

## Calendar No. 263

116TH CONGRESS }  
*1st Session* }

SENATE

{ REPORT  
{ 116-143

### ENERGY SAVINGS AND INDUSTRIAL COMPETITIVENESS ACT

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OCTOBER 23, 2019.—Ordered to be printed

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Ms. MURKOWSKI, from the Committee on Energy and Natural  
Resources, submitted the following

### R E P O R T

[To accompany S. 2137]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 2137) to promote energy savings in residential buildings and industry, and for other purposes, having considered the same, reports favorably thereon with amendments and recommends that the bill, as amended, do pass.

#### AMENDMENTS

The amendments are as follows:

On page 87, line 24, insert “(as amended by section 301)” before “is amended”.

On page 88, line 1, strike “(h)” and insert “(i)”.

Beginning on page 95, strike line 23 and all that follows through page 96, line 11 and insert the following:

(a) DEFINITIONS.—Section 303 of the Energy Conservation and Production Act (42 U.S.C. 6832) (as amended by section 101(a)) is amended—

(1) in each of paragraphs (1) through (13), (15), and (16), by inserting a paragraph heading, the text of which is comprised of the term defined in that paragraph;

(2) by redesignating paragraphs (2) through (13) and (15) through (18) as paragraphs (3), (4), (6), (7), (8), (10), (15), (16), (17), (18), (19), (9), (5), (2), (11), and (12), respectively, and moving the paragraphs so as to appear in numerical order; and

(3) by inserting after paragraph (12) (as so redesignated) the following:

“(13) MAJOR RENOVATION.—The term ‘major

#### PURPOSE

The purpose of S. 2137 is to promote energy savings in residential buildings and industry, and for other purposes.

#### BACKGROUND AND NEED

Since the 1973 oil embargo and every subsequent energy crisis, studies have shown that the U.S. could save energy and money by investing in energy efficiency measures. Today, efficient energy use and the deployment of more efficient technologies are critical to U.S. economic competitiveness and job creation. In addition, efficient energy use reduces pollution that would be associated with energy production.

The International Energy Agency in 2018 determined that energy efficiency policies alone could potentially achieve more than 40 percent of the emissions cuts needed to reach goals in line with the Paris Climate Agreement. In 2017, the Electric Power Research Institute found that energy efficiency improvements could save consumers and businesses nearly 741,000 gigawatt hours of electricity between 2016 and 2035, about 16 percent of U.S. electricity use projected in 2035.

S. 2137, the Energy Savings and Industrial Competitiveness Act, proposes a national strategy to increase energy efficiency in the residential, commercial, Federal, and industrial sectors of the economy. The legislation would use a variety of low-cost tools to reduce barriers to private sector efficiency investments and to promote the adoption of “off-the-shelf” technologies to save money for consumers and businesses, make America more energy independent, the economy more competitive, and reduce environmental impacts. For most energy consuming appliances and equipment, more efficient models or technologies are commercially available today. Increased deployment of these alternatives would pay for themselves through energy savings and yield long-term benefits to consumers and to the nation.

According to DOE, commercial and residential buildings combined consumed 41 percent of all energy used in the U.S. The U.S. industrial sector consumes more energy than any other sector of the economy, and the Federal Government is the largest single energy consumer in the nation. S. 2137’s provisions target these sectors for energy-efficiency upgrades in order to promote economic growth across the country.

#### LEGISLATIVE HISTORY

S. 2137 was introduced by Senators Portman, Shaheen, Bennet, Collins, Coons, Hassan, Manchin, Warner, and Wicker on July 17, 2019. Companion legislation, H.R. 3962, was introduced in the House of Representatives by Representatives Welch (D-VT) and McKinley (R-WV) on July 25, 2019. The Subcommittee on Energy held a hearing on the measure on September 11, 2019.

In the 115th Congress, a similar bill, S. 385, was introduced by Senators Portman, Shaheen, Bennet, Collins, Coons, Franken,

Heitkamp, Heller, Manchin, Warner, and Wicker on February 15, 2017. The Committee met in an open business session on March 30, 2017, and ordered S. 385 favorably reported (S. Rept. 115–60).

Also in the 115th Congress, companion legislation, H.R. 1443, was introduced in the House of Representatives by Representative McKinley on March 9, 2017.

In the 114th Congress, a similar bill, S. 720, was introduced by Senators Portman, Shaheen, Ayotte, Bennet, Cantwell, Collins, Coons, Franken, Heller, Hoeven, Manchin, Murkowski, Warner, and Wicker on March 11, 2015. The Committee on Energy and Natural Resources held a hearing on S. 720 on April 30, 2015 (S. Hrg. 114–166). In an open business session on July 30, 2015, the bill was favorably reported with amendments by the Committee (S. Rept. 114–130).

The text of S. 720 was included in S. 2012, the Energy Policy Modernization Act of 2016, an original bill that was reported by the Committee on Energy and Natural Resources on July 30, 2015, and passed by the Senate, as amended, on April 26, 2016.

Also, S. 535, a bill comprised of sections 131–133 (Better Buildings), section 141 (Energy Information for Commercial Buildings), and section 421 (Grid-enabled Water Heaters) of S. 720 was introduced by Senators Portman and Shaheen on February 23, 2015, and was placed on the Senate Calendar without reference to the Committee. It passed the Senate on March 27, 2015, and the House of Representatives on April 21, 2015. It was signed by the President on April 30, 2015 (Public Law 114–11).

Section 121 of S. 720 (Coordination of Information on Assistance for Schools) was introduced as S. 600 by Senator Klobuchar on February 26, 2015. Section 431 (Requirements for Federal Buildings) and section 432 (Certification Systems for Federal Green Buildings) of S. 720 were introduced as S. 869 by Senator Hoeven on March 26, 2015. The Committee considered S. 600 and S. 869, along with S. 720, at its April 30, 2015, legislative hearing on energy efficiency legislation (S. Hrg. 114–166).

Companion legislation to S. 720, H.R. 1277, was introduced in the House of Representatives by Representative McKinley on April 30, 2015.

In the 113th Congress, four similar bills, S. 2262, S. 1392, S. 2074, and S. 761, were introduced by Senators Shaheen and Portman. S. 2262 was introduced on April 28, 2014, and S. 1392 was introduced on July 30, 2013. Cloture to end debate on S. 2262 was not invoked in the Senate on May 12, 2014. S. 1392 was considered by the Senate on September 19, 2013. S. 2074 and S. 761, were introduced on February 27, 2014, and April 18, 2013, respectively. The Committee held a hearing on S. 761 on April 23, 2013 (S. Hrg. 113–24), and it was favorably reported by the Committee on June 3, 2013 (S. Rept. 113–37).

The Committee on Energy and Natural Resources met in open business session on September 25, 2019, and ordered S. 2137 favorably reported without amendment.

#### COMMITTEE RECOMMENDATION AND TABULATION OF VOTES

The Senate Committee on Energy and Natural Resources, in open business session on September 25, 2019, on a roll call vote of 14 to 6, recommends that the Senate pass S. 2137.

The roll call vote on reporting the measure was 14 yeas, 6 nays as follows:

YEAS	NAYS
Ms. Murkowski	Mr. Barrasso
Mr. Cassidy *	Mr. Risch *
Mr. Gardner	Mr. Lee
Mr. Alexander *	Mr. Daines
Mr. Hoeven	Ms. Hyde-Smith
Mr. Manchin	Ms. McSally
Mr. Wyden *	
Ms. Cantwell	
Mr. Sanders *	
Ms. Stabenow *	
Mr. Heinrich	
Ms. Hirono *	
Mr. King	
Ms. Cortez Masto	

\* Indicates vote by proxy.

#### COMMITTEE AMENDMENTS

Pursuant to rule 7(d) of the Committee’s rules, the vote to report S. 2137 authorized three technical and clerical amendments to the measure to correct a subsection designation in an amendment made by section 422 of the bill and to correct the paragraph redesignations made by section 423 of the bill to reflect the addition of two additional paragraphs added by section 101(a).

#### SECTION-BY-SECTION ANALYSIS

##### *Section 1. Short title; table of contents*

Section 1 provides a short title and the table of contents.

##### *Sec. 2. Definition of Secretary*

Section 2 provides the definition of Secretary.

#### Title I—Buildings

##### SUBTITLE A—BUILDING ENERGY CODES

##### *Sec. 101. Greater energy efficiency in building codes*

Sec. 101(a) amends Sec. 303 of the Energy Conservation and Production Act (ECPA, P. L. 94–385, as amended) to add certain definitions.

Subsection (b) amends Sec. 304 of ECPA to require that the Secretary of Energy (Secretary) encourage and support the adoption of building energy codes by States, local governments, or Indian tribes that meet or exceed model building energy codes.

Subsection (c) amends Sec. 305 of ECPA to replace the term “voluntary building energy code” with “model building energy code.”

Subsection (d) amends Sec. 307 of ECPA to require that the Secretary support the updating of model building energy codes, and that the Secretary align any new established energy savings targets with the respective existing code development cycles of the

American Society of Heating, Refrigerating and Air-Conditioning Engineers, and the International Code Council.

*Sec. 102. Cost-effective codes implementation for efficiency and resilience*

Section 102(a) amends Title III of ECPA to add a new Sec. 309 that creates a new grant program at the Department of Energy (DOE) to help homebuilders, contractors, architects, trades, code officials, and others cost-effectively adapt and implement updated building energy codes. The grants would be eligible to be used for training, better data on meeting codes, and plans for improved codes implementation.

Subsection (b) provides a conforming amendment to Sec. 303 of ECPA.

*Sec. 103. Commercial building energy consumption information sharing*

Section 103(a) requires the Energy Information Administration (EIA) and the Environmental Protection Agency (EPA) to submit to Congress an information sharing agreement relating to commercial building energy consumption data.

Subsection (b) provides what is required to be included in the information sharing agreement.

Subsection (c) provides what data is required to be included in the information sharing agreement.

Subsection (d) describes protection of information requirements to be carried out by the EIA and EPA in carrying out the agreement.

SUBTITLE B—WORKER TRAINING AND CAPACITY BUILDING

*Sec. 111. Building training and assessment centers*

Sec. 111 directs the Secretary to provide grants to institutions of higher education and Tribal Colleges or Universities to establish building training and assessment centers.

*Sec. 112. Career skills training*

Sec. 112 directs the Secretary to provide grants to eligible entities to cover a portion of the cost of career skills training programs that lead to students receiving an industry-related certification for the installation of energy efficient building technologies.

SUBTITLE C—SCHOOL BUILDINGS

*Sec. 121. Coordination of energy retrofitting assistance for schools*

Sec. 121 directs DOE's Office of Energy Efficiency and Renewable Energy (EERE) to coordinate and disseminate information on existing Federal programs that may be used to help initiate, develop, and finance energy efficiency, renewable energy, and energy retrofitting projects for schools.

## Title II—Industrial Efficiency and Competitiveness

## SUBTITLE A—MANUFACTURING ENERGY EFFICIENCY

*Sec. 201. Purposes*

Sec. 201 provides the purpose of this subtitle.

*Sec. 202. Future of Industry Program and industrial research and assessment centers*

Section 202(a) amends the heading of Sec. 452 of EISA to add the “Future of Industry Program.”

