 sible agencies, to support analysis and dem-  
11 onstration of background ozone trends, includ-  
12 ing by—

13 (i) improving collection and observa-  
14 tional infrastructure;

15 (ii) improving confidence in model  
16 outputs;

17 (iii) reducing uncertainties in esti-  
18 mates of background ozone; and

19 (iv) making background ozone re-  
20 search outputs more useful and accessible  
21 to decision-makers; and

22 (E) identify opportunities for international  
23 engagement that may facilitate increased re-  
24 search collaborations that improve under-  
25 standing of ozone trends.

1           (2) REPORT.—As a condition of any agreement  
2           under subsection (a), the Administrator shall require  
3           that the National Academies transmit to Congress a  
4           report on the results of the study under subsection  
5           (a) not later than 24 months after the date on which  
6           such agreement is finalized.

7           (b) AUTHORIZATION OF APPROPRIATIONS.—There  
8           are authorized to be appropriated to carry out this section  
9           \$1,200,000.

10 **SEC. 12605. SMOKE PLANNING AND RESEARCH.**

11           (a) RESEARCH ON WILDFIRE SMOKE.—

12                   (1) CENTERS OF EXCELLENCE.—

13                           (A) IN GENERAL.—Not later than 180  
14                           days after the date of enactment of this Act,  
15                           the Administrator of the Environmental Protec-  
16                           tion Agency (referred to in this subsection as  
17                           the “Administrator”) shall establish at institu-  
18                           tions of higher education (as defined in section  
19                           101(a) of the Higher Education Act of 1965  
20                           (20 U.S.C. 1001(a))) 4 centers, each of which  
21                           shall be known as a “Center of Excellence for  
22                           Wildfire Smoke”, to carry out research, out-  
23                           reach, and community engagement, relating  
24                           to—



1 (i) the effects on public health, includ-  
2 ing the health of outdoor workers, of  
3 smoke emissions from wildland fires; and

4 (ii) means by which communities can  
5 better respond to the impacts of emissions  
6 from wildland fires.

7 (B) PRIORITY.—In selecting institutions of  
8 higher education at which to establish a center  
9 under subparagraph (A), the Administrator  
10 shall give priority to institutions that—

11 (i) have established expertise or dedi-  
12 cated centers for air quality research;

13 (ii) have experience with relevant out-  
14 reach and extension work;

15 (iii) have established relationships  
16 with relevant Federal, State, and local  
17 agencies, community organizations, and In-  
18 dian Tribes; and

19 (iv) are located in an area that is eco-  
20 nomically or environmentally impacted by  
21 wildfire smoke.

22 (C) AUTHORIZATION OF APPROPRIA-  
23 TIONS.—There is authorized to be appropriated  
24 to the Administrator to carry out this para-

1 graph \$10,000,000 for each of fiscal years  
2 2021 through 2025.

3 (2) RESEARCH.—

4 (A) IN GENERAL.—Not later than 180  
5 days after the date of enactment of this Act,  
6 the Administrator shall carry out research—

7 (i) to study the health effects of  
8 smoke emissions from wildland fires;

9 (ii) to develop and disseminate per-  
10 sonal and community-based interventions  
11 to reduce exposure to and adverse health  
12 effects of smoke emissions from wildland  
13 fires;

14 (iii) to increase the quality of smoke  
15 monitoring and prediction tools and tech-  
16 niques; and

17 (iv) to develop implementation and  
18 communication strategies.

19 (B) AUTHORIZATION OF APPROPRIA-  
20 TIONS.—There is authorized to be appropriated  
21 to the Administrator to carry out this para-  
22 graph \$20,000,000 for each of fiscal years  
23 2021 through 2025.

24 (b) COMMUNITY SMOKE PLANNING.—

1           (1) IN GENERAL.—Not later than 180 days  
2 after the date of enactment of this Act, the Adminis-  
3 trator shall establish a competitive grant program to  
4 assist eligible entities described in paragraph (2) in  
5 developing and implementing collaborative commu-  
6 nity plans for mitigating the impacts of smoke emis-  
7 sions from wildland fires.

8           (2) ELIGIBLE ENTITIES.—An entity that is eli-  
9 gible to submit an application for a grant under  
10 paragraph (1) is—

11                   (A) a State;

12                   (B) a unit of local government (including  
13 any special district, such as an air quality man-  
14 agement district or a school district); or

15                   (C) an Indian Tribe.

16           (3) APPLICATIONS.—To be eligible to receive a  
17 grant under paragraph (1), an eligible entity de-  
18 scribed in paragraph (2) shall submit to the Admin-  
19 istrator an application at such time, in such manner,  
20 and containing such information as the Adminis-  
21 trator may require, which shall include plans to col-  
22 laborate with a public institution of higher education  
23 or other research institution that—

24                   (A) has established expertise or dedicated  
25 centers for air quality research;

1 (B) has experience with relevant outreach  
2 and extension work;

3 (C) has established relationships with rel-  
4 evant Federal, State, and local agencies, com-  
5 munity organizations, and Indian Tribes; and

6 (D) is located in an area that is economi-  
7 cally or environmentally impacted by wildfire  
8 smoke.

9 (4) TECHNICAL ASSISTANCE.—The Adminis-  
10 trator may use amounts made available to carry out  
11 this subsection to provide to eligible entities de-  
12 scribed in paragraph (2) technical assistance in—

13 (A) submitting grant applications under  
14 paragraph (3); or

15 (B) carrying out projects using a grant  
16 under this subsection.

17 (5) AUTHORIZATION OF APPROPRIATIONS.—  
18 There is authorized to be appropriated to the Ad-  
19 ministrator to carry out this subsection \$50,000,000  
20 for each of fiscal years 2021 through 2025.

21 **SEC. 12606. REPORT ON EFFECTS OF EMISSIONS FROM FOS-**  
22 **SIL FUEL FACILITIES.**

23 (a) STUDY.—

24 (1) IN GENERAL.—The Administrator shall con-  
25 duct a study to evaluate the effect of emissions from

1 fossil fuel facilities on the health of environmental  
2 justice communities, including such effects on the  
3 environment or that result in adverse human health  
4 for such communities.

5 (2) INCLUSION.—In evaluating effects under  
6 paragraph (1), the Administrator of the Environ-  
7 mental Protection Agency shall consider the distance  
8 between fossil fuel facilities and environmental jus-  
9 tice communities.

10 (b) REPORT.—Not later than 180 days after the date  
11 of enactment of this Act, the Administrator shall submit  
12 to Congress a report that summarizes the study conducted  
13 under subsection (a).

14 (c) DEFINITIONS.—In this section:

15 (1) ADMINISTRATOR.—The term “Adminis-  
16 trator” means the Administrator of the Environ-  
17 mental Protection Agency.

18 (2) ENVIRONMENTAL JUSTICE COMMUNITY.—  
19 The term “environmental justice community” has  
20 the meaning given such term in section 11001.

21 (3) FOSSIL FUEL FACILITY.—The term “fossil  
22 fuel facility” has the meaning given such term by  
23 the Administrator for purposes of the National  
24 Emissions Inventory.

1 **SEC. 12607. WILDFIRE HAZARD SEVERITY MAPPING FOR**  
2 **ELECTRIC TRANSMISSION AND DISTRIBUTION**  
3 **INFRASTRUCTURE.**

4 (a) MAP REQUIRED.—Not later than 2 years after  
5 the date of the enactment of this section, the Secretary  
6 of Energy shall—

7 (1) use the most recent LANDFIRE data to  
8 generate a geospatial map for the conterminous  
9 United States that depicts wildfire risk to electric  
10 utilities that—

11 (A) manage electric transmission infra-  
12 structure or rights-of-ways on public lands; and

13 (B) maintain equipment that is at risk of  
14 igniting or being impacted by wildland fire; and

15 (2) disseminate the information generated  
16 under paragraph (1) in an appropriate format for  
17 use by electric utilities in order to—

18 (A) improve understanding of wildfire risk;

19 (B) identify areas and assets at the highest  
20 risk;

21 (C) prioritize infrastructure maintenance  
22 and vegetation management;

23 (D) identify opportunities for energy stor-  
24 age and microgrid projects; and

1           (E) develop plans for regular and emer-  
2           gency access to manage and mitigate wildfire  
3           risk.

4           (b) CONSULTATION.—In carrying out subsection (a),  
5 the Secretary of Energy shall consult with—

6           (1) the Secretary of Agriculture, acting through  
7           the Chief of the Forest Service;

8           (2) the Secretary of the Interior;

9           (3) the Administrator of the Federal Emer-  
10          gency Management Agency;

11          (4) other appropriate Federal agencies;

12          (5) States;

13          (6) relevant colleges, universities, and institu-  
14          tions of higher education with relevant expertise;  
15          and

16          (7) other entities, as appropriate.

17          (c) ELECTRIC UTILITY DEFINED.—In this section,  
18 the term “electric utility” means—

19          (1) a rural electric cooperative;

20          (2) a political subdivision of a State, such as a  
21          municipally owned electric utility, or any agency, au-  
22          thority, corporation, or instrumentality of one or  
23          more State political subdivisions; and

24          (3) an investor-owned utility.

1 **SEC. 12608. WILDFIRE SMOKE EMISSIONS MODELING AND**  
2 **FORECASTING IMPROVEMENT PROGRAM.**

3 (a) IN GENERAL.—The Administrator of the Na-  
4 tional Oceanic and Atmospheric Administration, in col-  
5 laboration with other Federal agencies and such academic  
6 entities as the Administrator considers appropriate, shall  
7 maintain a program to improve wildfire smoke emissions  
8 modeling and develop smoke forecasts.

9 (b) GOAL.—The goal of the program under sub-  
10 section (a) shall be to develop and extend accurate wildfire  
11 smoke forecasts and impact-based decision support serv-  
12 ices in order to reduce loss of life, injury, and damage  
13 to the economy with a focus on—

14 (1) improving modeling of wildfire smoke emis-  
15 sions, transport, mixing, and chemical trans-  
16 formations through advanced modeling approaches;

17 (2) developing and disseminating smoke fore-  
18 casts; and

19 (3) incorporating risk communication research  
20 in developing smoke forecasts and fire weather  
21 warning products.

22 (c) AUTHORIZATION OF APPROPRIATIONS.—There is  
23 authorized to be appropriated to the Administrator of the  
24 National Oceanic and Atmospheric Administration to  
25 carry out this section \$20,000,000 for each of fiscal years  
26 2021 through 2025.



1 **SEC. 12609. EXPOSURE TO WILDFIRE SMOKE AND AIR POL-**  
2 **LUTION.**

3 (a) IMPACTS OF ACUTE EXPOSURE TO WILDFIRE  
4 SMOKE AND COVID–19.—The Administrator of the Envi-  
5 ronmental Protection Agency, in coordination with the Di-  
6 rector of the Centers for Disease Control and Prevention,  
7 and other Federal agencies as appropriate, shall coordi-  
8 nate data collection and epidemiological analysis of the im-  
9 pacts of acute air pollution exposure from wildfires in the  
10 context of the COVID–19 pandemic.

11 (b) CHRONIC AIR POLLUTION EXPOSURE.—The Ad-  
12 ministrator of the Environmental Protection Agency, act-  
13 ing through the Assistant Administrator for Research and  
14 Development, shall coordinate with academic institutions  
15 and other research organizations to conduct research to  
16 estimate the impacts of chronic exposure to air pollutants,  
17 and other pertinent variables, in the context of responding  
18 to the COVID–19 pandemic.

19 **SEC. 12610. BUDGETARY EFFECTS.**

20 The budgetary effects of this Act, for the purpose of  
21 complying with the Statutory Pay-As-You-Go Act of 2010,  
22 shall be determined by reference to the latest statement  
23 titled “Budgetary Effects of PAYGO Legislation” for this  
24 Act, submitted for printing in the Congressional Record  
25 by the Chairman of the House Budget Committee, pro-

1 vided that such statement has been submitted prior to the  
2 vote on passage.