Subsection (b) adds a new Sec. 454 that provides definitions for “energy service provider” and “industrial research and assessment center.” It also requires the Secretary to establish a Center of Excellence at not more than five of the highest-performing industrial assessment centers to coordinate with and advise within its region on best practices for carrying out assessments. These centers would also facilitate coordination between government and private entities that would aid the industrial facilities in implementing recommendations resulting from an assessment. This subsection also directs industrial research and assessment centers to coordinate with the Manufacturing Extension Partnership Centers of the National Institute of Standards and Technology and DOE’s Building Technologies Program, and to increase partnerships with the national laboratories and energy service and technology providers. This subsection further directs the Secretary to provide funding for outreach and coordination activities by the industrial research and assessment centers, and to provide funding for workforce training purposes.

Subsection (c) provides for a clerical amendment to the table of contents of EISA.

*Sec. 203. Sustainable manufacturing initiative*

Sec. 203 amends part E of title II of the Energy Policy and Conservation Act (EPCA, P. L. 109–163, as amended) to add a Sustainable Manufacturing Initiative which requires DOE’s EERE to provide onsite technical assessments to manufacturers seeking efficiency opportunities and requires the Secretary to carry out a joint industry-government partnership program to research, develop, and demonstrate new sustainable manufacturing and industrial technologies and processes.

*Sec. 204. Conforming Amendments*

Sec. 204 makes conforming changes to the Energy Policy Act of 2005.

## SUBTITLE B—EXTENDED PRODUCT SYSTEM REBATE PROGRAM

*Sec. 211. Extended product system rebate program*

Sec. 211 directs the Secretary to establish a rebate program to encourage the replacement of energy inefficient electric motors.

## SUBTITLE C—TRANSFORMER REBATE PROGRAM

*Sec. 221. Energy efficient transformer rebate program*

Section 221 directs the Secretary to establish a rebate program to encourage the replacement of energy inefficient transformers.

## Title III—Federal Agency Energy Efficiency

*Sec. 301. Energy-efficient and energy-saving information technologies*

Sec. 301 amends section 543 of the National Energy Conservation Policy Act (NECPA, P. L. 95–619, as amended) by adding a new subsection that directs the Director of the Office of Management and Budget (OMB) to collaborate with each Federal agency to develop an implementation strategy for the maintenance, purchase, and use of energy-efficient and energy-saving information technologies.

*Sec. 302. Energy efficient data centers*

Sec. 302 amends section 453 of EISA to update the Voluntary National Information Program. It requires the Secretary to develop a metric for data center energy efficiency, and directs the Secretary, in consultation with the Director of OMB, to maintain a data center energy practitioner program and open data initiative for Federal data center energy usage.

## Title IV—Regulatory Provisions

## SUBTITLE A—THIRD-PARTY CERTIFICATION UNDER ENERGY STAR PROGRAM

*Sec. 401. Third-party certification under Energy Star program*

Sec. 401 amends section 324A of EPCA to direct the Administrator to revise the certification requirements for Energy Star program partners that manufacture consumer, home, and office electronic products and have complied with all program requirements for at least 18 months.

## SUBTITLE B—FEDERAL GREEN BUILDINGS

*Sec. 411. High-performance green Federal buildings*

Sec. 411 amends section 436(h) of EISA to require the Federal Director of the Office of Federal High-Performance Green Buildings, within the General Services Administration, to conduct an ongoing review of private sector green building certification systems and provide the Secretary with a list of certification systems most likely to encourage a comprehensive and environmentally sound approach to certification of green buildings.

## SUBTITLE C—ENERGY AND WATER PERFORMANCE REQUIREMENTS FOR FEDERAL BUILDINGS

*Sec. 421. Energy and water performance requirements for Federal buildings*

Sec. 421 amends section 543 of NECPA to extend existing Federal building energy efficiency improvement targets (2.5 percent per year relative to 2018 consumption levels) through 2027, and

adds water use reduction targets (2 percent per year relative to 2007 consumption levels) through 2030. As amended, section 543(a)(2) will provide for exclusions from the targets for buildings with energy intensive activities and impose reporting requirements for excluded buildings. As amended, section 543(f)(3) will require Federal energy managers to complete comprehensive energy and water evaluation and recommissioning or retrocommissioning for 25 percent of the facilities of each agency for excluded buildings for which reporting is required to ensure that Federal buildings are performing at their optimal level of energy efficiency. Not later than two years after the date of completion of each evaluation, each energy manager may implement energy- or water- saving measures identified in the evaluation or shall explain why the measures were not implemented. Also, this section repeals the provision of section 433 of ECPA that established a requirement that Federal buildings be designed so that fossil fuel-generated energy consumption of the building be reduced on a timetable to zero percent by 2030.

*Sec. 422. Federal Energy Management Program*

Sec. 422 amends section 543 of NECPA to formally establish the Federal Energy Management Program (FEMP). This section details FEMP's directives and the duties of its director, and authorizes \$36 million in programmatic funding through 2030.

*Sec. 423. Federal building energy efficiency performance standards; certification system and level for green buildings*

Sec. 423 amends section 303 of ECPA to expand the scope of existing energy standards for new Federal buildings to cover major renovations.

*Sec. 424. Enhanced energy efficiency underwriting*

Sec. 424 requires the Secretary of the Department of Housing and Urban Development to develop and issue updated underwriting and appraisal guidelines for borrowers who voluntarily submit a qualified home energy report. The provision would cover any loan issued, insured, purchased, or securitized by the Federal Housing Administration and other federal agencies, or their successors. The updated guidelines would adjust underwriting criteria and valuation guidelines to account for expected energy cost savings as an offset to other expenses and to account for present value of expected energy savings. If no qualified energy report is provided, no adjustment would be made. Lenders would be required to inform loan applicants of the costs and benefits of improving the energy efficiency of a home.

Title V—Miscellaneous

*Sec. 501. Budgetary effects*

Sec. 501 states that for the purpose of complying with the Statutory Pay-As-You-Go Act of 2010, the budgetary effect of this legislation shall be determined by reference to the latest statement titled "Budgetary Effects of PAYGO Legislation" for this Act.



*Sec. 502. Advance appropriations required*

Sec. 502 provides that authorization of amounts under this Act and the amendments made by this Act shall be effective for any fiscal year only to the extent and in the amount provided in advance in appropriations Acts.

## COST AND BUDGETARY CONSIDERATIONS

The Congressional Budget Office estimate of the costs of this measure has been requested but was not received at the time the report was filed. When the Congressional Budget Office completes its cost estimate, it will be posted on the internet at [www.cbo.gov](http://www.cbo.gov).

## REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 2137.

The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 2137, as ordered reported.

## CONGRESSIONALLY DIRECTED SPENDING

S. 2137, as ordered reported, does not contain any congressionally directed spending items, limited tax benefits, or limited tariff benefits as defined in rule XLIV of the Standing Rules of the Senate.

## EXECUTIVE COMMUNICATIONS

The testimony provided by the Department of Energy at the September 11, 2019, Subcommittee on Energy hearing on S. 2137 follows:

TESTIMONY OF UNDER SECRETARY OF ENERGY MARK W.  
MENEZES U.S. DEPARTMENT OF ENERGY

## INTRODUCTION

Chairman Cassidy, Ranking Member Heinrich, and Members of the Subcommittee, it is a privilege and an honor to serve at the Department of Energy (DOE or the Department), which is tasked with, among other important responsibilities: overseeing the Nation's nuclear energy research and development programs; creating and sustaining American leadership in the transition to a global clean energy economy; working effectively with the States on our Nation's energy challenges; and supporting our current, and developing our Nation's future, energy workforce. Thank you for the opportunity to testify today on behalf of the Department regarding legislation pertinent to DOE that is now pending in the Senate.

I have been asked to testify on nine (9) bills today. The Administration continues to review all of these bills. I appreciate the ongoing bipartisan efforts to address our Nation's energy challenges and I look forward to working with the Committee.

#### ENERGY EFFICIENCY AND RENEWABLE ENERGY

The mission of DOE's Office of Energy Efficiency and Renewable Energy (EERE) is to create and sustain American leadership in the transition to a global clean energy economy. EERE has, among other strategic goals, the aim of: improving the energy efficiency of our nation's homes, buildings, and industries; stimulating the growth of a thriving domestic clean energy manufacturing industry; and increasing the generation of electric power from renewable sources.

#### *S. 2137—Energy Savings and Industrial Competitiveness Act*

S. 2137, Energy Savings and Industrial Competitiveness Act of 2019, would require DOE to "encourage and support the adoption of building energy codes by States" and Indian tribes. The bill requires that each State and Indian tribe demonstrate whether the energy savings for the code provisions meet or exceed the energy savings of the updated model building energy code. The states and tribes are not required to adopt energy codes under the law because it is voluntary for them.

The bill endeavors to further establish authority for industrial efficiency programs of the Department of Energy; accelerate the deployment of technologies and practices that would increase industrial energy efficiency and improve productivity; accelerate the development and demonstration of technologies that would assist the deployment goals of the industrial efficiency programs of the Department and increase manufacturing efficiency; to improve industrial productivity and competitiveness; meet the future workforce needs of industry; and strengthen partnerships between Federal and State governmental agencies and the private and academic sectors.

Additionally, not later than one (1) year after the date of enactment, the bill requires each Federal agency to coordinate with the Director of the Office of Management and Budget, the Secretary, and the Administrator of the Environmental Protection Agency to develop an implementation strategy for the maintenance, purchase, and use by the Federal agency of energy-efficient and energy-saving information technologies.

Given the numerous subjects included within this bill, the Department continues to review the various provisions of this bill.

#### *Conclusion*

Thank you again for the opportunity to be here today. The Department appreciates the ongoing bipartisan efforts

to address our Nation’s energy challenges, and looks forward to working with the Committee on the legislation on today’s agenda and any future legislation. I would be happy to answer your questions.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the changes in existing law made by S. 2137, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

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**ENERGY CONSERVATION AND PRODUCTION ACT**

**Public Law 94–385, as amended**

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**TITLE III—ENERGY CONSERVATION STANDARDS FOR NEW BUILDINGS**

\* \* \* \* \*

DEFINITIONS

SEC. 303. **[As used in]** *Except as otherwise provided, in this title*

(1) **ADMINISTRATOR.**—The term “Administrator” means the Administrator of the Federal Energy Administration; except that after such Administration ceases to exist, such term means any officer of the United States designated by the President for purposes of this title.

**[(16)] (2) ASHRAE.**—The term “ASHRAE” means the American Society of Heating, Refrigerating, and Air-Conditioning Engineers.

**[(2)] (3) BUILDING.**—The term “building” means any structure to be constructed which includes provision for a heating or cooling system, or both, or for a hot water system.

**[(3)] (4) BUILDING CODE.**—The term “building code” means a legal instrument which is in effect in a State or unit of general purpose local government, the provisions of which must be adhered to if a building is to be considered to be in conformance with law and suitable for occupancy and use.

**[(15)] (5) CABO.**—The term “CABO” means the Council of American Building Officials.

[(4)] (6) *COMMERCIAL BUILDING*.—The term “commercial building” means any building other than a residential building, including any building developed for industrial or public purposes.

[(5)] (7) *FEDERAL AGENCY*.—The term “Federal agency” means any department, agency, corporation, or other entity or instrumentality of the executive branch of the Federal Government, including the United States Postal Service, the Federal National Mortgage Association, and the Federal Home Loan Mortgage Corporation.