3 **SEC. 12611. EFFECTIVE DATE.**

4 This Act, and the amendments made by this Act,  
5 shall not take effect until the date on which the Secretary  
6 of Energy submits to Congress a certification that imple-  
7 mentation of this Act, and the amendments made by this  
8 Act, will not reduce the energy security or energy inde-  
9 pendence of the United States.

10 **SEC. 12612. EFFECTIVE DATE.**

11 This Act, and the amendments made by this Act,  
12 shall not take effect until the date on which the Secretary  
13 of Energy submits to Congress a certification that imple-  
14 mentation of this Act, and the amendments made by this  
15 Act, will not increase electric rates or gasoline prices out-  
16 side of normal market factors.

17 **SEC. 12613. REPORT ON MINING OF CRITICAL MINERALS**

18 **USING FORCED LABOR IN FOREIGN COUN-**

19 **TRIES.**

20 Not later than 180 days after the date of the enact-  
21 ment of this Act, the Secretary of the Interior, in consulta-  
22 tion with the Commissioner of U.S. Customs and Border  
23 Protection and the Secretary of State, shall submit to the  
24 Congress a report evaluating the use of child labor, slav-  
25 ery, or human trafficking to mine or otherwise obtain one

1 or more of the minerals listed in the Notice of the Depart-  
2 ment of the Interior entitled “Final List of Critical Min-  
3 erals 2018” (83 Fed. Reg. 23295), or in any successor  
4 notice updating such Final List, for export to the United  
5 States.

6 **SEC. 12614. TREE PLANTING GRANT PROGRAM.**

7 (a) DEFINITIONS.—In this section:

8 (1) ELIGIBLE COST.—The term “eligible cost”  
9 means, with respect to a project—

10 (A) the cost of implementing the project,  
11 including—

12 (i) planning and designing the plant-  
13 ing activity;

14 (ii) purchasing trees; and

15 (iii) preparing the site and conducting  
16 planting, including the labor and cost asso-  
17 ciated with the use of machinery;

18 (B) the cost of maintaining and monitoring  
19 planted trees for a period of up to 3 years to  
20 ensure successful establishment of the trees;

21 (C) the cost of training activities associ-  
22 ated with the project; and

23 (D) any other relevant cost, as determined  
24 by the Secretary.

1           (2) ELIGIBLE ENTITY.—The term “eligible enti-  
2           ty” means—

3                   (A) a State agency;

4                   (B) a local governmental entity;

5                   (C) an Indian Tribe;

6                   (D) a nonprofit organization; and

7                   (E) a retail power provider.

8           (3) ENERGY BURDEN.—The term “energy bur-  
9           den” means the percentage of household income  
10           spent on home energy bills.

11           (4) INDIAN TRIBE.—The term “Indian Tribe”  
12           has the meaning given the term “Indian tribe” in  
13           section 4 of the Indian Self-Determination and Edu-  
14           cation Assistance Act (25 U.S.C. 5304).

15           (5) LOCAL GOVERNMENTAL ENTITY.—The term  
16           “local governmental entity” means any municipal  
17           government or county government with jurisdiction  
18           over local land use decisions.

19           (6) NONPROFIT ORGANIZATION.—The term  
20           “nonprofit organization” means an organization  
21           that—

22                   (A) is described in section 170(h)(3) of the  
23           Internal Revenue Code of 1986; and

1 (B) operates in accordance with 1 or more  
2 of the purposes described in section  
3 170(h)(4)(A) of that Code.

4 (7) PROGRAM.—The term “Program” means  
5 the grant program established under subsection  
6 (b)(1).

7 (8) PROJECT.—The term “project” means a  
8 tree planting project carried out by an eligible entity  
9 using grant funds awarded under the Program.

10 (9) RETAIL POWER PROVIDER.—The term “re-  
11 tail power provider” means any entity authorized  
12 under applicable State or Federal law to generate,  
13 distribute, or provide retail electricity, natural gas,  
14 or fuel oil service.

15 (10) SECRETARY.—The term “Secretary”  
16 means the Secretary of Energy.

17 (b) ESTABLISHMENT.—

18 (1) IN GENERAL.—The Secretary, in coordina-  
19 tion with the Secretary of Agriculture, acting  
20 through the Chief of the Forest Service, shall estab-  
21 lish a program under which the Secretary shall  
22 award grants to eligible entities to conduct tree  
23 planting projects in accordance with this section.

24 (2) TREE PLANTING.—Subject to the avail-  
25 ability of appropriations, in carrying out the Pro-

1       gram, the Secretary shall, to the maximum extent  
2       practicable, award sufficient grants each year to  
3       plant not less than 300,000 trees each year.

4       (c) APPLICATIONS.—

5           (1) IN GENERAL.—An eligible entity that seeks  
6       to receive a grant under the Program shall submit  
7       an application to the Secretary at such time, in such  
8       form, and containing such information as the Sec-  
9       retary may require, including the information de-  
10      scribed in paragraph (2).

11          (2) CONTENTS.—An application submitted  
12      under paragraph (1) shall include—

13           (A) a description of how the project will re-  
14      duce residential energy consumption;

15           (B) an estimate of the expected reduction  
16      in residential energy consumption;

17           (C) a description of the total eligible costs  
18      of the project and sources of funding for the  
19      project;

20           (D) a description of the anticipated com-  
21      munity and stakeholder engagement in the  
22      project;

23           (E) a description of the tree species to be  
24      planted and how that species is suitable for the  
25      local environmental conditions and climate; and

1           (F) any other relevant information re-  
2           quired by the Secretary.

3           (d) PRIORITY.—In awarding grants under the Pro-  
4           gram, the Secretary shall give priority to projects that—

5           (1) provide the largest potential reduction in  
6           residential energy consumption for households with a  
7           high energy burden;

8           (2) are located in a neighborhood with lower  
9           tree canopy cover and higher maximum daytime  
10          summer temperatures;

11          (3) are located in a neighborhood with high  
12          amounts of senior citizens or children;

13          (4) will collaboratively engage neighbors and  
14          community members that will be closely affected by  
15          the tree planting; and

16          (5) will employ a substantial percentage of the  
17          workforce locally, with a focus on engaging unem-  
18          ployed and underemployed persons.

19          (e) COSTS.—

20          (1) FEDERAL SHARE.—The Secretary shall  
21          award a grant to an eligible entity under the Pro-  
22          gram in an amount equal to not more than 75 per-  
23          cent of the eligible costs of the project, as deter-  
24          mined by the Secretary.

1           (2) MATCHING REQUIREMENT.—As a condition  
2           of receiving a grant under the Program, an eligible  
3           entity shall provide, in cash or through in-kind con-  
4           tributions from non-Federal sources, matching funds  
5           in an amount equal to not less than 25 percent of  
6           the eligible costs of the project, as determined by the  
7           Secretary.

8           (f) AUTHORIZATION OF APPROPRIATIONS.—There  
9           are authorized to be appropriated to carry out the Pro-  
10          gram \$50,000,000 for each of fiscal years 2021 through  
11          2025.

12       **SEC. 12615 LABOR STANDARDS.**

13          (a) IN GENERAL.—Notwithstanding any other provi-  
14          sion of law, for fiscal year 2021 and each fiscal year there-  
15          after, any construction or maintenance projects, including  
16          installation or removal of applicable infrastructure, as-  
17          sisted in whole or in part by funds appropriated under  
18          sections 1203, 1221, 1802, 1803, 1804, 1805, 2122,  
19          2401, 2502, 2503, 2504, 2505, 2522, 2523, 2524, 2525,  
20          2542, 2543, 2544, 2545, 2547, 2552, 2553, 2561, 3102,  
21          3103, 3104, 3105, 3106, 3107, 3109, 3110, 3111, 3112,  
22          3201, 4101, 4202, 5101, 5301, 5302, 5321, 5322, 5323,  
23          5324, 5341, 5342, 6201, 6301, 6502, 6512, 7001, 8101,  
24          8102, 8206, 8304, 9105, 9302, 9304, 10121, and 12401  
25          of this Act and including 42 U.S.C. 17011 and 42 U.S.C.



1 16061, without regard to the form or type of Federal as-  
2 sistance provided under such section or part, shall comply  
3 with labor standards under this section. Compliance with  
4 labor standards under this section shall also apply to enti-  
5 ties that are awarded permits, leases or enter into agree-  
6 ments with the Federal Government under subtitle F of  
7 Title II of this Act.

8 (b) CERTIFICATION OF QUALIFIED ENTITIES.—

9 (1) IN GENERAL.—The Secretary of Labor shall  
10 establish a process for certifying entities that submit  
11 an application under paragraph (2) as qualified enti-  
12 ties with respect to construction and maintenance  
13 projects funded in part or whole under sections  
14 1203, 1221, 1802, 1803, 1804, 1805, 2122, 2401,  
15 2502, 2503, 2504, 2505, 2522, 2523, 2524, 2525,  
16 2542, 2543, 2544, 2545, 2547, 2552, 2553, 2561,  
17 3102, 3103, 3104, 3105, 3106, 3107, 3109, 3110,  
18 3111, 3112, 3201, 4101, 4202, 5101, 5301, 5302,  
19 5321, 5322, 5323, 5324, 5341, 5342, 6201, 6301,  
20 6502, 6512, 7001, 8101, 8102, 8206, 8304, 9105,  
21 9302, 9304, 10121, and 12401 of this Act and in-  
22 cluding 42 U.S.C. 17011 and 42 U.S.C. 16061.

23 (2) APPLICATION PROCESS.—An entity seeking  
24 certification as a qualified entity under this section  
25 shall submit an application to the Secretary of

1 Labor at such time, in such manner, and containing  
2 such information as the Secretary may reasonably  
3 require, including information to demonstrate com-  
4 pliance with the requirements under subsection (c).

5 (3) REQUESTS FOR ADDITIONAL INFORMA-  
6 TION.—Not later than 1 year after receiving an ap-  
7 plication from an entity under paragraph (2)—

8 (A) the Secretary of Labor may request  
9 additional information from the entity in order  
10 to determine whether the entity is in compliance  
11 with the requirements under subsection (c); and

12 (B) the entity shall provide such additional  
13 information within 30 days of the Secretary of  
14 Labor's request under subparagraph (A).

15 (4) DETERMINATION DEADLINE.—The Sec-  
16 retary of Labor shall make a determination on  
17 whether to certify an entity under this section not  
18 later than—

19 (A) in a case in which the Secretary re-  
20 quests additional information described in para-  
21 graph (3), 1 year after the Secretary receives  
22 such additional information from the entity; or

23 (B) in a case that is not described in para-  
24 graph (3)(A), 1 year after the date on which

1           the entity submits the application under para-  
2           graph (2).

3           (5) PRECERTIFICATION REMEDIES.—The Sec-  
4           retary shall consider any corrective actions taken by  
5           an entity seeking certification under this subsection  
6           to remedy an administrative merits determination,  
7           arbitral award or decision, or civil judgment identi-  
8           fied under subsection (c)(3) and shall impose as a  
9           condition of certification any additional remedies  
10          necessary to avoid further or repeated violations.

11          (c) LABOR STANDARDS REQUIREMENTS.—The Sec-  
12         retary of Labor shall require an entity, as a condition of  
13         certification under this section, to satisfy each of the fol-  
14         lowing requirements:

15                 (1) The entity shall ensure that all laborers and  
16                 mechanics employed by contractors and subcontractors  
17                 in the performance of any construction or main-  
18                 tenance project shall be paid wages at rates not less  
19                 than those prevailing on projects of a similar char-  
20                 acter in the locality as determined by the Secretary  
21                 of Labor in accordance with subchapter IV of chap-  
22                 ter 31 of title 40, United States Code (commonly  
23                 known as the “Davis-Bacon Act”).

24                 (2) In the case of any construction or mainte-  
25                 nance project, the cost of which exceeds

1       \$25,000,000, the entity shall be a party to, or re-  
2       quire contractors and subcontractors in the perform-  
3       ance of such construction or maintenance project to  
4       consent to, a covered project labor agreement.