[(6)] (8) *FEDERAL BUILDING*.—The term “Federal building” means any building to be constructed by, or for the use of, any Federal agency. Such term shall include buildings built for the purpose of being leased by a Federal agency, and privatized military housing.

[(13)] (9) *FEDERAL BUILDING ENERGY STANDARDS*.—The term “Federal building energy standards” means energy consumption objectives to be met without specification of the methods, materials, or equipment to be employed in achieving those objectives, but including statements of the requirements, criteria, and evaluation methods to be used, and any necessary commentary.

[(7)] (10) *FEDERAL FINANCIAL ASSISTANCE*.—The term “Federal financial assistance” means (A) any form of loan, grant, guarantee, insurance, payment, rebate, subsidy, or any other form of direct or indirect Federal assistance (other than general or special revenue sharing or formula grants made to States) approved by any Federal officer or agency; or (B) any loan made or purchased by any bank, savings and loan association, or similar institution subject to regulation by the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Comptroller of the Currency, the Federal Home Loan Bank Board, the Federal Savings and Loan Insurance Corporation, or the National Credit Union Administration.

[(17)] (11) *IECC*.—The term ‘IECC’ means the *International Energy Conservation Code*.

[(18)] (12) *INDIAN TRIBE*.—The term ‘Indian tribe’ has the meaning given the term in section 4 of the *Native American Housing Assistance and Self-Determination Act of 1996* (25 U.S.C. 4103).

(13) *MAJOR RENOVATION*.—The term ‘major renovation’ means a modification of the energy systems of a building that is sufficiently extensive to ensure that the entire building can achieve compliance with applicable energy standards for new buildings, as established by the Secretary.

[(14)] The term “voluntary building energy code” means a building energy code developed and updated through a consensus process among interested persons, such as that used by the Council of American Building Officials; the American Society of Heating, Refrigerating, and Air-Conditioning Engineers; or other appropriate organizations.】

(14) *MODEL BUILDING ENERGY CODE*.—The term ‘model building energy code’ means a voluntary building energy code or

*standard developed and updated by interested persons, such as the code or standard developed by—*

*(A) the Council of American Building Officials, or its legal successor, International Code Council, Inc.;*

*(B) the American Society of Heating, Refrigerating, and Air-Conditioning Engineers; or*

*(C) other appropriate organizations.*

[(8)] (15) *NATIONAL INSTITUTE OF BUILDING SCIENCES.*—The term “National Institute of Building Sciences” means the institute established by section 809 of the Housing and Community Development Act of 1974.

[(9)] (16) *RESIDENTIAL BUILDING.*—*THE TERM “RESIDENTIAL BUILDING” MEANS ANY STRUCTURE WHICH IS CONSTRUCTED AND DEVELOPED FOR RESIDENTIAL OCCUPANCY.*

[(10)] (17) *SECRETARY.*—The term “Secretary” means the Secretary of Housing and Urban Development.

[(11)] (18) *STATE.*—The term “State” includes each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, and any territory and possession of the United States.

[(12)] (19) *UNIT OF GENERAL PURPOSE LOCAL GOVERNMENT.*—The term “unit of general purpose local government” means any city, county, town, municipality, or other political subdivision of a State (or any combination thereof), which has a building code or similar authority over a particular geographic area.

**[SEC. 304. UPDATING STATE BUILDING ENERGY EFFICIENCY CODES.**

[(a) CONSIDERATION AND DETERMINATION RESPECTING RESIDENTIAL BUILDING ENERGY CODES.—(1) Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, each State shall certify to the Secretary that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such State to revise such residential building code provisions to meet or exceed CABO Model Energy Code, 1992.

[(2) The determination referred to in paragraph (1) shall be—

(A) made after public notice and hearing;

(B) in writing;

(C) based upon findings included in such determination and upon the evidence presented at the hearing; and

(D) available to the public.

[(3) Each State may, to the extent consistent with otherwise applicable State law, revise the provisions of its residential building code regarding energy efficiency to meet or exceed CABO Model Energy Code, 1992, or may decline to make such revisions.

[(4) If a State makes a determination under paragraph (1) that it is not appropriate for such State to revise its residential building code, such State shall submit to the Secretary, in writing, the reasons for such determination, and such statement shall be available to the public.

[(5)(A) Whenever CABO Model Energy Code, 1992, (or any successor of such code) is revised, the Secretary shall, not later than 12 months after such revision, determine whether such revision would improve energy efficiency in residential buildings. The Sec-

retary shall publish notice of such determination in the Federal Register.

[(B) If the Secretary makes an affirmative determination under subparagraph (A), each State shall, not later than 2 years after the date of the publication of such determination, certify that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such State to revise such residential building code provisions to meet or exceed the revised code for which the Secretary made such determination.

[(C) Paragraphs (2), (3), and (4) shall apply to any determination made under subparagraph (B).

[(b) CERTIFICATION OF COMMERCIAL BUILDING ENERGY CODE UPDATES.—(1) Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, each State shall certify to the Secretary that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency. Such certification shall include a demonstration that such State's code provisions meet or exceed the requirements of ASHRAE Standard 90.1–1989.

[(2)(A) Whenever the provisions of ASHRAE Standard 90.1–1989 (or any successor standard) regarding energy efficiency in commercial buildings are revised, the Secretary shall, not later than 12 months after the date of such revision, determine whether such revision will improve energy efficiency in commercial buildings. The Secretary shall publish a notice of such determination in the Federal Register.

[(B)(i) If the Secretary makes an affirmative determination under subparagraph (A), each State shall, not later than 2 years after the date of the publication of such determination, certify that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency in accordance with the revised standard for which such determination was made. Such certification shall include a demonstration that the provisions of such State's commercial building code regarding energy efficiency meet or exceed such revised standard.

[(ii) If the Secretary makes a determination under subparagraph (A) that such revised standard will not improve energy efficiency in commercial buildings, State commercial building code provisions regarding energy efficiency shall meet or exceed ASHRAE Standard 90.1–1989, or if such standard has been revised, the last revised standard for which the Secretary has made an affirmative determination under subparagraph (A).

[(c) EXTENSIONS.—The Secretary shall permit extensions of the deadlines for the certification requirements under subsections (a) and (b) if a State can demonstrate that it has made a good faith effort to comply with such requirements and that it has made significant progress in doing so.

[(d) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to States to implement the requirements of this section, and to improve and implement State residential and commercial building energy efficiency codes or to otherwise promote the design and construction of energy efficient buildings.

[(e) AVAILABILITY OF INCENTIVE FUNDING.—(1) The Secretary shall provide incentive funding to States to implement the requirements of this section, and to improve and implement State residen-

tial and commercial building energy efficiency codes, including increasing and verifying compliance with such codes. In determining whether, and in what amount, to provide incentive funding under this subsection, the Secretary shall consider the actions proposed by the State to implement the requirements of this section, to improve and implement residential and commercial building energy efficiency codes, and to promote building energy efficiency through the use of such codes.

[(2) Additional funding shall be provided under this subsection for implementation of a plan to achieve and document at least a 90 percent rate of compliance with residential and commercial building energy efficiency codes, based on energy performance—

[(A) to a State that has adopted and is implementing, on a statewide basis—

[(i) a residential building energy efficiency code that meets or exceeds the requirements of the 2004 International Energy Conservation Code, or any succeeding version of that code that has received an affirmative determination from the Secretary under subsection (a)(5)(A); and

[(ii) a commercial building energy efficiency code that meets or exceeds the requirements of the ASHRAE Standard 90.1–2004, or any succeeding version of that standard that has received an affirmative determination from the Secretary under subsection (b)(2)(A); or

[(B) in a State in which there is no statewide energy code either for residential buildings or for commercial buildings, to a local government that has adopted and is implementing residential and commercial building energy efficiency codes, as described in subparagraph (A).

[(3) Of the amounts made available under this subsection, the Secretary may use \$500,000 for each fiscal year to train State and local officials to implement codes described in paragraph (2).

[(4)(A) There are authorized to be appropriated to carry out this subsection—

(i) \$25,000,000 for each of fiscal years 2006 through 2010; and

(ii) such sums as are necessary for fiscal year 2011 and each fiscal year thereafter.

[(B) Funding provided to States under paragraph (2) for each fiscal year shall not exceed one-half of the excess of funding under this subsection over \$5,000,000 for the fiscal year.]

**SEC. 304. UPDATING STATE BUILDING ENERGY EFFICIENCY CODES.**

(a) *VOLUNTARY CODES AND STANDARDS.*—*Notwithstanding any other provision of this section, any model building code or standard established under section 304 shall not be binding on a State, local government, or Indian tribe as a matter of Federal law.*

(b) *ACTION BY SECRETARY.*—*The Secretary shall—*

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

(2) *support full compliance with the State and local codes.*

(c) *STATE AND INDIAN TRIBE CERTIFICATION OF BUILDING ENERGY CODE UPDATES.*—

(1) *REVIEW AND UPDATING OF CODES BY EACH STATE AND INDIAN TRIBE.*—

(A) *IN GENERAL.*—Not later than 2 years after the date of publication of a revision to a model building energy code, each State or Indian tribe shall certify whether the State or Indian tribe, respectively, has reviewed and updated the energy provisions of the building code of the State or Indian tribe, respectively.

(B) *DEMONSTRATION.*—The certification shall include a demonstration of whether the energy savings for the code provisions that are in effect throughout the territory of the State or Indian tribe meet or exceed the energy savings of the updated model building energy code.

(C) *NO MODEL BUILDING ENERGY CODE UPDATE.*—If a model building energy code is not updated by a target date established under section 307(b)(2)(E), each State or Indian tribe shall, not later than 2 years after the specified date, certify whether the State or Indian tribe, respectively, has reviewed and updated the energy provisions of the building code of the State or Indian tribe, respectively, to meet or exceed the target in section 307(b)(2).

(2) *VALIDATION BY SECRETARY.*—Not later than 90 days after a State or Indian tribe certification under paragraph (1), the Secretary shall—

(A) determine whether the code provisions of the State or Indian tribe, respectively, meet the criteria specified in paragraph (1); and

(B) if the determination is positive, validate the certification.

(d) *IMPROVEMENTS IN COMPLIANCE WITH BUILDING ENERGY CODES.*—

(1) *REQUIREMENT.*—

(A) *IN GENERAL.*—Not later than 3 years after the date of a certification under subsection (c), each State and Indian tribe shall certify whether the State and Indian tribe, respectively, has—

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

(ii) made significant progress under paragraph (4) toward achieving compliance with the applicable certified State and Indian tribe building energy code or with the associated model building energy code.

(B) *REPEAT CERTIFICATIONS.*—If the State or Indian tribe certifies progress toward achieving compliance, the State or Indian tribe shall repeat the certification until the State or Indian tribe certifies that the State or Indian tribe has achieved full compliance, respectively.

(2) *MEASUREMENT OF COMPLIANCE.*—A certification under paragraph (1) shall include documentation of the rate of compliance based on—

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



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

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

(A) at least 90 percent of building space covered by the code in the preceding year substantially meets all the requirements of the applicable code specified in paragraph (1), or achieves equivalent or greater energy savings level; or

(B) the estimated excess energy use of buildings that did not meet the applicable code specified in paragraph (1) in the preceding year, compared to a baseline of comparable buildings that meet this code, is not more than 5 percent of the estimated energy use of all buildings covered by this code during the preceding year.

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

(A) has developed and is implementing a plan for achieving compliance during the 8-year-period beginning on the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, including annual targets for compliance and active training and enforcement programs; and

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

(5) **VALIDATION BY SECRETARY.**—Not later than 90 days after a State or Indian tribe certification under paragraph (1), the Secretary shall—

(A) determine whether the State or Indian tribe has demonstrated meeting the criteria of this subsection, including accurate measurement of compliance; and

(B) if the determination is positive, validate the certification.

(e) **STATES OR INDIAN TRIBES THAT DO NOT ACHIEVE COMPLIANCE.**—

(1) **REPORTING.**—A State or Indian tribe that has not made a certification required under subsection (c) or (d) by the applicable deadline shall submit to the Secretary a report describing—

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

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

(2) **FEDERAL SUPPORT.**—For any State or Indian tribe for which the Secretary has not validated a certification by a deadline under subsection (c) or (d), the lack of the certification may be a consideration for Federal support authorized under this section for code adoption and compliance activities.

(3) **LOCAL GOVERNMENT.**—In any State or Indian tribe for which the Secretary has not validated a certification under subsection (c) or (d), a local government may be eligible for Federal

support under subsections (f) and (g) by meeting the certification requirements of subsections (c) and (d).

(4) *REPORTS BY SECRETARY.*—

(A) *IN GENERAL.*—Not later than December 31, 2020, and not less frequently than once every 3 years thereafter, the Secretary shall submit to Congress and publish a report describing—

- (i) the status of model building energy codes;
- (ii) the status of code adoption and compliance in the States and Indian tribes;
- (iii) implementation of this section; and
- (iv) improvements in energy savings over time as result of the targets established under section 307(b)(2).

(B) *IMPACTS.*—The report shall include estimates of impacts of past action under this section, and potential impacts of further action, on—

- (i) upfront financial and construction costs, cost benefits and returns (using investment analysis), and lifetime energy use for buildings;
- (ii) resulting energy costs to individuals and businesses; and
- (iii) resulting overall annual building ownership and operating costs.

(f) *TECHNICAL ASSISTANCE TO STATES AND INDIAN TRIBES.*—The Secretary shall provide technical assistance to States and Indian tribes to implement the goals and requirements of this section, including procedures and technical analysis for States and Indian tribes—

- (1) to improve and implement State residential and commercial building energy codes;
- (2) to demonstrate that the code provisions of the States and Indian tribes achieve equivalent or greater energy savings than the model building energy codes and targets;
- (3) to document the rate of compliance with a building energy code; and
- (4) to otherwise promote the design and construction of energy- and water-efficient buildings.

(g) *AVAILABILITY OF INCENTIVE FUNDING.*—

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

- (A) to implement the requirements of this section;
- (B) to improve and implement residential and commercial building energy codes, including increasing and verifying compliance with the codes and training of State, tribal, and local building code officials to implement and enforce the codes; and
- (C) to promote building energy and water efficiency through the use of the codes and standards.

(2) *ADDITIONAL FUNDING.*—Additional funding shall be provided under this subsection for implementation of a plan to achieve and document full compliance with residential and commercial building energy codes under subsection (d)—

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

(B) in a State or Indian tribe that is not eligible under subparagraph (A), to a local government that is eligible under this section.

(3) *TRAINING.*—Of the amounts made available under this subsection, the State or Indian tribe may use amounts required, but not to exceed \$750,000 for a State, to train State and local building code officials to implement and enforce codes described in paragraph (2).

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

(h) *STRETCH CODES AND ADVANCED STANDARDS.*—

(1) *IN GENERAL.*—The Secretary shall provide technical and financial support for the development of stretch codes and advanced standards for residential and commercial buildings for use as—

(A) an option for adoption as a building energy code by local, tribal, or State governments; and

(B) guidelines for energy-efficient building design.

(2) *TARGETS.*—The stretch codes and advanced standards shall be designed—

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

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

(i) *STUDIES.*—The Secretary, in consultation with building science experts from the National Laboratories and institutions of higher education, designers and builders of energy-efficient residential and commercial buildings, code officials, code and standards developers, and other stakeholders, shall undertake a study of the feasibility, impact, economics, and merit of—

(1) code and standards improvements that would require that buildings be designed, sited, and constructed in a manner that makes the buildings more adaptable in the future to become zero-net-energy after initial construction, as advances are achieved in energy-saving technologies;

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

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

(4) code and standards improvements that consider energy efficiency and water efficiency and, to the maximum extent practicable, consider energy efficiency and water efficiency in an integrated manner.

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

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

\* \* \* \* \*

**SEC. 305. FEDERAL BUILDING ENERGY EFFICIENCY STANDARDS.**

(a)(1) **IN GENERAL.**—Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, the Secretary, after consulting with appropriate Federal agencies, CABO, ASHRAE, the National Association of Home Builders, the Illuminating Engineering Society, the American Institute of Architects, the National Conference of the States on Building Codes and Standards, and other appropriate persons, shall establish, by rule, Federal building energy standards that require in new Federal buildings those energy efficiency measures that are technologically feasible and economically justified. Such standards shall become effective no later than 1 year after such rule is issued.

(2) The standards established under paragraph (1) shall—

(A) contain energy saving and renewable energy specifications that meet or exceed the energy saving and renewable energy specifications of the 2004 International Energy Conservation Code (in the case of residential buildings) or ASHRAE Standard 90.1–2004 (in the case of commercial buildings);

(B) to the extent practicable, use the same format as the appropriate **【voluntary building energy code】** *model building energy code*; and

(C) consider, in consultation with the Environmental Protection Agency and other Federal agencies, and where appropriate contain, measures with regard to radon and other indoor air pollutants.

**【(3)(A)** Not later than 1 year after the date of enactment of this paragraph, the Secretary shall establish, by rule, revised Federal building energy efficiency performance standards that require that—

**【(i)** if life-cycle cost-effective for new Federal buildings—

**【(I)** the buildings be designed to achieve energy consumption levels that are at least 30 percent below the levels established in the version of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, that is in effect as of the date of enactment of this paragraph; and

**【(II)** sustainable design principles are applied to the siting, design, and construction of all new and replacement buildings;

**【(ii)** if water is used to achieve energy efficiency, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective; and

**【(iii)** if lifecycle cost-effective, as compared to other reasonably available technologies, not less than 30 percent of the hot water demand for each new Federal building or Federal building undergoing a major renovation be met through the installation and use of solar hot water heaters.

**【Margin of clause (iii) of paragraph (3)(A) so in law.**

[(B) Not later than 1 year after the date of approval of each subsequent revision of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, the Secretary shall determine, based on the cost-effectiveness of the requirements under the amendment, whether the revised standards established under this paragraph should be updated to reflect the amendment.]

(3) *REVISED FEDERAL BUILDING ENERGY EFFICIENCY PERFORMANCE STANDARDS; CERTIFICATION FOR GREEN BUILDINGS.*—

(A) *REVISED FEDERAL BUILDING ENERGY EFFICIENCY PERFORMANCE STANDARDS.*—

(i) *IN GENERAL.*—*Not later than 1 year after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, the Secretary shall establish, by regulation, revised Federal building energy efficiency performance standards that require that—*

(I) *subject to clause (ii), new Federal buildings and Federal buildings with major renovations—*

(aa) *meet or exceed the most recently published version of the International Energy Conservation Code (in the case of residential buildings) or ASHRAE Standard 90.1 (in the case of commercial buildings) as of the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019; and*

(bb) *meet or exceed the energy provisions of the State and local building codes applicable to the building if the codes are more stringent than the most recently published version of the International Energy Conservation Code or ASHRAE Standard 90.1 as of the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, as applicable;*

(II) *unless demonstrated not to be life cycle cost-effective for new Federal buildings and Federal buildings with major renovations—*

(aa) *the buildings shall be designed to achieve energy consumption levels that are not less than 30 percent below the levels established in the most recently published version of the International Energy Conservation Code or the ASHRAE Standard, as of the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, as appropriate; and*

(bb) *sustainable design principles are applied to the location, siting, design, and construction of all new Federal buildings and replacement Federal buildings;*

(III) *if water is used to achieve energy efficiency, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost effective; and*

(IV) if life-cycle cost effective, as compared to other reasonably available technologies, not less than 30 percent of the hot water demand for each new Federal building or Federal building undergoing a major renovation be met through the installation and use of solar hot water heaters.

(ii) *EXCEPTION.*—Clause (i)(I) shall not apply to the unaltered portions of Federal buildings and systems that have undergone major renovations.

(B) *UPDATES.*—Not later than 1 year after the date of approval of each subsequent revision of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, the Secretary shall determine whether the revised standards established under subclauses (I) and (II) of subparagraph (A)(i) should be updated to reflect the revisions, based on the energy savings and life cycle cost-effectiveness of the revisions.

[(C) In the budget request] (C) *BUDGET REQUEST.*—In the budget request of the Federal agency for each fiscal year and each report submitted by the Federal agency under section 548(a) of the National Energy Conservation Policy Act (42 U.S.C. 8258(a)), the head of each Federal agency shall include—

- (i) a list of all new Federal buildings owned, operated, or controlled by the Federal agency; and
- (ii) a statement specifying whether the Federal buildings meet or exceed the revised standards established under this paragraph.

[(D) Not later than 1 year after the date of enactment of the Energy Independence and Security Act of 2007, the Secretary shall establish, by rule, revised Federal building energy efficiency performance standards that require that:

[(i) For new Federal buildings and Federal buildings undergoing major renovations, with respect to which the Administrator of General Services is required to transmit a prospectus to Congress under section 3307 of title 40, United States Code, in the case of public buildings (as defined in section 3301 of title 40, United States Code), or of at least \$2,500,000 in costs adjusted annually for inflation for other buildings:

[(I) The buildings shall be designed so that the fossil fuel-generated energy consumption of the buildings is reduced, as compared with such energy consumption by a similar building in fiscal year 2003 (as measured by Commercial Buildings Energy Consumption Survey or Residential Energy Consumption Survey data from the Energy Information Agency), by the percentage specified in the following table:

[Fiscal Year	Percentage Reduction
[2010 .....	55
[2015 .....	65

Fiscal Year	Percentage Reduction
2020 .....	80
2025 .....	90
2030 .....	100

[(II) Upon petition by an agency subject to this subparagraph, the Secretary may adjust the applicable numeric requirement under subclause (I) downward with respect to a specific building, if the head of the agency designing the building certifies in writing that meeting such requirement would be technically impracticable in light of the agency’s specified functional needs for that building and the Secretary concurs with the agency’s conclusion. This subclause shall not apply to the General Services Administration.