5           (3) The entity, and all contractors and sub-  
6       contractors in performance of any construction or  
7       maintenance project, shall represent in the applica-  
8       tion submitted under subsection (b)(2) (and periodi-  
9       cally thereafter during the performance of the con-  
10      struction or maintenance project as the Secretary of  
11      Labor may require) whether there has been any ad-  
12      ministrative merits determination, arbitral award or  
13      decision, or civil judgment, as defined in guidance  
14      issued by the Secretary of Labor, rendered against  
15      the entity in the preceding 3 years (or, in the case  
16      of disclosures after the initial disclosure, during such  
17      period as the Secretary of Labor may provide) for  
18      violations of—

19                   (A) the Fair Labor Standards Act of 1938  
20                   (29 U.S.C. 201 et seq.);

21                   (B) the Occupational Safety and Health  
22                   Act of 1970 (29 U.S.C. 651 et seq.);

23                   (C) the Migrant and Seasonal Agricultural  
24                   Worker Protection Act (29 U.S.C. 1801 et  
25                   seq.);

1 (D) the National Labor Relations Act (29  
2 U.S.C. 151 et seq.);

3 (E) subchapter IV of chapter 31 of title  
4 40, United States Code (commonly known as  
5 the “Davis-Bacon Act”);

6 (F) chapter 67 of title 41, United States  
7 Code (commonly known as the “Service Con-  
8 tract Act”);

9 (G) Executive Order No. 11246, as amend-  
10 ed (relating to equal employment opportunity);

11 (H) section 503 of the Rehabilitation Act  
12 of 1973 (29 U.S.C. 793);

13 (I) section 4212 of title 38, United States  
14 Code;

15 (J) the Family and Medical Leave Act of  
16 1993 (29 U.S.C. 2601 et seq.);

17 (K) title VII of the Civil Rights Act of  
18 1964 (42 U.S.C. 2000e et seq.);

19 (L) the Americans with Disabilities Act of  
20 1990 (42 U.S.C. 12101 et seq.);

21 (M) the Age Discrimination in Employ-  
22 ment Act of 1967 (29 U.S.C. 621 et seq.);

23 (N) Executive Order No. 13658, dated  
24 February 2014, (entitled “Establishing a Min-  
25 imum Wage for Contractors”); or

1           (O) equivalent State laws, as defined in  
2           guidance issued by the Secretary of Labor.

3           (4) The entity, and all contractors and sub-  
4           contractors in the performance of construction or  
5           maintenance project, shall not require arbitration for  
6           any dispute involving an employee described in para-  
7           graph (5) engaged in a service for the entity or any  
8           contractor and subcontractor, or enter into any  
9           agreement with such employee requiring arbitration  
10          of any such dispute, unless such employee is covered  
11          by a collective bargaining agreement that provides  
12          otherwise.

13          (5) For purposes of compliance with the Na-  
14          tional Labor Relations Act (29 U.S.C. 151 et seq.),  
15          the Fair Labor Standards Act of 1938 (29 U.S.C.  
16          201 et seq.), and the requirements under this sec-  
17          tion, the entity, and all contractors and subcontrac-  
18          tors in the performance of any construction or main-  
19          tenance project, shall consider an individual per-  
20          forming any service in such performance as an em-  
21          ployee (and not an independent contractor) of the  
22          entity, contractor, or subcontractor, respectively, un-  
23          less—

24                  (A) the individual is free from control and  
25                  direction in connection with the performance of

1 the service, both under the contract for the per-  
2 formance of the service and in fact;

3 (B) the service is performed outside the  
4 usual course of the business of the entity, con-  
5 tractor, or subcontractor, respectively; and

6 (C) the individual is customarily engaged  
7 in an independently established trade, occupa-  
8 tion, profession, or business of the same nature  
9 as that involved in such service.

10 (6) The entity shall prohibit all contractors and  
11 subcontractors in the performance of any construc-  
12 tion or maintenance project from hiring employees  
13 through a temporary staffing agency unless the rel-  
14 evant State workforce agency certifies that tem-  
15 porary employees are necessary to address an acute,  
16 short-term labor demand.

17 (7) The entity shall require all contractors, sub-  
18 contractors, successors in interest of the entity, and  
19 other entities that may acquire the entity, in the  
20 performance or acquisition of any construction or  
21 maintenance project, to have and abide by an ex-  
22 plicit neutrality policy on any issue involving the ex-  
23 ercise by employees of the entity as described in  
24 paragraph (5), and of all contractors and sub-  
25 contractors in the performance of any construction

1 or maintenance project, of the right to organize and  
2 bargain collectively through representatives of their  
3 own choosing.

4 (8) The entity shall require all contractors and  
5 subcontractors to participate in a registered appren-  
6 ticeship program for each skilled craft employed on  
7 any construction or maintenance project.

8 (9) The entity, and all contractors and sub-  
9 contractors in the performance of any construction  
10 or maintenance project, shall not request or other-  
11 wise consider the criminal history of an applicant for  
12 employment before extending a conditional offer to  
13 the applicant, unless—

14 (A) a background check is otherwise re-  
15 quired by law;

16 (B) the position is for a Federal law en-  
17 forcement officer (as defined in section  
18 115(c)(1) of title 18, United States Code) posi-  
19 tion; or

20 (C) the Secretary of Labor, after consulta-  
21 tion with the Secretary of Energy, certifies that  
22 precluding criminal history prior to the condi-  
23 tional offer would pose a threat to national se-  
24 curity.



1           (d) DAVIS-BACON ACT.—The Secretary of Labor  
2 shall have, with respect to the labor standards described  
3 in subsection (d)(1), the authority and functions set forth  
4 in Reorganization Plan Numbered 14 of 1950 (64 Stat.  
5 1267; 5 U.S.C. App.) and section 3145 of title 40, United  
6 States Code.

7           (e) PERIOD OF VALIDITY FOR CERTIFICATIONS.—A  
8 certification made under this section shall be in effect for  
9 a period of 5 years. An entity may reapply to the Secretary  
10 of Labor for an additional certification under this section  
11 in accordance with the application process under sub-  
12 section (b)(2).

13           (f) REVOCATION OF QUALIFIED ENTITY STATUS.—  
14 The Secretary of Labor may revoke the certification of an  
15 entity under this section as a qualified entity at any time  
16 in which the Secretary reasonably determines the entity  
17 is no longer in compliance with the requirements of sub-  
18 section (c).

19           (g) CERTIFICATION MAY COVER MORE THAN 1 SUB-  
20 STANTIALLY SIMILAR PROJECT.—The Secretary of Labor  
21 may make certifications under this section which apply  
22 with respect to more than 1 project if the projects to which  
23 such certification apply are substantially similar projects  
24 which meet the requirements of this section. Such projects

1 shall be treated as a specific construction or maintenance  
2 project for purposes of subsection (h)(2).

3 (h) DEFINITIONS.—In this section:

4 (1) COVERED PROJECT LABOR AGREEMENT.—

5 The term “covered project labor agreement” means  
6 a project labor agreement that—

7 (A) binds all contractors and subcontractors  
8 on the construction project through the in-  
9 clusion of appropriate specifications in all rel-  
10 evant solicitation provisions and contract docu-  
11 ments;

12 (B) allows all contractors and subcontractors  
13 to compete for contracts and subcontracts  
14 without regard to whether they are otherwise a  
15 party to a collective bargaining agreement;

16 (C) contains guarantees against strikes,  
17 lockouts, and other similar job disruptions;

18 (D) sets forth effective, prompt, and mutu-  
19 ally binding procedures for resolving labor dis-  
20 putes arising during the covered project labor  
21 agreement; and

22 (E) provides other mechanisms for labor-  
23 management cooperation on matters of mutual  
24 interest and concern, including productivity,  
25 quality of work, safety, and health.



1           (1) the Fair Labor Standards Act of 1938 (29  
2 U.S.C. 201 et seq.);

3           (2) title 29, subtitle B, chapter V, Subchapter  
4 A, Part 570, the Child Labor Regulations, Orders,  
5 and Statements of Interpretation;

6           (3) article 3 of the International Labor Organi-  
7 zation Convention concerning the prohibition and  
8 immediate action for the elimination of the worst  
9 forms of child labor (December 2, 2000), or in viola-  
10 tion of human rights;

11           (4) number 182 of the International Labor Or-  
12 ganization Convention, entitled “Worst Forms of  
13 Child Labour Convention” (1999);

14           (5) number 105 of the International Labor Or-  
15 ganization Convention, entitled “Abolition of Forced  
16 Labour Convention” (1957);

17           (6) applicable trade laws, including trade pref-  
18 erence programs, trade agreements and Section 307  
19 of the Tariff Act of 1930; and

20           (7) Executive Order No. 13126, dated June 12,  
21 1999, (entitled “Prohibition of Acquisition of Prod-  
22 ucts Produced by Forced or Indentured Child  
23 Labor”).

1 **SEC. 12617. RURAL AND REMOTE COMMUNITIES ELEC-**  
2 **TRIFICATION GRANTS.**

3 (a) IN GENERAL.—Section 609 of the Public Utility  
4 Regulatory Policies Act (7 U.S.C. 918e) is amended—

5 (1) in subsection (a)—

6 (A) in paragraph (1), by striking “or mu-  
7 nicipality” and inserting “, municipality, or In-  
8 dian Tribe”;

9 (B) in paragraph (5), by striking “10,000”  
10 and inserting “20,000”; and

11 (C) by adding at the end the following:

12 “(6) The term ‘economically distressed commu-  
13 nity’ means a unit of local government, an Indian  
14 Tribe, or a political subdivision thereof, that is sig-  
15 nificantly impacted by the closure occurring on or  
16 after January 1, 2010, of an electric generating sta-  
17 tion that primarily consumes coal as a fuel source,  
18 including by the loss of—

19 “(A) employment directly from or associ-  
20 ated with the electric generating station, includ-  
21 ing an associated mine;

22 “(B) tax revenue, lease payments, or royalti-  
23 ties directly from or associated with the electric  
24 generating station; or

25 “(C) access to affordable energy.”;

1 (2) in subsection (b), by inserting “or economi-  
2 cally distressed communities” after “rural areas”  
3 each place it appears; and

4 (3) in subsection (d)—

5 (A) by striking “\$20,000,000” and insert-  
6 ing “\$50,000,000”; and

7 (B) by striking “2006 through 2012” and  
8 inserting “2021 through 2025”.

9 **SEC. 12618. COAL COMMUNITY RESOURCE CLEARING-**  
10 **HOUSE.**

11 (a) ESTABLISHMENT.—Not later than 180 days after  
12 the date of enactment of this Act, the Secretary of Energy  
13 shall publish, maintain, and make publicly available a  
14 clearinghouse, to be known as the “Coal Community Re-  
15 source Clearinghouse”, on the website of the Department  
16 of Energy for the purpose of increasing awareness of Fed-  
17 eral and State programs, grants, loans, loan guarantees,  
18 and other assistance resources the Secretary determines  
19 will assist economic development activities in economically  
20 distressed communities.

21 (b) PERIODIC UPDATES.—In carrying out subsection  
22 (a), the Secretary shall, not less frequently than once per  
23 calendar year, update the Coal Community Resource  
24 Clearinghouse to address changes to the needs of economi-  
25 cally distressed communities.

1           (c) **ECONOMICALLY DISTRESSED COMMUNITY DE-**  
2 **FINED.**—The term “economically distressed community”  
3 means a unit of local government, an Indian Tribe, or a  
4 political subdivision thereof, that is significantly impacted  
5 by the closure occurring on or after January 1, 2010, of  
6 an electric generating station that primarily consumes coal  
7 as a fuel source, including by the loss of—

8           (1) employment directly from or associated with  
9           the electric generating station, including an associ-  
10          ated mine;

11          (2) tax revenue, lease payments, or royalties di-  
12          rectly from or associated with the electric generating  
13          station; or

14          (3) access to affordable energy.