[(III) Sustainable design principles shall be applied to the siting, design, and construction of such buildings. Not later than 90 days after the date of enactment of the Energy Independence and Security Act of 2007, the Secretary, after reviewing the findings of the Federal Director under section 436(h) of that Act, in consultation with the Administrator of General Services, and in consultation with the Secretary of Defense for considerations relating to those facilities under the custody and control of the Department of Defense, shall identify a certification system and level for green buildings that the Secretary determines to be the most likely to encourage a comprehensive and environmentally-sound approach to certification of green buildings. The identification of the certification system and level shall be based on a review of the Federal Director’s findings under section 436(h) of the Energy Independence and Security Act of 2007 and the criteria specified in clause (iii), shall identify the highest level the Secretary determines is appropriate above the minimum level required for certification under the system selected, and shall achieve results at least comparable to the system used by and highest level referenced by the General Services Administration as of the date of enactment of the Energy Independence and Security Act of 2007. Within 90 days of the completion of each study required by clause (iv), the Secretary, in consultation with the Administrator of General Services, and in consultation with the Secretary of Defense for considerations relating to those facilities under the custody and control of the Department of Defense, shall review and update the certification system and level, taking into account the conclusions of such study.

[(ii) In establishing criteria for identifying major renovations that are subject to the requirements of this subparagraph, the Secretary shall take into account the scope, degree, and types of renovations that are likely to provide significant opportunities for substantial improvements in energy efficiency.

[(iii) In identifying the green building certification system and level, the Secretary shall take into consideration—

[(I) the ability and availability of assessors and auditors to independently verify the criteria and measurement of metrics at the scale necessary to implement this subparagraph;

[(II) the ability of the applicable certification organization to collect and reflect public comment;

[(III) the ability of the standard to be developed and revised through a consensus-based process;

[(IV) an evaluation of the robustness of the criteria for a high-performance green building, which shall give credit for promoting—

[(aa) efficient and sustainable use of water, energy, and other natural resources;

[(bb) use of renewable energy sources;

[(cc) improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, day lighting, pollutant source control, and use of low-emission materials and building system controls; and

[(dd) such other criteria as the Secretary determines to be appropriate; and

[(V) national recognition within the building industry.

[(iv) At least once every 5 years, and in accordance with section 436 of the Energy Independence and Security Act of 2007, the Administrator of General Services shall conduct a study to evaluate and compare available third-party green building certification systems and levels, taking into account the criteria listed in clause (iii).

[(v) The Secretary may by rule allow Federal agencies to develop internal certification processes, using certified professionals, in lieu of certification by the certification entity identified under clause (i)(III). The Secretary shall include in any such rule guidelines to ensure that the certification process results in buildings meeting the applicable certification system and level identified under clause (i)(III). An agency employing an internal certification process must continue to obtain external certification by the certification entity identified under clause (i)(III) for at least 5 percent of the total number of buildings certified annually by the agency.

[(vi) With respect to privatized military housing, the Secretary of Defense, after consultation with the Secretary may, through rulemaking, develop alternative



criteria to those established by subclauses (I) and (III) of clause (i) that achieve an equivalent result in terms of energy savings, sustainable design, and green building performance.

[(vii) In addition to any use of water conservation technologies otherwise required by this section, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective.]

**(D) CERTIFICATION FOR GREEN BUILDINGS.—**

(i) *SUSTAINABLE DESIGN PRINCIPLES.—Sustainable design principles shall be applied to the siting, design, and construction of buildings covered by this subparagraph.*

(ii) *SELECTION OF CERTIFICATION SYSTEMS.—The Secretary, after reviewing the findings of the Federal Director under section 436(h) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17092(h)), in consultation with the Administrator of General Services, and in consultation with the Secretary of Defense relating to those facilities under the custody and control of the Department of Defense, shall determine those certification systems for green commercial and residential buildings that the Secretary determines to be the most likely to encourage a comprehensive and environmentally sound approach to certification of green buildings.*

(iii) *BASIS FOR SELECTION.—The determination of the certification systems under clause (ii) shall be based on ongoing review of the findings of the Federal Director under section 436(h) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17092(h)) and the criteria described in clause (v).*

(iv) *ADMINISTRATION.—In determining certification systems under this subparagraph, the Secretary shall—*

*(I) make a separate determination for all or part of each system; and*

*(II) confirm that the criteria used to support the selection of building products, materials, brands, and technologies—*

*(aa) are based on relevant technical data;*

*(bb) use and reward evaluation of health, safety, and environmental risks and impacts across the lifecycle of the building product, material, brand, or technology, including methodologies generally accepted by the applicable scientific disciplines;*

*(cc) as practicable, give preference to performance standards instead of prescriptive measures; and*

*(dd) reward continual improvements in the lifecycle management of health, safety, and environmental risks and impacts.*

(v) *CONSIDERATIONS.—In determining the green building certification systems under this subparagraph, the Secretary shall take into consideration—*

(I) the ability and availability of assessors and auditors to independently verify the criteria and measurement of metrics at the scale necessary to implement this subparagraph;

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

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

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

(aa) efficient and sustainable use of water, energy, and other natural resources;

(bb) use of renewable energy sources;

(cc) improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, day lighting, pollutant source control, and use of low-emission materials and building system controls;

(dd)(AA) the sourcing of grown, harvested, or mined materials; and

(BB) certifications of responsible sourcing, such as certifications provided by the Forest Stewardship Council, the Sustainable Forestry Initiative, the American Tree Farm System, or the Programme for the Endorsement of Forest Certification; and

(ee) such other criteria as the Secretary determines to be appropriate; and

(V) national recognition within the building industry.

(vi) *REVIEW.*—The Secretary, in consultation with the Administrator of General Services and the Secretary of Defense, shall conduct an ongoing review to evaluate and compare private sector green building certification systems, taking into account—

(I) the criteria described in clause (v); and

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

(vii) *EXCLUSIONS.*—

(I) *IN GENERAL.*—Subject to subclause (II), if a certification system fails to meet the review requirements of clause (v), the Secretary shall—

(aa) identify the portions of the system, whether prerequisites, credits, points, or otherwise, that meet the review criteria of clause (v);

(bb) determine the portions of the system that are suitable for use; and

(cc) exclude all other portions of the system from identification and use.

(II) *ENTIRE SYSTEMS.*—*The Secretary shall exclude an entire system from use if an exclusion under subclause (I)—*

*(aa) impedes the integrated use of the system;*

*(bb) creates disparate review criteria or unequal point access for competing materials; or*

*(cc) increases agency costs of the use.*

*(viii) INTERNAL CERTIFICATION PROCESSES.*—*The Secretary may by rule allow Federal agencies to develop internal certification processes, using certified professionals, in lieu of certification by certification entities identified under clause (ii).*

*(ix) PRIVATIZED MILITARY HOUSING.*—*With respect to privatized military housing, the Secretary of Defense, after consultation with the Secretary may, through rulemaking, develop alternative certification systems and levels than the systems and levels identified under clause (ii) that achieve an equivalent result in terms of energy savings, sustainable design, and green building performance.*

*(x) WATER CONSERVATION TECHNOLOGIES.*—*In addition to any use of water conservation technologies otherwise required by this section, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective.*

*(xi) EFFECTIVE DATE.*—

*(I) DETERMINATIONS MADE AFTER DECEMBER 31, 2019.*—*The amendments made by section 422(b)(1)(C) of the Energy Savings and Industrial Competitiveness Act of 2019 shall apply to any determination made by a Federal agency after December 31, 2019.*

*(II) DETERMINATIONS MADE ON OR BEFORE DECEMBER 31, 2019.*—*This subparagraph (as in effect on the day before the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019) shall apply to any use of a certification system for green commercial and residential buildings by a Federal agency on or before December 31, 2019.*

(b) **REPORT ON COMPARATIVE STANDARDS.**—The Secretary shall identify and describe, in the report required under section 308, the basis for any substantive difference between the Federal building energy standards established under this section (including differences in treatment of energy efficiency and renewable energy) and the appropriate **[voluntary building energy code]** *model building energy code.*

**[(c) PERIODIC REVIEW.**—The Secretary shall periodically, but not less than once every 5 years, review the Federal building energy standards established under this section and shall, if significant energy savings would result, upgrade such standards to include all new energy efficiency and renewable energy measures that are technologically feasible and economically justified.

[(d) INTERIM STANDARDS.—Interim energy performance standards for new Federal buildings issued by the Secretary under this title as it existed before the date of the enactment of the Energy Policy Act of 1992 shall remain in effect until the standards established under subsection (a) become effective.]

(c) PERIODIC REVIEW.—*The Secretary shall—*

(1) *once every 5 years, review the Federal building energy standards established under this section; and*

(2) *on completion of a review under paragraph (1), if the Secretary determines that significant energy savings would result, upgrade the standards to include all new energy efficiency and renewable energy measures that are technologically feasible and economically justified.*

**SEC. 306. FEDERAL COMPLIANCE.**

(a) PROCEDURES.—[(1) The head] (1) *IN GENERAL.—The head of each Federal agency shall adopt procedures necessary to [assure that new Federal buildings] ensure that new Federal buildings and Federal buildings with major renovations meet or exceed the Federal building energy standards established under section 305.*

[(2) The Federal] (2) *APPLICABILITY.—*

(A) *IN GENERAL.—The Federal building energy standards established under section 305 shall apply to new buildings and Federal buildings with major renovations under the jurisdiction of the Architect of the Capitol. [The Architect shall adopt procedures necessary to assure that such buildings meet or exceed such standards.]*

(B) *PROCEDURES.—The Architect of the Capitol shall adopt procedures necessary to ensure that the buildings referred to in subparagraph (A) meet or exceed the standards described in that subparagraph.*

(b) [CONSTRUCTION OF NEW BUILDINGS] *EXPENDITURES.—The head of a Federal agency may expend Federal funds for the construction of a new Federal building or a Federal building with major renovations only if the building meets or exceeds the appropriate Federal building energy standards established under section 305.*

**[SEC. 307. SUPPORT FOR VOLUNTARY BUILDING ENERGY CODES.**

[(a) *IN GENERAL.—Not later than 1 year after the date of the enactment of the Energy Policy Act of 1992, the Secretary, after consulting with the Secretary of Housing and Urban Development, the Secretary of Veterans Affairs, other appropriate Federal agencies, CABO, ASHRAE, the National Conference of States on Building Codes and Standards, and any other appropriate building codes and standards organization, shall support the upgrading of voluntary building energy codes for new residential and commercial buildings. Such support shall include—*

[(1) *a compilation of data and other information regarding building energy efficiency standards and codes in the possession of the Federal Government, State and local governments, and industry organizations;*

[(2) *assistance in improving the technical basis for such standards and codes;*

[(3) assistance in determining the cost-effectiveness and the technical feasibility of the energy efficiency measures included in such standards and codes; and

[(4) assistance in identifying appropriate measures with regard to radon and other indoor air pollutants.

[(b) REVIEW.—The Secretary shall periodically review the technical and economic basis of voluntary building energy codes and, based upon ongoing research activities—

[(1) recommend amendments to such codes including measures with regard to radon and other indoor air pollutants;

[(2) seek adoption of all technologically feasible and economically justified energy efficiency measures; and

[(3) otherwise participate in any industry process for review and modification of such codes.]

**SEC. 307. SUPPORT FOR MODEL BUILDING ENERGY CODES.**

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

(b) *TARGETS.*—

(1) *IN GENERAL.*—The Secretary shall support the updating of the model building energy codes to enable the achievement of aggregate energy savings targets established under paragraph (2).

(2) *TARGETS.*—

(A) *IN GENERAL.*—The Secretary shall work with State, Indian tribes, local governments, code and standards developers (such as the entities described in section 303(14)), and other interested parties to support the updating of model building energy codes by establishing one or more national aggregate energy savings targets to achieve the purposes of this section.

(B) *SEPARATE TARGETS.*—The Secretary shall establish separate targets for commercial and residential buildings.

(C) *BASELINES.*—The baseline for updating model building energy codes shall be the 2009 IECC for residential buildings and ASHRAE Standard 90.1-2010 for commercial buildings.

(D) *CODE CYCLES.*—The targets established under subparagraph (A) shall align with the respective code development cycles determined by the model building energy code-setting and standards development organizations described in section 303(14).

(E) *SPECIFIC YEARS.*—

(i) *IN GENERAL.*—Targets for specific years shall be established and revised by the Secretary through rule-making and coordinated with code and standards developers (such as the entities described in section 303(14)) at a level that—

(I) is at the maximum level of energy efficiency that is technologically feasible and lifecycle cost effective, while accounting for the economic considerations under paragraph (4);

(II) is higher than the preceding target;

(III) promotes the achievement of commercial and residential high-performance buildings (as defined in section 401 of the Energy Independence

and Security Act of 2007 (42 U.S.C. 17061)) through high performance energy efficiency; and

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

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

(iii) *DIFFERENT TARGET YEARS.*—Subject to clause (i), prior to the applicable year, the Secretary may set a later target year for any of the model building energy codes described in subparagraph (A) if the Secretary determines that a target cannot be met.

(iv) *SMALL BUSINESS.*—When establishing targets under this paragraph through rulemaking, the Secretary shall ensure compliance with the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 601 note; Public Law 104–121).

(3) *APPLIANCE STANDARDS AND OTHER FACTORS AFFECTING BUILDING ENERGY USE.*—In establishing building code targets under paragraph (2), the Secretary shall develop and adjust the targets in recognition of potential savings and costs relating to—

(A) efficiency gains made in appliances, lighting, windows, insulation, and building envelope sealing;

(B) advancement of distributed generation and on-site renewable power generation technologies;

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

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

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

(4) *ECONOMIC CONSIDERATIONS.*—In establishing and revising building code targets under paragraph (2), the Secretary shall consider the economic feasibility of achieving the proposed targets established under this section and the potential costs and savings for consumers and building owners, including a return on investment analysis.

(c) *TECHNICAL ASSISTANCE TO MODEL BUILDING ENERGY CODE-SETTING AND STANDARDS DEVELOPMENT ORGANIZATIONS.*—

(1) *IN GENERAL.*—The Secretary shall, on a timely basis, provide technical assistance to model building energy code-setting and standards development organizations consistent with the goals of this section.

(2) *ASSISTANCE.*—The assistance shall include, as requested by the organizations, technical assistance in—

(A) evaluating code or standards proposals or revisions;

(B) building energy and water analysis and design tools;

(C) building demonstrations;

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

(E) performance-based standards;

- (F) evaluating economic considerations under subsection (b)(4); and
- (G) developing model building energy codes by Indian tribes in accordance with tribal law.
- (3) *AMENDMENT PROPOSALS.*—The Secretary may submit timely model building energy code amendment proposals to the model building energy code-setting and standards development organizations, with supporting evidence, sufficient to enable the model building energy codes to meet the targets established under subsection (b)(2).
- (4) *ANALYSIS METHODOLOGY.*—The Secretary shall make publicly available the entire calculation methodology (including input assumptions and data) used by the Secretary to estimate the energy savings of code or standard proposals and revisions.
- (d) *DETERMINATION.*—
- (1) *REVISION OF MODEL BUILDING ENERGY CODES.*—If the provisions of the IECC or ASHRAE Standard 90.1 regarding building energy use are proposed to be revised, the Secretary shall make a preliminary determination, by not later than 90 days after the date of receipt of the proposed revision, and a final determination by not later than 15 months after the date of publication of the revision, regarding whether the revision will—
- (A) improve energy efficiency in buildings, as compared to the existing model building energy code; and
- (B) meet the applicable targets under subsection (b)(2).
- (2) *CODES OR STANDARDS NOT MEETING TARGETS.*—
- (A) *PRELIMINARY DETERMINATION BY SECRETARY.*—If the Secretary makes a preliminary determination under paragraph (1)(B) that a code or standard does not meet an applicable target under subsection (b)(2), the Secretary shall contemporaneously provide to the developer of the model building energy code or standard not fewer than 2 proposed changes that would result in a model building energy code that meets the applicable target, together with supporting evidence, taking into consideration—
- (i) whether the modified code is technically feasible and lifecycle cost effective;
- (ii) available appliances, technologies, materials, and construction practices; and
- (iii) the economic considerations under subsection (b)(4).
- (B) *DETERMINATION OR ELECTION BY DEVELOPER.*—Not later than 270 days after the date of receipt of proposed changes of the Secretary under subparagraph (A), a developer shall—
- (i) determine whether—
- (I) to publish a new revised code accepting the proposed changes; or
- (II) to reject the proposed changes; or
- (ii) if the developer elects not to make a determination under clause (i), publish a notice of that election, together with the proposed changes.
- (C) *FINAL DETERMINATION BY SECRETARY.*—

(i) *IN GENERAL.*—A final determination by the Secretary shall be made on the model building energy code or standard, as modified by the changes proposed by the Secretary under subparagraph (A).

(ii) *ADDITIONAL DETERMINATIONS.*—If a model building energy code or standards developer makes an election pursuant to subparagraph (B)(ii), the Secretary shall make the following final determinations for purposes of this subsection:

(I) A final determination regarding whether the code or standard of the developer, absent any changes proposed by the Secretary under subparagraph (A), will—

(aa) improve energy efficiency in buildings, as compared to the existing model building energy code; and

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

(II) A final determination regarding whether the code or standard of the developer, as modified by the changes proposed by the Secretary under subparagraph (A), would—

(aa) improve energy efficiency in buildings, as compared to the existing model building energy code; and

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

(e) *ADMINISTRATION.*—In carrying out this section, the Secretary shall—

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

(2) provide an opportunity for public comment on targets and supporting analysis and determinations under this section.

\* \* \* \* \*

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

(a) *DEFINITIONS.*—In this section:

(1) *ELIGIBLE ENTITY.*—The term ‘eligible entity’ means

(A) a relevant State agency, as determined by the Secretary, such as a State building code agency or State energy office; and

(B) a partnership.

(2) *PARTNERSHIP.*—The term ‘partnership’ means a partnership between an eligible entity described in paragraph (1)(A) and one or more of the following entities:

(A) Local building code agencies.

(B) Codes and standards developers.

(C) Associations of builders and design and construction professionals.

(D) Local and utility energy efficiency programs.



(E) Consumer, energy efficiency, and environmental advocates.

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

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

(b) ESTABLISHMENT.—

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

(2) UPDATED BUILDING ENERGY CODE.—An update to a building energy code under this section shall include any update made available after the existing building energy code, even if it is not the most recent updated code available.

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

(1) consider—

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

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

(C) prospective benefits, and plans to assess the benefits, including benefits relating to—

(i) resilience and peak load reduction;

(ii) occupant safety and health; and

(iii) environmental performance;

(D) the demonstrated capacity of the eligible entity to carry out the proposed project; and

(E) the need of the eligible entity for assistance; and

(2) give priority to applications from partnerships.

(d) ELIGIBLE ACTIVITIES.—

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

(A) to create or enable State or regional partnerships to provide training and materials to—

(i) builders, contractors and subcontractors, architects, and other design and construction professionals, relating to meeting updated building energy codes in a cost-effective manner; and

(ii) building code officials, relating to improving implementation of and compliance with building energy codes;

(B) to collect and disseminate quantitative data on construction and codes implementation, including code pathways, performance metrics, and technologies used;

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

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

(E) to implement updates in energy codes for—

(i) new residential and commercial buildings (including multifamily buildings); and

(ii) additions and alterations to existing residential and commercial buildings (including multifamily buildings).

(2) RELATED TOPICS.—Training and materials provided using a grant under this section may include information on the relationship between energy codes and—

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

(B) improving resilience, health, and safety;

(C) water savings and other environmental impacts; and

(D) the economic impacts of energy codes.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out this section—

(1) \$25,000,000 for each of fiscal years 2020 through 2029; and

(2) for fiscal year 2030 and each fiscal year thereafter, such sums as are necessary.

\* \* \* \* \*

**ENERGY INDEPENDENCE AND SECURITY ACT OF 2007**

**Public Law 110-140, as amended**

\* \* \* \* \*

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS**

\* \* \* \* \*

(b) TABLE OF CONTENTS.—THE TABLE OF CONTENTS OF THIS ACT IS AS FOLLOWS:

\* \* \* \* \*

**TITLE IV—ENERGY SAVINGS IN BUILDINGS AND INDUSTRY**

\* \* \* \* \*

**Subtitle D—Industrial Energy Efficiency**

Sec. 451. Industrial energy efficiency.

Sec. 452. Energy-intensive industries program.

Sec. 453. Energy efficiency for data center buildings

Sec. 454. Industrial research and assessment centers.

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**TITLE IV—ENERGY SAVINGS IN BUILDINGS AND INDUSTRY**

\* \* \* \* \*

**Subtitle C—High-Performance Federal Buildings**

\* \* \* \* \*

**SEC. 436. HIGH-PERFORMANCE GREEN FEDERAL BUILDINGS.**

\* \* \* \* \*

(h) IDENTIFICATION OF CERTIFICATION [SYSTEM] SYSTEMS.—

(1) IN GENERAL.—For the purpose of this section, not later than 60 days after the date of enactment of this Act, the Federal Director shall identify and shall provide to the Secretary pursuant to section 305(a)(3)(D) of the Energy Conservation and Production Act (42 U.S.C. 6834(a)(3)(D)), a certification system that the Director determines to be the most likely to encourage a comprehensive and environmentally-sound approach to certification of green buildings.】

(1) IN GENERAL.—*Based on an ongoing review, the Federal Director shall identify and shall provide to the Secretary pursuant to section 305(a)(3)(D) of the Energy Conservation and Production Act (42 U.S.C. 6834(a)(3)(D)), a list of those certification systems that the Director identifies as the most likely to encourage a comprehensive and environmentally sound approach to certification of green buildings.*

(2) BASIS.—The 【system】 systems identified under paragraph (1) shall be based on—

【(A) a study completed every 5 years and provided to the Secretary pursuant to section 305(a)(3)(D) of that Act, which shall be carried out by the Federal Director to compare and evaluate standards;】

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

*(i) be carried out by the Federal Director to compare and evaluate standards; and*

*(ii) allow any developer or administrator of a rating system or certification system to be included in the review;*

(B) the ability and availability of assessors and auditors to independently verify the criteria and measurement of metrics at the scale necessary to implement this subtitle;

(C) the ability of the applicable standard-setting organization to collect and reflect public comment;

(D) the ability of the standard to be developed and revised through a consensus-based process;

(E) an evaluation of the robustness of the criteria for a high-performance green building, which shall give credit for promoting—(i) efficient and sustainable use of water, energy, and other natural resources; (ii) use of renewable energy sources; (iii) improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, day lighting, pollutant source control, and use of low-emission materials and building system controls; (iv) reduced impacts from transportation through building location and site design that promote access by public transportation; and (v) such other criteria as the Federal Director determines to be appropriate; 【and】

(F) national recognition within the building industry【.】;

*(G) a finding that, for all credits addressing the sourcing of grown, harvested, or mined materials, the system rewards the use of products that have obtained certifications of responsible sourcing, such as certifications provided by the Sustainable Forestry Initiative, the Forest Stewardship*

*Council, the American Tree Farm System, or the Programme for the Endorsement of Forest Certification; and (H) a finding that the system incorporates life-cycle assessment as a credit pathway.*

\* \* \* \* \*

**SEC. 452. [ENERGY-INTENSIVE INDUSTRIES PROGRAM] FUTURE OF INDUSTRY PROGRAM.**

(a) DEFINITIONS.—In this section:

(1) ELIGIBLE ENTITY.—The term “eligible entity” means—

(A) an energy-intensive industry;

(B) a national trade association representing an energy-intensive industry; or

(C) a person acting on behalf of 1 or more energy-intensive industries or sectors, as determined by the Secretary.