15 **SEC. 12619. REPORT ON FOSSIL FUEL SUBSIDIES.**

16           The Secretary of the Treasury, in consultation with  
17 other relevant departments and agencies, shall submit to  
18 Congress a report that contains—

19           (1) an identification of any existing fossil fuel  
20           production subsidies not eliminated by this Act, or  
21           the amendments made by this Act; and

22           (2) a quantification of the economic costs of  
23           such subsidies.

1 **SEC. 12620. PUBLICATION OF INTERCONNECTIONS SEAMS**  
2 **STUDY.**

3 Not later than 30 days after the date of the enact-  
4 ment of this Act, the Secretary of Energy shall submit  
5 to Congress and make publicly available on the website  
6 of the Department a report on the results of the Inter-  
7 connections Seam Study conducted by the Department.

8 **SEC. 12621. DEPARTMENT OF ENERGY RESEARCH MISSION**  
9 **ON CLIMATE CHANGE AND EMISSIONS RE-**  
10 **DUCTION.**

11 (a) GOALS.—Section 902 of the Energy Policy Act  
12 of 2005 (42 U.S.C. 16181) is amended—

13 (1) in paragraph (4), by striking “and” at the  
14 end; and

15 (2) by striking paragraph (5) and inserting the  
16 following:

17 “(5) decreasing the environmental impact of en-  
18 ergy-related activities, including by deeply reducing  
19 emissions; and

20 “(6) improving energy-sector resilience to cli-  
21 mate change.”.

22 (b) EMISSIONS DEFINED FOR GOALS.—Section 902  
23 of the Energy Policy Act of 2005 (42 U.S.C. 16181) is  
24 amended by adding at the end the following:



1       “(e) EMISSIONS DEFINED.—In this section, the term  
2 ‘emissions’ means greenhouse gas emissions or other pol-  
3 lutants.”.

4       (c) EMISSIONS REDUCTION.—Section 911 of the En-  
5 ergy Policy Act of 2005 (42 U.S.C. 16191) is amended—

6           (1) in the heading by inserting “**AND EMIS-**  
7       **SIONS REDUCTIONS**” after “**ENERGY EFFI-**  
8       **CIENCY**”;

9           (2) in subsection (a)—

10               (A) in paragraph (1)—

11                       (i) by inserting “and emissions reduc-  
12                       tions” after “energy efficiency”; and

13                       (ii) in subparagraph (A), by inserting  
14                       “, and reducing emissions from,” after “ef-  
15                       ficiency of”; and

16               (B) in paragraph (2)—

17                       (i) by amending the matter preceding sub-  
18                       paragraph (A)(i) to read as follows:

19                               “(A) advanced, cost-effective technologies  
20                       to improve the energy efficiency and environ-  
21                       mental performance of, and reduce emissions  
22                       from, vehicles, including—”;

23                       (ii) by amending subparagraph (B) to read  
24                       as follows:

1           “(B) cost-effective technologies for new  
2 construction and retrofit, to improve the energy  
3 efficiency and environmental performance of,  
4 and reduce emissions from buildings, using a  
5 whole-buildings approach, including onsite clean  
6 energy generation and beneficial electrifica-  
7 tion;” and

8           (iii) by amending subparagraph (C) to  
9 read as follows:

10           “(C) advanced technologies to improve the  
11 energy efficiency, environmental performance,  
12 and process efficiency of, and reduce emissions  
13 from industry, especially energy-intensive and  
14 waste-intensive industries;” and

15           (3) by adding at the end the following:

16           “(f) EMISSIONS DEFINED.—In this section, the term  
17 ‘emissions’ means greenhouse gas emissions or other pol-  
18 lutants.”.

19 **SEC. 12622. STUDY ON EQUITABLE DISTRIBUTION OF BENE-**  
20 **FITS OF CLEAN ENERGY.**

21           (a) FRONTLINE COMMUNITY.—In this section, the  
22 term “frontline community” means a community with sig-  
23 nificant representation of communities of color, low-in-  
24 come communities, or Tribal and indigenous communities,

1 that experiences, or is at risk of experiencing, higher or  
2 more adverse human health or environmental effects.

3 (b) STUDY.—Not later than 1 year after the date of  
4 the enactment of this Act, the Secretary of Energy shall  
5 enter into an agreement with the National Academies of  
6 Science, Engineering, and Medicine to undertake a study  
7 on technical and non-technical barriers to and solutions  
8 for ensuring equitable distribution of the benefits associ-  
9 ated with clean energy in frontline communities across all  
10 sectors of the economy, and in particular the role of the  
11 Department of Energy in assessing and mitigating such  
12 barriers. The study shall—

13 (1) assess the state of research on the equitable  
14 distribution of the benefits of clean energy including  
15 workforce development and job creation;

16 (2) assess the progress in implementing pro-  
17 grams and policies that result in increased adoption  
18 of clean energy technologies in frontline commu-  
19 nities;

20 (3) identify barriers as well as potential incen-  
21 tives and mechanisms to achieving the equitable dis-  
22 tribution of the benefits associated with clean energy  
23 in frontline communities, including through the con-  
24 sideration of social, behavioral, regulatory, policy,  
25 market, and technology aspects, and considerations

1 of the characteristics of individual communities,  
2 such as geographical location, average income, and  
3 racial-ethnic composition; and

4 (4) recommend research areas for the Depart-  
5 ment of Energy to make progress towards ensuring  
6 equitable distribution of the benefits associated with  
7 clean energy in frontline communities.

8 **SEC. 12623. STUDY ON CERTAIN CLIMATE CHANGE MITIGA-**  
9 **TION EFFORTS.**

10 (a) IN GENERAL.—Not later than 90 days after the  
11 date of enactment of this Act, the Secretary of Transpor-  
12 tation shall seek to enter into an agreement with the Na-  
13 tional Academies of Sciences, Engineering, and Medicine  
14 (referred to in this section as the “National Academies”)  
15 to conduct a study on climate change mitigation efforts  
16 with respect to the civil aviation and aerospace industries.

17 (b) STUDY CONTENTS.—In conducting the study  
18 under subsection (a), the National Academies shall—

19 (1) identify climate change mitigation efforts,  
20 including efforts relating to emerging technologies,  
21 in the civil aviation and aerospace industries;

22 (2) develop and apply an appropriate indicator  
23 for assessing the effectiveness of such efforts;

24 (3) identify gaps in such efforts;

1           (4) identify barriers preventing expansion of  
2 such efforts; and

3           (5) develop recommendations with respect to  
4 such efforts.

5       (c) REPORTS.—

6           (1) FINDINGS OF STUDY.—Not later than 1  
7 year after the date on which the Secretary enters  
8 into an agreement for a study pursuant to sub-  
9 section (a), the Secretary shall submit to the appro-  
10 priate congressional committees the findings of the  
11 study.

12          (2) ASSESSMENT.—Not later than 180 days  
13 after the date on which the Secretary submits the  
14 findings pursuant to paragraph (1), the Secretary,  
15 acting through the Administrator of the Federal  
16 Aviation Administration, shall submit to the appro-  
17 priate congressional committees a report that con-  
18 tains an assessment of the findings.

19       (d) AUTHORIZATION OF APPROPRIATIONS.—There is  
20 authorized to be appropriated to the Secretary to carry  
21 out this section \$1,500,000.

22       (e) DEFINITIONS.—In this section:

23           (1) APPROPRIATE CONGRESSIONAL COMMIT-  
24 TEES.—The term “appropriate congressional com-  
25 mittees” means the Committee on Transportation

1 and Infrastructure of the House of Representatives,  
2 the Committee on Commerce, Science, and Trans-  
3 portation of the Senate, and other congressional  
4 committees determined appropriate by the Secretary.

5 (2) CLIMATE CHANGE MITIGATION EFFORTS.—  
6 The term “climate change mitigation efforts” means  
7 efforts, including the use of technologies, materials,  
8 processes, or practices, that contribute to the reduc-  
9 tion of greenhouse gas emissions.

10 **SEC. 12624. LOW-DOSE-RADIATION RESEARCH.**

11 Section 306(c) of the Department of Energy Re-  
12 search and Innovation Act (42 U.S.C. 18644(c)) is  
13 amended to read as follows:

14 “(c) LOW-DOSE-RADIATION RESEARCH PROGRAM.—

15 “(1) IN GENERAL.—The Secretary shall carry  
16 out a research program on low-dose and low dose-  
17 rate radiation to—

18 “(A) enhance the scientific understanding  
19 of, and reduce uncertainties associated with, the  
20 effects of exposure to low-dose and low dose-  
21 rate radiation; and

22 “(B) inform improved risk-assessment and  
23 risk-management methods with respect to such  
24 radiation.

1           “(2) PROGRAM COMPONENTS.—In carrying out  
2 the program required under paragraph (1), the Sec-  
3 retary shall—

4           “(A) support and carry out the directives  
5 under section 106 of the American Innovation  
6 and Competitiveness Act (42 U.S.C. 6601  
7 note), with respect to low dose and low-dose  
8 rate radiation research, in coordination with the  
9 Physical Science Subcommittee of the National  
10 Science and Technology Council;

11           “(B) identify and, to the extent possible,  
12 quantify, potential monetary and health-related  
13 impacts to Federal agencies, the general public,  
14 industry, research communities, and other users  
15 of information produced by such research pro-  
16 gram;

17           “(C) leverage the collective body of knowl-  
18 edge from prior and existing low-dose and low  
19 dose-rate radiation research;

20           “(D) engage with other Federal agencies,  
21 research communities, and potential users of in-  
22 formation produced under this section, includ-  
23 ing institutions performing or utilizing radiation  
24 research, medical physics, radiology, health  
25 physics, and emergency response measures; and

1           “(E) support education and outreach ac-  
2           tivities to disseminate information and promote  
3           public understanding of low-dose radiation, with  
4           a focus on non-emergency situations such as  
5           medical physics, space exploration, and natu-  
6           rally occurring radiation.

7           “(3) RESEARCH PLAN.—

8           “(A) NATIONAL ACADEMY OF SCIENCES.—  
9           Not later than 90 days after the date of enact-  
10          ment of this Act, the Secretary shall enter into  
11          an agreement with the National Academy of  
12          Sciences to develop a long-term strategic and  
13          prioritized research agenda for the program de-  
14          scribed in paragraph (2);

15          “(B) CONGRESS.—Not later than 18  
16          months after the date of enactment of this Act,  
17          the Secretary shall submit the research plan de-  
18          veloped under subparagraph (A) to the Com-  
19          mittee on Science, Space, and Technology of  
20          the House of Representatives and the Com-  
21          mittee on Energy and Natural Resources of the  
22          Senate.

23          “(4) PROGRAM EVALUATION.—

24          “(A) INDEPENDENT EXTERNAL ENTITY.—  
25          Not later than 3 years after the date of enact-



1           ment of this Act, and every 2 years thereafter,  
2           the Secretary shall enter into agreements with  
3           an independent external entity to perform a  
4           program evaluation.

5           “(B) CONGRESS.—The Secretary shall  
6           submit the program evaluations performed  
7           under subparagraph (A) to the Committee on  
8           Science, Space, and Technology of the House of  
9           Representatives and the Committee on Energy  
10          and Natural Resources of the Senate.

11          “(5) DEFINITIONS.—In this subsection:

12           “(A) LOW-DOSE RADIATION.—The term  
13           ‘low-dose radiation’ means a radiation dose of  
14           less than 100 millisieverts.

15           “(B) LOW DOSE-RATE RADIATION.—The  
16           term ‘low dose-rate radiation’ means a radiation  
17           dose rate of less than 5 millisieverts per hour.

18          “(6) RULE OF CONSTRUCTION.—Nothing in  
19          this subsection shall be construed to subject any re-  
20          search carried out by the Secretary for the program  
21          under this subsection to any limitations described in  
22          section 977(e) of the Energy Policy Act of 2005 (42  
23          U.S.C. 16317(e)).

1           “(7) FUNDING.—There are authorized to be ap-  
2           propriated to the Secretary to carry out the program  
3           under this subsection—

4                   “(A) \$20,000,000 for fiscal year 2021;

5                   “(B) \$30,000,000 for fiscal year 2022;

6                   “(C) \$40,000,000 for fiscal year 2023; and

7                   “(D) \$50,000,000 for fiscal year 2024.”.

8   **SEC. 12625. ONLINE PUBLICATION OF GREENHOUSE GAS**  
9                   **EMISSIONS.**

10           (a) IN GENERAL.—The Secretary of the Interior shall  
11           make freely available on a public website, with respect to  
12           the previous year—

13                   (1) information that describes for each fossil  
14           fuel operation that is subject to the mineral leasing  
15           laws or title III or V of the Federal Land Policy and  
16           Management Act of 1976 (30 U.S.C. 1761 et seq.),  
17           regardless of size, including production, storage,  
18           gathering, processing, transportation, and handling  
19           operations—

20                           (A) the aggregate amount of each fossil  
21           fuel, by type and by State, produced on Federal  
22           leases; and

23                           (B) for gas reported, the portion and  
24           source of such amount that was released or dis-

1           posed of by each of venting, flaring, and fugi-  
2           tive release; and

3           (2) information that describes the amount and  
4           sources of energy, in delivered megawatt hours, pro-  
5           duced from operating solar, wind, and geothermal  
6           projects on public lands under lease for the produc-  
7           tion of renewable energy.

8           (b) **FORMAT.**—Information made available under this  
9           section shall be presented in a format that—

10           (1) translates such amounts and portions into  
11           emissions of metric tons of greenhouse gases ex-  
12           pressed in carbon dioxide equivalent using both the  
13           20-year and 100-year Global Warming Potential-  
14           weighted emission values;

15           (2) for energy produced from solar, wind, and  
16           geothermal projects, includes an estimate of the net  
17           emissions that would result from production of the  
18           same amount of energy from new fossil fuel-fired fa-  
19           cilities; and

20           (3) can be downloaded in a machine readable  
21           format.

22           (c) **DATA PUBLICATION FREQUENCY.**—The data  
23           made available under this section shall be updated at least  
24           annually.

1 **SEC. 12626. SENSE OF CONGRESS.**

2 It is the sense of Congress that in order to reduce  
3 emissions and meet 100 percent of the power demand in  
4 the United States through clean, renewable, or zero emis-  
5 sion energy sources while maintaining United States lead-  
6 ership in science and technology, the Secretary of Energy  
7 must prioritize funding for critical fundamental research  
8 infrastructure and for basic research and development ac-  
9 tivities carried out through the Office of Science.

10 **SEC. 12627. USE OF BIRD-SAFE FEATURES, PRACTICES, AND**  
11 **STRATEGIES IN PUBLIC BUILDINGS.**

12 (a) IN GENERAL.—Chapter 33 of title 40, United  
13 States Code, is amended by adding at the end the fol-  
14 lowing:

15 **“§ 3319. Use of bird-safe features, practices, and strat-**  
16 **egies in public buildings**

17 “(a) CONSTRUCTION, ALTERATION, AND ACQUISI-  
18 TION OF PUBLIC BUILDINGS.—The Administrator of Gen-  
19 eral Services shall incorporate, to the extent practicable,  
20 features, practices, and strategies to reduce bird fatality  
21 resulting from collisions with public buildings for each  
22 public building—

23 “(1) constructed;

24 “(2) acquired; or

1           “(3) of which more than 50 percent of the fa-  
2           cade is substantially altered (in the opinion of the  
3           Commissioner of Public Buildings).

4           “(b) DESIGN GUIDE.—The Administrator shall de-  
5           velop a design guide to carry out subsection (a) that in-  
6           cludes the following:

7           “(1) Features for reducing bird fatality result-  
8           ing from collisions with public buildings throughout  
9           all construction phases, taking into account the  
10          number of each such bird fatality that occurs at dif-  
11          ferent types of public buildings.

12          “(2) Methods and strategies for reducing bird  
13          fatality resulting from collisions with public build-  
14          ings during the operation and maintenance of such  
15          buildings, including installing interior, exterior, and  
16          site lighting.

17          “(3) Best practices for reducing bird fatality re-  
18          sulting from collisions with public buildings, includ-  
19          ing—

20                  “(A) a description of the reasons for  
21                  adopting such practices; and

22                  “(B) an explanation for the omission of a  
23                  best practice identified pursuant to subsection  
24                  (c).

1       “(c) IDENTIFYING BEST PRACTICES.—To carry out  
2 subsection (b)(3), the Administrator may identify best  
3 practices for reducing bird fatality resulting from colli-  
4 sions with public buildings, including best practices rec-  
5 ommended by—

6           “(1) Federal agencies with expertise in bird  
7 conservation;

8           “(2) nongovernmental organizations with exper-  
9 tise in bird conservation; and

10          “(3) representatives of green building certifi-  
11 cation systems.

12       “(d) DISSEMINATION OF DESIGN GUIDE.—The Ad-  
13 ministrator shall disseminate the design guide developed  
14 pursuant to subsection (b) to all Federal agencies, sub-  
15 agencies, and departments with independent leasing au-  
16 thority from the Administrator.

17       “(e) UPDATE TO DESIGN GUIDE.—The Adminis-  
18 trator shall, on a regular basis, update the design guide  
19 developed pursuant to subsection (b) with respect to the  
20 priorities of the Administrator for reducing bird fatality  
21 resulting from collisions with public buildings.

22       “(f) EXEMPT BUILDINGS.—This section shall not  
23 apply to—

24           “(1) any building or site listed, or eligible for  
25 listing, on the National Register of Historic Places;

1           “(2) the White House and the grounds of the  
2 White House;

3           “(3) the Supreme Court building and the  
4 grounds of the Supreme Court; or

5           “(4) the United States Capitol and any building  
6 on the grounds of the Capitol.

7           “(g) CERTIFICATION.—Not later than October 1 of  
8 each fiscal year, the Administrator, acting through the  
9 Commissioner, shall certify to Congress that the Adminis-  
10 trator uses the design guide developed pursuant to sub-  
11 section (b) for each public building described in subsection  
12 (a).

13           “(h) REPORT.—Not later than October 1 of each fis-  
14 cal year, the Administrator shall submit to Congress a re-  
15 port that includes—

16           “(1) the certification under subsection (g); and

17           “(2) to the extent practicable, the number of  
18 each such bird fatality that occurred as a result of  
19 a collision with the public buildings occupied by the  
20 respective head of each Federal agency.”.

21           (b) CLERICAL AMENDMENT.—The table of sections  
22 at the beginning of chapter 33 of title 40, United States  
23 Code, is amended by adding at the end the following new  
24 item:

“3319. Use of bird-safe features, practices, and strategies in public buildings.”.

1 **SEC. 12628. GAS WASTE REDUCTION AND ENHANCEMENT**  
2 **OF GAS MEASURING AND REPORTING.**

3 (a) IN GENERAL.—Title I of the Federal Oil and Gas  
4 Royalty Management Act of 1982 (30 U.S.C. 1711 et  
5 seq.) is amended by adding at the end the following:

6 **“SEC. 118. GAS WASTE REDUCTION AND ENHANCEMENT OF**  
7 **GAS MEASURING AND REPORTING.**

8 “(a) REGULATIONS FOR PREVENTING AND REDUC-  
9 ING WASTE OF GAS VIA VENTING, FLARING, AND FUGI-  
10 TIVE RELEASES.—

11 “(1) REQUIREMENT TO ISSUE REGULATIONS.—

12 Not later than 2 years after the date of enactment  
13 of this section, the Secretary shall issue regulations  
14 pursuant to the Secretary’s authority under the Min-  
15 eral Leasing Act, the Federal Land Policy and Man-  
16 agement Act of 1976, the Indian Mineral Leasing  
17 Act of 1938, and other statutes authorizing the Sec-  
18 retary to regulate oil and gas activities on Federal  
19 land and Indian lands, that establish requirements  
20 for reducing and preventing the waste of gas, includ-  
21 ing by venting, flaring, and fugitive releases, from  
22 covered operations.

23 “(2) CONTENT OF REGULATIONS.—The regula-  
24 tions shall, with respect to covered operations—

25 “(A) require that, beginning not later than  
26 3 years after the date of enactment of this sec-



1           tion, each operator captures at least 85 percent  
2           of all gas produced in each year from each on-  
3           shore well that is subject to a mineral leasing  
4           law;

5           “(B) require that, beginning not later than  
6           5 years after the date of enactment of this sec-  
7           tion, each operator captures at least 99 percent  
8           of all gas produced in each year from each on-  
9           shore well that is subject to a mineral leasing  
10          law;

11          “(C) require flaring of gas, rather than  
12          venting, in all instances in which gas is not cap-  
13          tured;

14          “(D) require that every application for a  
15          permit to drill a production well—

16                 “(i) demonstrate sufficient infrastruc-  
17                 ture and capacity is in place to capture the  
18                 expected quantity of produced gas from the  
19                 well; and

20                 “(ii) be published with an opportunity  
21                 for a public comment period of at least 30  
22                 days;

23          “(E) beginning not later than 2 years after  
24          the date of enactment of this section, prohibit

1 all new and refractured production wells from  
2 flaring;

3 “(F) require the operator of any covered  
4 operation that routinely flares gas before the ef-  
5 fective date of a regulation prohibiting flaring  
6 issued pursuant to subparagraph (E) to submit  
7 a gas capture plan to the Secretary not later  
8 than 180 days before such effective date that  
9 ensures that such operator will meet the re-  
10 quirements described in subparagraphs (A) and  
11 (B);

12 “(G) set performance standards for newly  
13 installed equipment based on modern equipment  
14 that minimize gas loss from—

15 “(i) storage tanks;

16 “(ii) dehydrators;

17 “(iii) compressors;

18 “(iv) open-ended valves or lines;

19 “(v) pumps; and

20 “(vi) such other equipment as the  
21 Secretary determines appropriate to reduce  
22 and prevent gas release;

23 “(H) require that operators replace exist-  
24 ing equipment within one year of the publica-

1           tion date of performance standards established  
2           under subsection (G);

3           “(I) require the replacement of all high-  
4           bleed gas-actuated pneumatic devices with low-  
5           bleed or no-bleed devices not later than 180  
6           days after the date of issuance of the regulation  
7           enacted under subparagraph (A);

8           “(J) set performance standards based on  
9           modern procedures and equipment that mini-  
10          mize gas loss from—

11                   “(i) downhole maintenance;

12                   “(ii) liquids unloading;

13                   “(iii) well completion; and

14                   “(iv) such other procedures as the  
15           Secretary determines appropriate to reduce  
16           and prevent gas release;

17          “(K) require all operators to have leak de-  
18          tection programs with regularly scheduled in-  
19          spections that assess the entire covered oper-  
20          ation using an infrared camera or other equip-  
21          ment with methods that provide overall at least  
22          equivalent sensitivity and effectiveness in de-  
23          tecting leaks on a timely basis;

24          “(L) require any leaks found to be re-  
25          paired promptly, and in any case not later than

1           4 weeks after the discovery of the leak, except  
2           where exceptional circumstances warrant an ex-  
3           tension of not more than 8 additional weeks;  
4           and

5                   “(M) require recordkeeping for—

6                           “(i) equipment maintenance;

7                           “(ii) leak detection and repair;

8                           “(iii) venting events;

9                           “(iv) flaring events; and

10                           “(v) such other operations as the Sec-  
11                   retary determines appropriate to reduce  
12                   and prevent gas release.

13           “(b) GAS MEASURING, REPORTING, AND TRANS-  
14 PARENCY REQUIREMENTS.—

15                   “(1) IN GENERAL.—The Secretary shall, not  
16           later than one year after the date of enactment of  
17           this section, issue regulations requiring each oper-  
18           ator to measure and report, with respect to all gas  
19           subject to the mineral leasing laws, all such gas pro-  
20           duced, consumed on site, or lost through venting,  
21           flaring, or fugitive releases.