(2) ENERGY-INTENSIVE INDUSTRY.—The term “energy-intensive industry” means an industry that uses significant quantities of energy as part of its primary economic activities, including—

(A) information technology, including data centers containing electrical equipment used in processing, storing, and transmitting digital information;

(B) consumer product manufacturing;

(C) food processing;

(D) materials manufacturers, including—

(i) aluminum;

(ii) chemicals;

(iii) forest and paper products;

(iv) metal casting;

(v) glass;

(vi) petroleum refining;

(vii) mining; and

(viii) steel;

(E) *water and wastewater treatment facilities, including systems that treat municipal, industrial, and agricultural waste; and*

**[(E)]** *(F) other energy-intensive industries, as determined by the Secretary.*

(3) FEEDSTOCK.—The term “feedstock” means the raw material supplied for use in manufacturing, chemical, and biological processes.

(4) PARTNERSHIP.—The term “partnership” means an energy efficiency partnership established under subsection (c)(1)(A).

(5) PROGRAM.—The term “program” means the energy-intensive industries program established under subsection (b).

(b) ESTABLISHMENT OF PROGRAM.—The Secretary shall establish a program under which the Secretary, in cooperation with energy-intensive industries and national industry trade associations representing the energy-intensive industries, shall support, research, develop, and promote the use of new materials processes, technologies, and techniques to optimize energy efficiency and the economic competitiveness of the United States’ industrial and commercial sectors.

(c) PARTNERSHIPS.—

(1) IN GENERAL.—As part of the program, the Secretary shall establish energy efficiency partnerships between the Secretary and eligible entities to conduct research on, develop, and demonstrate new processes, technologies, and operating practices and techniques to significantly improve the energy efficiency of equipment and processes used by energy-intensive industries, including the conduct of activities to—

(A) increase the energy efficiency of industrial processes and facilities;

(B) research, develop, and demonstrate advanced technologies capable of energy intensity reductions and increased environmental performance; and

(C) promote the use of the processes, technologies, and techniques described in subparagraphs (A) and (B).

(2) ELIGIBLE ACTIVITIES.—Partnership activities eligible for funding under this subsection include—

(A) feedstock and recycling research, development, and demonstration activities to identify and promote—

(i) opportunities for meeting industry feedstock requirements with more energy efficient and flexible sources of feedstock or energy supply;

(ii) strategies to develop and deploy technologies that improve the quality and quantity of feedstocks recovered from process and waste streams; and

(iii) other methods using recycling, reuse, and improved industrial materials;

(B) research to develop and demonstrate technologies and processes that utilize alternative energy sources to supply heat, power, and new feedstocks for energy-intensive industries;

(C) research to achieve energy efficiency in steam, power, control system, and process heat technologies, and in other manufacturing processes; and

(D) industrial and commercial energy efficiency and sustainability assessments to—

(i) assist individual industrial and commercial sectors in developing tools, techniques, and methodologies to assess—

(I) the unique processes and facilities of the sectors;

(II) the energy utilization requirements of the sectors; and

(III) the application of new, more energy efficient technologies; and

(ii) conduct energy savings assessments;

(E) the incorporation of technologies and innovations that would significantly improve the energy efficiency and utilization of energy-intensive commercial applications; and

(F) any other activities that the Secretary determines to be appropriate.

(3) PROPOSALS.—

(A) IN GENERAL.—To be eligible for funding under this subsection, a partnership shall submit to the Secretary a proposal that describes the proposed research, develop-

ment, or demonstration activity to be conducted by the partnership.

(B) REVIEW.—After reviewing the scientific, technical, and commercial merit of a proposals submitted under subparagraph (A), the Secretary shall approve or disapprove the proposal.

(C) COMPETITIVE AWARDS.—The provision of funding under this subsection shall be on a competitive basis.

(4) COST-SHARING REQUIREMENT.—In carrying out this section, the Secretary shall require cost sharing in accordance with section 988 of the Energy Policy Act of 2005 (42 U.S.C. 16352).

(d) GRANTS.—The Secretary may award competitive grants for innovative technology research, development and demonstrations to universities, individual inventors, and small companies, based on energy savings potential, commercial viability, and technical merit.

[(e) INSTITUTION OF HIGHER EDUCATION-BASED INDUSTRIAL RESEARCH AND ASSESSMENT CENTERS.—The Secretary shall provide funding to institution of higher education-based industrial research and assessment centers, whose purpose shall be—

[(1) to identify opportunities for optimizing energy efficiency and environmental performance;

[(2) to promote applications of emerging concepts and technologies in small- and medium-sized manufacturers;

[(3) to promote research and development for the use of alternative energy sources to supply heat, power, and new feedstocks for energy-intensive industries;

[(4) to coordinate with appropriate Federal and State research offices, and provide a clearinghouse for industrial process and energy efficiency technical assistance resources; and

[(5) to coordinate with State-accredited technical training centers and community colleges, while ensuring appropriate services to all regions of the United States.]

[(f) (e) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—There are authorized to be appropriated to the Secretary to carry out this section—

(A) \$184,000,000 for fiscal year 2008;

(B) \$190,000,000 for fiscal year 2009;

(C) \$196,000,000 for fiscal year 2010;

(D) \$202,000,000 for fiscal year 2011;

(E) \$208,000,000 for fiscal year 2012; and

(F) such sums as are necessary for fiscal year 2013 and each fiscal year thereafter.

(2) PARTNERSHIP ACTIVITIES.—Of the amounts made available under paragraph (1), not less than 50 percent shall be used to pay the Federal share of partnership activities under subsection (c).

(3) COORDINATION AND NONDUPLICATION.—The Secretary shall coordinate efforts under this section with other programs of the Department and other Federal agencies to avoid duplication of effort.

**SEC. 453. ENERGY EFFICIENCY FOR DATA CENTER BUILDINGS.**

(a) DEFINITIONS.—In this section:

(1) DATA CENTER.—The term “data center” means any facility that primarily contains electronic equipment used to process, store, and transmit digital information, which may be—

(A) a free-standing structure; or

(B) a facility within a larger structure, that uses environmental control equipment to maintain the proper conditions for the operation of electronic equipment.

(2) DATA CENTER OPERATOR.—The term “data center operator” means any person or government entity that builds or operates a data center or purchases data center services, equipment, and facilities.

(b) VOLUNTARY NATIONAL INFORMATION PROGRAM.—

(1) IN GENERAL.—Not later than 90 days after the date of enactment of this Act, the Secretary and the Administrator of the Environmental Protection Agency shall, after consulting with information technology industry and other interested parties, initiate a voluntary national information program for those types of data centers and data center equipment and facilities that are widely used and for which there is a potential for significant data center energy savings as a result of the program.

(2) REQUIREMENTS.—The program described in paragraph (1) shall—

(A) address data center efficiency holistically, reflecting the total energy consumption of data centers as whole systems, including both equipment and facilities;

(B) consider prior work and studies undertaken in this area, including by the Environmental Protection Agency and the Department of Energy;

(C) consistent with the objectives described in paragraph (1), determine the type of data center and data center equipment and facilities to be covered under the program;

(D) produce specifications, measurements, best practices, and benchmarks that will enable data center operators to make more informed decisions about the energy efficiency and costs of data centers, and that take into account—

(i) the performance and use of servers, data storage devices, and other information technology equipment;

(ii) the efficiency of heating, ventilation, and air conditioning, cooling, and power conditioning systems, provided that no modification shall be required of a standard then in effect under the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.) for any covered heating, ventilation, air-conditioning, cooling or power-conditioning product;

(iii) energy savings from the adoption of software and data management techniques; and

(iv) other factors [determined by the organization] *proposed by the stakeholders* described in subsection (c);

(E) allow for creation of separate specifications, measurements, and benchmarks based on data center size and function, as well as other appropriate characteristics;

(F) advance the design and implementation of efficiency technologies to the maximum extent economically practical;

(G) provide to data center operators in the private sector and the Federal Government information about best practices and purchasing decisions that reduce the energy consumption of data centers; and

(H) publish the information described in subparagraph (G), which may be disseminated through catalogs, trade publications, the Internet, or other mechanisms, that will allow data center operators to assess the energy consumption and potential cost savings of alternative data centers and data center equipment and facilities.

[(3) PROCEDURES.—The program described in paragraph (1) shall be developed in consultation with and coordinated by the organization described in subsection (c) according to commonly accepted procedures for the development of specifications, measurements, and benchmarks.]

[(c) DATA CENTER EFFICIENCY ORGANIZATION.—

[(1) IN GENERAL.—After the establishment of the program described in subsection (b), the Secretary and the Administrator shall jointly designate an information technology industry organization to consult with and to coordinate the program.

[(2) REQUIREMENTS.—The organization designated under paragraph (1), whether preexisting or formed specifically for the purposes of subsection (b), shall—

[(A) consist of interested parties that have expertise in energy efficiency and in the development, operation, and functionality of computer data centers, information technology equipment, and software, as well as representatives of hardware manufacturers, data center operators, and facility managers;

[(B) obtain and address input from Department of Energy National Laboratories or any college, university, research institution, industry association, company, or public interest group with applicable expertise in any of the areas listed in paragraph (1);

[(C) follow commonly accepted procedures for the development of specifications and accredited standards development processes;

[(D) have a mission to develop and promote energy efficiency for data centers and information technology; and

[(E) have the primary responsibility to consult in the development and publishing of the information, measurements, and benchmarks described in subsection (b) and transmission of the information to the Secretary and the Administrator for consideration under subsection (d).

[(d) MEASUREMENTS AND SPECIFICATIONS.—

[(1) IN GENERAL.—The Secretary and the Administrator shall consider the specifications, measurements, and benchmarks described in subsection (b) for use by the Federal Energy Management Program, the Energy Star Program, and other efficiency programs of the Department of Energy and Environmental Protection Agency, respectively.

[(2) REJECTIONS.—If the Secretary or the Administrator rejects 1 or more specifications, measurements, or benchmarks described in subsection (b), the rejection shall be made consistent with section 12(d) of the National Technology Transfer



and Advancement Act of 1995 (15 U.S.C. 272 note; Public Law 104–113).

[(3) DETERMINATION OF IMPRACTICABILITY.—A determination that a specification, measurement, or benchmark described in subsection (b) is impractical may include consideration of the maximum efficiency that is technologically feasible and economically justified.