22                   “(2) MEASURING AND REPORTING REQUIRE-  
23           MENTS.—To account for all gas referred to in para-  
24           graph (1), the Secretary shall issue regulations re-  
25           quiring each operator to—

1           “(A) measure all production and dispo-  
2           sition of gas with such accuracy that fugitive gas  
3           releases can be calculated;

4           “(B) install metering devices to measure  
5           all flared gas; and

6           “(C) report to the Secretary the volumes of  
7           gas measured under the requirements described  
8           in subparagraph (A), including—

9                   “(i) all new measured values for pro-  
10                   duction and disposition, including vented  
11                   and flared volumes; and

12                   “(ii) values for fugitive releases based  
13                   on guidelines for their calculation estab-  
14                   lished by the Secretary in such regulations.

15           “(3) TRANSPARENCY.—The Secretary shall  
16           make all new data produced under the requirements  
17           established by the Secretary under this subsection,  
18           including calculated fugitive releases and volumes of  
19           gas lost to venting and flaring, publicly available  
20           through the internet—

21                   “(A) without a fee or other access charge;

22                   “(B) in a searchable, sortable, and  
23                   downloadable manner, to the extent technically  
24                   possible; and

1           “(C) as soon as technically practicable  
2           after the report by the operator is filed.

3           “(c) APPLICATION.—Except as otherwise specified in  
4 this section, the requirements established by the Secretary  
5 under this section shall apply to—

6           “(1) the construction and operation of any cov-  
7           ered operation initiated, including the refracturing of  
8           existing wells, on or after the date of the issuance  
9           of regulations under this section; and

10           “(2) after the end of the 1-year period begin-  
11           ning on the date of the issuance of such regulations,  
12           any covered operation initiated before the date of the  
13           issuance of such regulations.

14           “(d) ENFORCEMENT MECHANISMS.—

15           “(1) IN GENERAL.—The Secretary shall include  
16           in the regulations issued under this section con-  
17           sistent enforcement mechanisms for covered oper-  
18           ations that are not in compliance with the require-  
19           ments established by the regulations.

20           “(2) REQUIREMENTS.—The Secretary shall in-  
21           clude in the enforcement mechanisms described in  
22           paragraph (1)—

23           “(A) civil penalties for unauthorized vent-  
24           ing and flaring, which shall—

1           “(i) apply in lieu of the penalties and  
2           related provisions under section 109; and

3           “(ii) include production restrictions  
4           and civil monetary penalties equivalent to  
5           3 times the market value of the vented or  
6           flared gas; and

7           “(B) civil penalties that apply to non-  
8           compliance with other new or existing proce-  
9           dures, which shall—

10           “(i) apply in addition to or in lieu of  
11           the penalties and related provisions under  
12           section 109;

13           “(ii) include production restrictions or  
14           monetary penalties, or both; and

15           “(iii) in the case of monetary pen-  
16           alties, be proportional to market condi-  
17           tions.

18           “(e) DEFINITIONS.—In this section:

19           “(1) CAPTURE.—The term ‘capture’ means the  
20           physical containment of natural gas for transpor-  
21           tation to market or productive use of natural gas,  
22           and includes reinjection and royalty-free on-site  
23           uses.

24           “(2) COVERED OPERATIONS.—The term ‘cov-  
25           ered operations’ means all oil and gas operations

1 that are subject to mineral leasing law or title V of  
2 the Federal Land Policy and Management Act of  
3 1976 (30 U.S.C. 1761 et seq.), regardless of size, in-  
4 cluding production, storage, gathering, processing,  
5 and handling operations.

6 “(3) FLARE AND FLARING.—The terms ‘flare’  
7 and ‘flaring’ mean the intentional and controlled  
8 burning of gas that occurs in the course of oil and  
9 gas operations to limit release of gas to the atmos-  
10 phere.

11 “(4) FUGITIVE RELEASE.—The term ‘fugitive  
12 release’ means the unintentional and uncontrolled  
13 release of gas into the atmosphere in the course of  
14 oil and gas operations.

15 “(5) GAS CAPTURE PLAN.—The term ‘gas cap-  
16 ture plan’ means a plan that includes specific goals,  
17 including equipment and timelines, for capturing,  
18 gathering, and processing gas produced under an oil  
19 or gas lease.

20 “(6) GAS RELEASE.—The term ‘gas release’ in-  
21 cludes all gas that is discharged to the atmosphere  
22 via venting or fugitive release.

23 “(7) VENT AND VENTING.—The terms ‘vent’  
24 and ‘venting’ mean the intentional and controlled re-



1 lease of gas into the atmosphere in the course of oil  
2 and gas operations.”.

3 (b) CLERICAL AMENDMENT.—The table of contents  
4 in section 1 of such Act is amended by inserting after the  
5 item relating to section 117 the following:

“Sec. 118. Gas waste reduction and enhancement of gas measuring and report-  
ing.”.

6 (c) UPDATES.—The Secretary of the Interior shall  
7 update the regulations required by the amendments made  
8 by this section when the Secretary determines appropriate,  
9 but no less frequently than once every ten years, to reflect  
10 new information regarding gas waste, the impacts of that  
11 waste, and the availability of technologies and perform-  
12 ance measures to reduce gas waste.

13 (d) APPLICATION OF PRIOR RULE.—The final rule  
14 entitled “Waste Prevention, Production Subject to Royalties,  
15 and Resource Conservation”, as published in the Federal  
16 Register November 18, 2016 (81 Fed. Reg. 83008),  
17 is hereby reinstated, and each of its provisions shall apply  
18 unless and until the effective date of a subsequent final  
19 rule promulgated under the amendment made by sub-  
20 section (a), or promulgated under another applicable au-  
21 thority, that replaces or repeals such provision.

22 (e) ASSESSMENT OF VENTING, FLARING, AND FUGI-  
23 TIVE RELEASES.—Not later than 180 days after the end  
24 of the 1-year period beginning on the date the Secretary

1 of the Interior first receives data submitted under the re-  
2 quirements established under subsection (b) of section 118  
3 of the Federal Oil and Gas Royalty Management Act of  
4 1982, as amended by this section, the Secretary shall—

5 (1) submit a report to Congress describing—

6 (A) the volume of fugitive releases, and gas  
7 consumed or lost by venting and flaring, from  
8 covered operations (as those terms are used in  
9 such section); and

10 (B) additional regulations the Secretary  
11 considers would help further curtail venting,  
12 flaring, and fugitive releases, or the rational  
13 basis for not issuing such additional regulations  
14 if the Secretary considers additional regulations  
15 would not be appropriate to further curtail  
16 venting, flaring, and fugitive releases; and

17 (2) issue regulations described in the report re-  
18 quired by paragraph (1)(B) not later than 1 year  
19 after the date of the submission of the report.

## 20 **Subtitle G—Open Back Better**

### 21 **SEC. 12701. FACILITIES ENERGY RESILIENCY.**

22 (a) DEFINITIONS.—In this section:

23 (1) COVERED PROJECT.—The term “covered  
24 project” means a building project at an eligible facil-  
25 ity that—

- 1 (A) increases—
- 2 (i) resiliency, including—
- 3 (I) public health and safety;
- 4 (II) power outages;
- 5 (III) natural disasters;
- 6 (IV) indoor air quality; and
- 7 (V) any modifications neces-
- 8 sitated by the COVID–19 pandemic;
- 9 (ii) energy efficiency;
- 10 (iii) renewable energy; and
- 11 (iv) grid integration; and

12 (B) may have combined heat and power  
13 and energy storage as project components.

14 (2) EARLY CHILDHOOD EDUCATION PRO-  
15 GRAM.—The term “early childhood education pro-  
16 gram” has the meaning given the term in section  
17 103 of the Higher Education Act of 1965 (20  
18 U.S.C. 1003).

19 (3) ELEMENTARY SCHOOL.—The term “elemen-  
20 tary school” has the meaning given the term in sec-  
21 tion 8101 of the Elementary and Secondary Edu-  
22 cation Act of 1965 (20 U.S.C. 7801).

23 (4) ELIGIBLE FACILITY.—The term “eligible fa-  
24 cility” means a public facility, as determined by the  
25 Secretary, including—

1 (A) a public school, including an elemen-  
2 tary school and a secondary school;

3 (B) a facility used to operate an early  
4 childhood education program;

5 (C) a local educational agency;

6 (D) a medical facility;

7 (E) a local or State government building;

8 (F) a community facility;

9 (G) a public safety facility;

10 (H) a day care center;

11 (I) an institution of higher education;

12 (J) a public library; and

13 (K) a wastewater treatment facility.

14 (5) ENVIRONMENTAL JUSTICE COMMUNITY.—

15 The term “environmental justice community” means  
16 a community with significant representation of com-  
17 munities of color, low income communities, or Tribal  
18 and indigenous communities, that experiences, or is  
19 at risk of experiencing, higher or more adverse  
20 human health or environmental effects.

21 (6) INSTITUTION OF HIGHER EDUCATION.—The  
22 term “institution of higher education” has the  
23 meaning given the term in section 101 of the Higher  
24 Education Act of 1965 (20 U.S.C. 1001).

1           (7) LOCAL EDUCATIONAL AGENCY.—The term  
2 “local educational agency” has the meaning given  
3 the term in section 8101 of the Elementary and Sec-  
4 ondary Education Act of 1965 (20 U.S.C. 7801).

5           (8) LOW INCOME.—The term “low income”,  
6 with respect to a household, means an annual house-  
7 hold income equal to, or less than, the greater of—

8                   (A) 80 percent of the median income of the  
9 area in which the household is located, as re-  
10 ported by the Department of Housing and  
11 Urban Development; and

12                   (B) 200 percent of the Federal poverty  
13 line.

14           (9) LOW INCOME COMMUNITY.—The term “low  
15 income community” means a census block group in  
16 which not less than 30 percent of households are low  
17 income.

18           (10) SECONDARY SCHOOL.—The term “sec-  
19 ondary school” has the meaning given the term in  
20 section 8101 of the Elementary and Secondary Edu-  
21 cation Act of 1965 (20 U.S.C. 7801).

22           (11) SECRETARY.—The term “Secretary”  
23 means the Secretary of Energy.

1           (12) STATE.—The term “State” has the mean-  
2           ing given the term in section 3 of the Energy Policy  
3           and Conservation Act (42 U.S.C. 6202).

4           (13) STATE ENERGY PROGRAM.—The term  
5           “State Energy Program” means the State Energy  
6           Program established under part D of title III of the  
7           Energy Policy and Conservation Act (42 U.S.C.  
8           6321 et seq.).

9           (14) TRIBAL ORGANIZATION.—

10           (A) IN GENERAL.—The term “tribal orga-  
11           nization” has the meaning given the term in  
12           section 3765 of title 38, United States Code.

13           (B) TECHNICAL AMENDMENT.—Section  
14           3765(4) of title 38, United States Code, is  
15           amended by striking “section 4(l) of the Indian  
16           Self-Determination and Education Assistance  
17           Act (25 U.S.C. 450b(l))” and inserting “section  
18           4 of the Indian Self-Determination and Edu-  
19           cation Assistance Act (25 U.S.C. 5304)”.

20           (b) STATE PROGRAMS.—

21           (1) ESTABLISHMENT.—Not later than 60 days  
22           after the date of enactment of this Act, the Sec-  
23           retary shall distribute grants to States under the  
24           State Energy Program, in accordance with the allo-

1 cation formula established under that Program, to  
2 implement covered projects.

3 (2) USE OF FUNDS.—

4 (A) IN GENERAL.—Subject to subpara-  
5 graph (B), grant funds under paragraph (1)  
6 may be used for technical assistance, project fa-  
7 cilitation, and administration.

8 (B) TECHNICAL ASSISTANCE.—A State  
9 may use not more than 10 percent of grant  
10 funds received under paragraph (1) to provide  
11 technical assistance for the development, facili-  
12 tation, management, oversight, and measure-  
13 ment of results of covered projects implemented  
14 using those funds.

15 (C) ENVIRONMENTAL JUSTICE AND OTHER  
16 COMMUNITIES.—To support communities ad-  
17 versely impacted by the COVID–19 pandemic, a  
18 State shall use not less than 40 percent of  
19 grant funds received under paragraph (1) to  
20 implement covered projects in environmental  
21 justice communities or low income communities.

22 (D) PRIVATE FINANCING.—A State receiv-  
23 ing a grant under paragraph (1) shall—

24 (i) to the extent practicable, leverage  
25 private financing for cost-effective energy

1 efficiency, renewable energy, resiliency, and  
2 other smart-building improvements, such  
3 as by entering into an energy service per-  
4 formance contract; but

5 (ii) maintain the use of grant funds to  
6 carry out covered projects with more  
7 project resiliency, public health, and cap-  
8 ital-intensive efficiency and emission reduc-  
9 tion components than are typically avail-  
10 able through private energy service per-  
11 formance contracts.

12 (E) GUIDANCE.—In carrying out a covered  
13 project using grant funds received under para-  
14 graph (1), a State shall, to the extent prac-  
15 ticable, adhere to guidance developed by the  
16 Secretary pursuant to the American Recovery  
17 and Reinvestment Act of 2009 (Public Law  
18 111–5; 123 Stat. 115) relating to distribution  
19 of funds, if that guidance will speed the dis-  
20 tribution of funds under this subsection.

21 (3) NO MATCHING REQUIREMENT.—Notwith-  
22 standing any other provision of law, a State receiv-  
23 ing a grant under paragraph (1) shall not be re-  
24 quired to provide any amount of matching funding.



1           (4) REPORT.—Not later than 1 year after the  
2 date on which grants are distributed under para-  
3 graph (1), and each year thereafter until the funds  
4 appropriated under paragraph (5) are no longer  
5 available, the Secretary shall submit a report on the  
6 use of those funds (including in the communities de-  
7 scribed in paragraph (2)(C)) to—

8                   (A) the Subcommittee on Energy and  
9 Water Development of the Committee on Ap-  
10 propriations of the Senate;

11                   (B) the Subcommittee on Energy and  
12 Water Development and Related Agencies of  
13 the Committee on Appropriations of the House  
14 of Representatives;

15                   (C) the Committee on Energy and Natural  
16 Resources of the Senate;

17                   (D) the Committee on Energy and Com-  
18 merce of the House of Representatives; and

19                   (E) the Committee on Education and  
20 Labor of the House of Representatives.

21           (5) FUNDING.—In addition to any amounts  
22 made available to the Secretary to carry out the  
23 State Energy Program, there is authorized to be ap-  
24 propriated to the Secretary \$18,000,000,000 to

1 carry out this subsection, to remain available until  
2 September 30, 2025.

3 (6) SUPPLEMENT, NOT SUPPLANT.—Funds  
4 made available under paragraph (5) shall supple-  
5 ment, not supplant, any other funds made available  
6 to States for the State Energy Program or the  
7 weatherization assistance program established under  
8 part A of title IV of the Energy Conservation and  
9 Production Act (42 U.S.C. 6861 et seq.).

10 (c) FEDERAL ENERGY MANAGEMENT PROGRAM.—

11 (1) IN GENERAL.—Not later than 60 days after  
12 the date of enactment of this Act, the Secretary  
13 shall use the funds appropriated under paragraph  
14 (4) to provide grants under the AFFECT program  
15 under the Federal Energy Management Program of  
16 the Department of Energy to implement covered  
17 projects.

18 (2) PRIVATE FINANCING.—A recipient of a  
19 grant under paragraph (1) shall—

20 (A) to the extent practicable, leverage pri-  
21 vate financing for cost-effective energy effi-  
22 ciency, renewable energy, resiliency, and other  
23 smart-building improvements, such as by enter-  
24 ing into an energy service performance contract;  
25 but

1           (B) maintain the use of grant funds to  
2           carry out covered projects with more project re-  
3           siliency, public health, and capital-intensive effi-  
4           ciency and emission reduction components than  
5           are typically available through private energy  
6           service performance contracts.

7           (3) REPORT.—Not later than 1 year after the  
8           date on which grants are distributed under para-  
9           graph (1), and each year thereafter until the funds  
10          appropriated under paragraph (4) are no longer  
11          available, the Secretary shall submit a report on the  
12          use of those funds to—

13                (A) the Subcommittee on Energy and  
14                Water Development of the Committee on Ap-  
15                propriations of the Senate;

16                (B) the Subcommittee on Energy and  
17                Water Development and Related Agencies of  
18                the Committee on Appropriations of the House  
19                of Representatives;

20                (C) the Committee on Energy and Natural  
21                Resources of the Senate;

22                (D) the Committee on Energy and Com-  
23                merce of the House of Representatives; and

24                (E) the Committee on Education and  
25                Labor of the House of Representatives.

1           (4) FUNDING.—In addition to any amounts  
2           made available to the Secretary to carry out the AF-  
3           FECT program described in paragraph (1), there is  
4           authorized to be appropriated to the Secretary  
5           \$500,000,000 to carry out this subsection, to remain  
6           available until September 30, 2025.

7           (d) TRIBAL ORGANIZATIONS.—

8           (1) IN GENERAL.—Not later than 60 days after  
9           the date of enactment of this Act, the Secretary, act-  
10          ing through the head of the Office of Indian Energy,  
11          shall distribute funds made available under para-  
12          graph (3) to tribal organizations to implement cov-  
13          ered projects.

14          (2) REPORT.—Not later than 1 year after the  
15          date on which funds are distributed under para-  
16          graph (1), and each year thereafter until the funds  
17          made available under paragraph (3) are no longer  
18          available, the Secretary shall submit a report on the  
19          use of those funds to—

20                  (A) the Subcommittee on Energy and  
21                  Water Development of the Committee on Ap-  
22                  propriations of the Senate;

23                  (B) the Subcommittee on Energy and  
24                  Water Development and Related Agencies of

1 the Committee on Appropriations of the House  
2 of Representatives;

3 (C) the Committee on Energy and Natural  
4 Resources of the Senate;

5 (D) the Committee on Energy and Com-  
6 merce of the House of Representatives; and

7 (E) the Committee on Education and  
8 Labor of the House of Representatives.

9 (3) FUNDING.—There is authorized to be ap-  
10 propriated to the Secretary \$1,500,000,000 to carry  
11 out this subsection, to remain available until Sep-  
12 tember 30, 2025.

13 (e) USE OF AMERICAN IRON, STEEL, AND MANUFAC-  
14 TURED GOODS.—

15 (1) IN GENERAL.—Except as provided in para-  
16 graph (2), none of the funds made available by or  
17 pursuant to this section may be used for a covered  
18 project unless all of the iron, steel, and manufac-  
19 tured goods used in the project are produced in the  
20 United States.

21 (2) EXCEPTIONS.—The requirement under  
22 paragraph (1) shall be waived by the head of the rel-  
23 evant Federal department or agency in any case or  
24 category of cases in which the head of the relevant  
25 Federal department or agency determines that—

1 (A) adhering to that requirement would be  
2 inconsistent with the public interest;

3 (B) the iron, steel, and manufactured  
4 goods needed for the project are not produced  
5 in the United States—

6 (i) in sufficient and reasonably avail-  
7 able quantities; and

8 (ii) in a satisfactory quality; or

9 (C) the inclusion of iron, steel, and rel-  
10 evant manufactured goods produced in the  
11 United States would increase the overall cost of  
12 the project by more than 25 percent.

13 (3) WAIVER PUBLICATION.—If the head of a  
14 Federal department or agency makes a determina-  
15 tion under paragraph (2) to waive the requirement  
16 under paragraph (1), the head of the Federal de-  
17 partment or agency shall publish in the Federal  
18 Register a detailed justification for the waiver.

19 (4) INTERNATIONAL AGREEMENTS.—This sub-  
20 section shall be applied in a manner consistent with  
21 the obligations of the United States under all appli-  
22 cable international agreements.

23 (f) WAGE RATE REQUIREMENTS.—

24 (1) IN GENERAL.—Notwithstanding any other  
25 provision of law, all laborers and mechanics em-

1       employed by contractors and subcontractors on projects  
2       funded directly or assisted in whole or in part by the  
3       Federal Government pursuant to this section shall  
4       be paid wages at rates not less than those prevailing  
5       on projects of a similar character in the locality, as  
6       determined by the Secretary of Labor in accordance  
7       with subchapter IV of chapter 31 of title 40, United  
8       States Code (commonly known as the “Davis-Bacon  
9       Act”).

10           (2) **AUTHORITY.**—With respect to the labor  
11       standards specified in paragraph (1), the Secretary  
12       of Labor shall have the authority and functions set  
13       forth in Reorganization Plan Numbered 14 of 1950  
14       (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of  
15       title 40, United States Code.

16 **SEC. 12702. PERSONNEL.**

17       (a) **IN GENERAL.**—To carry out section 12701, the  
18       Secretary of Energy shall hire within the Department of  
19       Energy—

20           (1) not less than 300 full-time employees in the  
21       Office of Energy Efficiency and Renewable Energy;

22           (2) not less than 100 full-time employees, to be  
23       distributed among—

24                   (A) the Office of General Counsel;

25                   (B) the Office of Procurement Policy;

1 (C) the Golden Field Office;

2 (D) the National Energy Technology Lab-  
3 oratory; and

4 (E) the Office of the Inspector General;  
5 and

6 (3) not less than 20 full-time employees in the  
7 Office of Indian Energy.

8 (b) TIMELINE.—Not later than 60 days after the  
9 date of enactment of this Act, the Secretary shall—

10 (1) hire all personnel under subsection (a); or

11 (2) certify that the Secretary is unable to hire  
12 all personnel by the date required under this sub-  
13 section.

14 (c) CONTRACT HIRES.—

15 (1) IN GENERAL.—If the Secretary makes a  
16 certification under subsection (b)(2), the Secretary  
17 may hire on a contract basis not more than 50 per-  
18 cent of the personnel required to be hired under sub-  
19 section (a).

20 (2) DURATION.—An individual hired on a con-  
21 tract basis under paragraph (1) shall have an em-  
22 ployment term of not more than 1 year.

23 (d) AUTHORIZATION OF APPROPRIATIONS.—There is  
24 authorized to be appropriated to the Secretary to carry



1 out this section \$84,000,000 for each of fiscal years 2021  
2 through 2031.

3 (e) REPORT.—Not later than 60 days after the date  
4 of enactment of this Act, and annually thereafter for 2  
5 years, the Secretary shall submit a report on progress  
6 made in carrying out subsection (a) to—

7 (1) the Subcommittee on Energy and Water  
8 Development of the Committee on Appropriations of  
9 the Senate;

10 (2) the Subcommittee on Energy and Water  
11 Development and Related Agencies of the Committee  
12 on Appropriations of the House of Representatives;

13 (3) the Committee on Energy and Natural Re-  
14 sources of the Senate;

15 (4) the Committee on Energy and Commerce of  
16 the House of Representatives; and

17 (5) the Committee on Education and Labor of  
18 the House of Representatives.

19 **Subtitle H—Zeroing Excess, Reduc-**  
20 **ing Organic Waste, and Sus-**  
21 **taining Technical Expertise**

22 **SEC. 12801. GRANT PROGRAM.**

23 (a) IN GENERAL.—The Administrator shall establish  
24 and carry out a program to award grants, on a competitive

1 basis, to eligible entities for projects that are consistent  
2 with zero-waste practices.

3 (b) GRANT USE.—

4 (1) ORGANICS RECYCLING INFRASTRUCTURE.—

5 An eligible entity receiving a grant under this sub-  
6 title may use grant funds to carry out a project re-  
7 lating to organics recycling infrastructure, including  
8 facilities, machinery, equipment, and other physical  
9 necessities required for organics collection or proc-  
10 essing on a city-wide or county-wide scale, provided  
11 that—

12 (A) implementation of such project—

13 (i) results in increased capacity for  
14 residential and commercial source sepa-  
15 rated organics streams; and

16 (ii) generates a usable product that  
17 has demonstrable environmental benefits  
18 when compared to the input materials,  
19 such as compost with added nutritional  
20 content; and

21 (B) such project does not include mixed-  
22 waste composting.

23 (2) ELECTRONIC WASTE REUSE AND RECY-  
24 CLING.—An eligible entity receiving a grant under  
25 this subtitle may use grant funds to carry out a

1 project relating to electronic waste reuse or recycling,  
2 including infrastructure and technology, research and development,  
3 and product refurbishment,  
4 provided that such project—

5 (A) does not include an electronic waste  
6 “buy-back” program that provides compensation for used electronics where such compensation  
7 is applied as a credit toward the purchase  
8 of additional electronics; and

10 (B) is carried out by an organization certified in sustainable electronic waste standards  
11 by an organization accredited by the National  
12 Accreditation Board of the American National  
13 Standards Institute & The American Society of  
14 Quality, or another accrediting body as determined appropriate by the Administrator.

17 (3) SOURCE REDUCTION.—An eligible entity receiving a grant under this subtitle may use grant  
18 funds to carry out a project relating to source reduction,  
19 and such project may include—

21 (A) educational programming and outreach  
22 activities to encourage behavioral changes in  
23 consumers that result in source reduction; and

1 (B) product or manufacturing redesign or  
2 redevelopment to reduce byproducts, packaging,  
3 and other outputs if—

4 (i) the applicable manufacturer—

5 (I) is domestically-owned and op-  
6 erated; and

7 (II) pays a living wage; and

8 (ii) the redevelopment or redesign  
9 does not result in higher toxicity of the  
10 product or byproducts, more complicated  
11 recyclability of the product or byproducts,  
12 or increased volume of byproducts com-  
13 pared with the original practice.

14 (4) MARKET DEVELOPMENT.—An eligible entity  
15 receiving a grant under this subtitle may use grant  
16 funds to carry out a project relating to market de-  
17 velopment with respect to source reduction and  
18 waste prevention, including by creating demand for  
19 sorted recyclable commodities and refurbished goods  
20 and promoting domestically-owned and operated  
21 manufacturing for projects relating to source reduc-  
22 tion or waste prevention, provided that such  
23 project—

1 (A) targets easily or commonly recycled  
2 materials which are disproportionately disposed  
3 of in landfills or incinerated;

4 (B) addresses the reduction of the volume,  
5 weight, or toxicity of waste and waste byprod-  
6 ucts; and

7 (C) does not conflict with—

8 (i) minimum-content laws, such as  
9 post-consumer recycled content require-  
10 ments;

11 (ii) beverage container deposits;

12 (iii) programs funded through retail  
13 fees for specific products or classes of  
14 products that use such fees to collect,  
15 treat, or recycle such products; or

16 (iv) any applicable recycled product  
17 procurement laws and expanded sustain-  
18 able government purchasing requirements,  
19 as identified by the Administrator.

20 **SEC. 12802. GRANT AWARDS.**

21 (a) APPLICATION.—

22 (1) CRITERIA FOR ALL APPLICANTS.—To be eli-  
23 gible to receive a grant under this subtitle, an eligi-  
24 ble entity shall submit to the Administrator an ap-  
25 plication at such time and in such form as the Ad-

1 administrator requires, demonstrating that the eligible  
2 entity—

3 (A) has set specific source reduction or  
4 waste prevention targets;

5 (B) will carry out such project in commu-  
6 nities that are in the 80th percentile or higher  
7 for one or more pollutants as noted in the  
8 EJSCREEN tool, or any successor system, of  
9 the Environmental Protection Agency; and

10 (C) will carry out a project that meets the  
11 applicable project requirements under section  
12 12701(b).

13 (2) ADDITIONAL APPLICATION CRITERIA FOR  
14 NONPROFIT ORGANIZATION.—In the case of an ap-  
15 plication from an eligible entity that is a nonprofit  
16 organization, the application shall include a letter of  
17 support for the proposed project—

18 (A) from—

19 (i) a local unit of government; or—

20 (ii) a nonprofit organization that—

21 (I) has a demonstrated history of  
22 undertaking work in the geographic  
23 region where the proposed project is  
24 to take place; and

1 (II) is not involved in the project  
2 being proposed; and

3 (B) containing such information as the Ad-  
4 ministrator may require.

5 (b) PRIORITY FACTORS.—

6 (1) IN GENERAL.—In awarding grants under  
7 this subtitle, the Administrator shall give priority to  
8 eligible entities that—

9 (A) have statutorily committed to imple-  
10 menting zero-waste practices;

11 (B) demonstrate how the project to be car-  
12 ried out with grant funds could lead to the cre-  
13 ation of new jobs that pay a living wage, with  
14 preference for projects that create jobs for indi-  
15 viduals with barriers to employment, as deter-  
16 mined by the Administrator;

17 (C) will use grant funds for source reduc-  
18 tion or waste prevention in schools;

19 (D) will use grant funds to employ adapt-  
20 ive management practices to identify, prevent,  
21 or address any negative environmental con-  
22 sequences of the proposed project;

23 (E) have a demonstrated need for addi-  
24 tional investment in infrastructure and projects  
25 to achieve source reduction and waste preven-

1           tion targets set by the local unit of government  
2           that is responsible for waste and recycling  
3           projects in the geographic area;

4           (F) will use grant funds to develop innova-  
5           tive or new technologies and strategies for  
6           source reduction and waste prevention;

7           (G) demonstrate how receiving the grant  
8           will encourage further investment in source re-  
9           duction and waste prevention projects; or

10          (H) will incorporate multi-stakeholder in-  
11          volvement, including nonprofit, commercial, and  
12          public sector partners, in carrying out a project  
13          using grant funds.

14          (2) **ZERO-WASTE HIERARCHY.**—In determining  
15          priority between multiple eligible entities who qualify  
16          for priority under paragraph (1), the Administrator  
17          shall grant first priority to an eligible entity that can  
18          demonstrate how the zero-waste hierarchy was con-  
19          sidered with respect to the project to be carried out  
20          with grant funds.

21 **SEC. 12803. REPORTING.**

22          An eligible entity receiving a grant under this subtitle  
23          shall report to the Administrator, at such time and in such  
24          form as the Administrator may require, on the results of  
25          the project carried out with grant funds and any relevant



1 data requested by the Administrator to track the effective-  
2 ness of the program established under section 12701(a).

3 **SEC. 12804. ANNUAL CONFERENCE.**

4 In each of calendar years 2022 through 2027, the  
5 Administrator shall convene an annual conference for eli-  
6 gible entities, including eligible entities that have received  
7 a grant under this subtitle, and other stakeholders as iden-  
8 tified by the Administrator, to provide an opportunity for  
9 such eligible entities and stakeholders to share experience  
10 and expertise in implementing zero-waste practices.

11 **SEC. 12805. DEFINITIONS.**

12 In this subtitle:

13 (1) **ADAPTIVE MANAGEMENT PRACTICES.**—The  
14 term “adaptive management practices” means, with  
15 respect to a project, the integration of project de-  
16 sign, management, and monitoring to identify  
17 project impacts and outcomes as they arise and ad-  
18 just behaviors to improve outcomes.

19 (2) **ADMINISTRATOR.**—The term “Adminis-  
20 trator” means the Administrator of the Environ-  
21 mental Protection Agency.

22 (3) **DOMESTICALLY-OWNED AND OPERATED.**—  
23 The term “domestically-owned and operated” means,  
24 with respect to a business, a business with—

1 (A) headquarters located within the United  
2 States; and

3 (B) primary operations carried out in the  
4 United States.

5 (4) ELIGIBLE ENTITY.—The term “eligible enti-  
6 ty” means—

7 (A) a single unit of State, local, or Tribal  
8 government;

9 (B) a consortium of multiple units of  
10 State, local, or Tribal government;

11 (C) one or more units of State, local, or  
12 Tribal government in coordination with for-  
13 profit or nonprofit organizations; or

14 (D) one or more incorporated nonprofit or-  
15 ganizations.

16 (5) EMBODIED ENERGY.—The term “embodied  
17 energy” means energy that was used to create a  
18 product or material.

19 (6) LIVING WAGE.—The term “living wage”  
20 means the minimum income necessary to allow a  
21 person working 40 hours per week to afford the cost  
22 of housing, food, and other material necessities.

23 (7) ORGANICS RECYCLING.—The term  
24 “organics recycling” means the biological processes

1 by which organics streams are converted to compost  
2 which is not harmful to humans, plants, or animals.

3 (8) RECYCLING.—The term “recycling”—

4 (A) means the mechanical processing of  
5 material that has reached the end of its current  
6 use into material to be used in the production  
7 of new products;

8 (B) does not include incineration or any  
9 other energy recovery process; and

10 (C) does not include depolymerization or a  
11 similar process.

12 (9) REUSE.—The term “reuse”—

13 (A) means—

14 (i) using a product, packaging, or re-  
15 source more than once for the same or a  
16 new function with little to no processing;  
17 or

18 (ii) repairing a product so it can be  
19 used longer, sharing or renting it, or sell-  
20 ing or donating it to another party; and

21 (B) does not include incineration.

22 (10) SOURCE REDUCTION.—The term “source  
23 reduction”—

24 (A) includes—

1 (i) activities that reduce consumption  
2 of products or services that create physical  
3 outputs, such as packaging, that is sec-  
4 ondary to the intended use of the item  
5 being consumed;

6 (ii) measures or techniques that re-  
7 duce the amount of waste generated during  
8 production processes; and

9 (iii) the reduction or elimination of  
10 the use of materials which are not able to  
11 be recycled without degrading the quality  
12 of the material; and

13 (B) does not include incineration.

14 (11) SOURCE SEPARATED.—The term “source  
15 separated”—

16 (A) means the separation of a stream of  
17 recyclable materials at the point of waste cre-  
18 ation before the materials are collected and cen-  
19 tralized; and

20 (B) does not include technologies that sort  
21 mixed municipal solid waste into recyclable and  
22 non-recyclable materials.

23 (12) WASTE PREVENTION.—The term “waste  
24 prevention” includes reuse, recycling, and other

1 methods to reduce the amount of materials disposed  
2 of in landfills or incinerated.

3 (13) ZERO-WASTE.—The term “zero-waste”  
4 means the conservation of all resources by means of  
5 responsible production, consumption, reuse, and re-  
6 covery of products, packaging, and materials without  
7 burning or otherwise destroying embodied energy,  
8 with no discharges to land, water, or air that threat-  
9 en the environment or human health.

10 (14) ZERO-WASTE PRACTICE.—The term “zero-  
11 waste practice” means a practice used to help  
12 achieve zero-waste, including source reduction and  
13 waste prevention.

14 **SEC. 12806. AUTHORIZATION OF APPROPRIATIONS.**

15 There is authorized to be appropriated to the Admin-  
16 istrator to carry out this subtitle \$250,000,000 for the pe-  
17 riod of fiscal years 2021 through 2028.

18 **Subtitle I—Radon Abatement**  
19 **Reauthorization**

20 **SEC. 12901. TECHNICAL ASSISTANCE TO STATES FOR**  
21 **RADON PROGRAMS REAUTHORIZED.**

22 Section 305(e) of the Toxic Substances Control Act  
23 (15 U.S.C. 2665(e)) is amended by striking “1989, 1990,  
24 and 1991” and inserting “2021, 2022, and 2023”.

1 **SEC. 12902. GRANT ASSISTANCE TO STATES FOR RADON**  
2 **PROGRAMS REAUTHORIZED.**

3 Section 306(j) of the Toxic Substances Control Act  
4 (15 U.S.C. 2666(j)) is amended by striking “1989, 1990,  
5 and 1991” and inserting “2021, 2022, and 2023”.

6 **SEC. 12903. REGIONAL RADON TRAINING CENTERS REAU-**  
7 **THORIZED.**

8 Section 308(f) of the Toxic Substances Control Act  
9 (15 U.S.C. 2668(f)) is amended by striking “1989, 1990,  
10 and 1991” and inserting “2021, 2022, and 2023”.

Passed the House of Representatives September 24,  
2020.

Attest:

*Clerk.*



116<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**H. R. 4447**

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**AN ACT**

To establish an energy storage and microgrid grant  
and technical assistance program.