[(e) MONITORING.—The Secretary and the Administrator shall—

[(1) monitor and evaluate the efforts to develop the program described in subsection (b); and

[(2) not later than 3 years after the date of enactment of this Act, make a determination as to whether the program is consistent with the objectives of subsection (b).

[(f) ALTERNATIVE SYSTEM.—If the Secretary and the Administrator make a determination under subsection (e) that a voluntary national information program for data centers consistent with the objectives of subsection (b) has not been developed, the Secretary and the Administrator shall, after consultation with the National Institute of Standards and Technology and not later than 2 years after the determination, develop and implement the program under subsection (b).

[(g) PROTECTION OF PROPRIETARY INFORMATION.—The Secretary, the Administrator, or the data center efficiency organization shall not disclose any proprietary information or trade secrets provided by any individual or company for the purposes of carrying out this section or the program established under this section.]

(c) *STAKEHOLDER INVOLVEMENT.*—

(1) *IN GENERAL.*—*The Secretary and the Administrator shall carry out subsection (b) in collaboration with the information technology industry and other key stakeholders, with the goal of producing results that accurately reflect the most relevant and useful information.*

(2) *CONSIDERATIONS.*—*In carrying out the collaboration described in paragraph (1), the Secretary and the Administrator shall pay particular attention to organizations that—*

(A) *have members with expertise in energy efficiency and in the development, operation, and functionality of data centers, information technology equipment, and software, including representatives of hardware manufacturers, data center operators, and facility managers;*

(B) *obtain and address input from the National Laboratories (as that term is defined in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801)) or any institution of higher education, research institution, industry association, company, or public interest group with applicable expertise;*

(C) *follow—*

(i) *commonly accepted procedures for the development of specifications; and*

(ii) *accredited standards development processes; or*

(D) *have a mission to promote energy efficiency for data centers and information technology.*

(d) *MEASUREMENTS AND SPECIFICATIONS.*—*The Secretary and the Administrator shall consider and assess the adequacy of the specifications, measurements, best practices, and benchmarks described*

in subsection (b) for use by the Federal Energy Management Program, the Energy Star Program, and other efficiency programs of the Department of Energy or the Environmental Protection Agency.

(e) *STUDY.*—

(1) *DEFINITION OF REPORT.*—*In this subsection, the term ‘report’ means the report of the Lawrence Berkeley National Laboratory entitled ‘United States Data Center Energy Usage Report’ and dated June 2016, which was prepared as an update to the ‘Report to Congress on Server and Data Center Energy Efficiency’, published on August 2, 2007, pursuant to section 1 of Public Law 109–431 (120 Stat. 2920).*

(2) *STUDY.*—*Not later than 4 years after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, the Secretary, in collaboration with the Administrator, shall make available to the public an update to the report that provides*

(A) *a comparison and gap analysis of the estimates and projections contained in the report with new data regarding the period from 2015 through 2019;*

(B) *an analysis considering the impact of information technologies, including virtualization and cloud computing, in the public and private sectors;*

(C) *an evaluation of the impact of the combination of cloud platforms, mobile devices, social media, and big data on data center energy usage;*

(D) *an evaluation of water usage in data centers and recommendations for reductions in that water usage; and*

(E) *updated projections and recommendations for best practices through fiscal year 2025.*

(f) *DATA CENTER ENERGY PRACTITIONER PROGRAM.*—

(1) *IN GENERAL.*—*The Secretary, in collaboration with key stakeholders and the Director of the Office of Management and Budget, shall maintain a data center energy practitioner program that provides for the certification of energy practitioners qualified to evaluate the energy usage and efficiency opportunities in federally owned and operated data centers.*

(2) *EVALUATIONS.*—*Each Federal agency shall consider having the data centers of the agency evaluated once every 4 years by energy practitioners certified pursuant to the program, whenever practicable using certified practitioners employed by the agency.*

(g) *OPEN DATA INITIATIVE.*—

(1) *IN GENERAL.*—*The Secretary, in collaboration with key stakeholders and the Director of the Office of Management and Budget, shall establish an open data initiative relating to energy usage at federally owned and operated data centers, with the purpose of making the data available and accessible in a manner that encourages further data center innovation, optimization, and consolidation.*

(2) *CONSIDERATION.*—*In establishing the initiative under paragraph (1), the Secretary shall consider using the online Data Center Maturity Model.*

(h) *INTERNATIONAL SPECIFICATIONS AND METRICS.*—*The Secretary, in collaboration with key stakeholders, shall actively partici-*

pate in efforts to harmonize global specifications and metrics for data center energy and water efficiency.

(i) **DATA CENTER UTILIZATION METRIC.**—The Secretary, in collaboration with key stakeholders, shall facilitate in the development of an efficiency metric that measures the energy efficiency of a data center (including equipment and facilities).

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

**SEC. 454. INDUSTRIAL RESEARCH AND ASSESSMENT CENTERS.**

(a) **DEFINITIONS.**—In this section:

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

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

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

(2) **INDUSTRIAL RESEARCH AND ASSESSMENT CENTER.**—The term ‘industrial research and assessment center’ means—

(A) an institution of higher education-based industrial research and assessment center that is funded by the Secretary under subsection (b); and

(B) an industrial research and assessment center at a trade school, community college, or union training program that is funded by the Secretary under subsection (f).

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

(1) **IN GENERAL.**—The Secretary shall provide funding to institution of higher education-based industrial research and assessment centers.

(2) **PURPOSE.**—The purpose of each institution of higher education-based industrial research and assessment center shall be—

(A) to identify opportunities for optimizing energy efficiency and environmental performance, including implementation of—

(i) smart manufacturing;

(ii) energy management systems;

(iii) sustainable manufacturing; and

(iv) information technology advancements for supply chain analysis, logistics, system monitoring, industrial and manufacturing processes, and other purposes;

(B) to promote applications of emerging concepts and technologies in small- and medium-sized manufacturers (including water and wastewater treatment facilities and federally owned manufacturing facilities);

(C) to promote research and development for the use of alternative energy sources to supply heat, power, and new feedstocks for energy-intensive industries;

- (D) to coordinate with appropriate Federal and State research offices;
  - (E) to provide a clearinghouse for industrial process and energy efficiency technical assistance resources; and
  - (F) to coordinate with State-accredited technical training centers and community colleges, while ensuring appropriate services to all regions of the United States.
- (c) *COORDINATION.*—To increase the value and capabilities of the industrial research and assessment centers, the centers shall—
- (1) coordinate with Manufacturing Extension Partnership Centers of the National Institute of Standards and Technology;
  - (2) coordinate with the Federal Energy Management Program and the Building Technologies Program of the Department of Energy to provide building assessment services to manufacturers;
  - (3) increase partnerships with the National Laboratories of the Department of Energy to leverage the expertise, technologies, and research and development capabilities of the National Laboratories for national industrial and manufacturing needs;
  - (4) increase partnerships with energy service providers and technology providers to leverage private sector expertise and accelerate deployment of new and existing technologies and processes for energy efficiency, power factor, and load management;
  - (5) identify opportunities for reducing greenhouse gas emissions and other air emissions; and
  - (6) promote sustainable manufacturing practices for small- and medium-sized manufacturers.
- (d) *OUTREACH.*—The Secretary shall provide funding for—
- (1) outreach activities by the industrial research and assessment centers to inform small- and medium-sized manufacturers of the information, technologies, and services available; and
  - (2) coordination activities by each industrial research and assessment center to leverage efforts with—
    - (A) Federal and State efforts;
    - (B) the efforts of utilities and energy service providers;
    - (C) the efforts of regional energy efficiency organizations; and
    - (D) the efforts of other industrial research and assessment centers.
- (e) *CENTERS OF EXCELLENCE.*—
- (1) *ESTABLISHMENT.*—The Secretary shall establish a Center of Excellence at not more than 5 of the highest-performing industrial research and assessment centers, as determined by the Secretary.
  - (2) *DUTIES.*—A Center of Excellence shall coordinate with and advise the industrial research and assessment centers located in the region of the Center of Excellence, including—
    - (A) by mentoring new directors and staff of the industrial research and assessment centers with respect to—
      - (i) the availability of resources; and
      - (ii) best practices for carrying out assessments, including through the participation of the staff of the Center of Excellence in assessments carried out by new industrial research and assessment centers;

(B) by providing training to staff and students at the industrial research and assessment centers on new technologies, practices, and tools to expand the scope and impact of the assessments carried out by the centers;

(C) by assisting the industrial research and assessment centers with specialized technical opportunities, including by providing a clearinghouse of available expertise and tools to assist the centers and clients of the centers in assessing and implementing those opportunities;

(D) by identifying and coordinating with regional, State, local, and utility energy efficiency programs for the purpose of facilitating efforts by industrial research and assessment centers to connect industrial facilities receiving assessments from those centers with regional, State, local, and utility energy efficiency programs that could aid the industrial facilities in implementing any recommendations resulting from the assessments;

(E) by facilitating coordination between the industrial research and assessment centers and other Federal programs described in paragraphs (1) through (3) of subsection (c); and

(F) by coordinating the outreach activities of the industrial research and assessment centers under subsection (d)(1).

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

(f) EXPANSION OF INDUSTRIAL RESEARCH AND ASSESSMENT CENTERS.—

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

(2) PURPOSE.—

(A) IN GENERAL.—Subject to subparagraph (B), to the maximum extent practicable, an industrial research and assessment center established under paragraph (1) shall have the same purpose as an institution of higher education-based industrial research center that is funded by the Secretary under subsection (b)(1).

(B) CONSIDERATION OF CAPABILITIES.—In evaluating or establishing the purpose of an industrial research and assessment center established under paragraph (1), the Secretary shall take into consideration the varying capabilities of trade schools, community colleges, and union training programs.

(g) WORKFORCE TRAINING.—

(1) INTERNSHIPS.—The Secretary shall pay the Federal share of associated internship programs under which students work with or for industries, manufacturers, and energy service providers to implement the recommendations of industrial research and assessment centers.

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

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

(B) employees of facilities that have received an assessment from an industrial research and assessment center work with or for an industrial research and assessment center to gain knowledge on engineering practices and processes to improve productivity and energy savings.

(3) FEDERAL SHARE.—The Federal share of the cost of carrying out internship programs described in paragraph (1) and apprenticeship programs described in paragraph (2) shall be 50 percent.

(h) SMALL BUSINESS LOANS.—The Administrator of the Small Business Administration shall, to the maximum extent practicable, expedite consideration of applications from eligible small business concerns for loans under the Small Business Act (15 U.S.C. 631 et seq.) to implement recommendations developed by the industrial research and assessment centers.

(i) FUNDING.—There is authorized to be appropriated to the Secretary to carry out this section \$30,000,000 for each fiscal year, to remain available until expended.

\* \* \* \* \*

**ENERGY POLICY AND CONSERVATION ACT**

**Public Law 94-163, as amended**

\* \* \* \* \*

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**TITLE III—IMPROVING ENERGY EFFICIENCY**

\* \* \* \* \*

**PART B—ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS OTHER THAN AUTOMOBILES**

\* \* \* \* \*

ENERGY STAR PROGRAM

Sec. 324A. (a) IN GENERAL.—

\* \* \* \* \*

(e) THIRD-PARTY CERTIFICATION.—

(1) IN GENERAL.—Subject to paragraph (2), not later than 180 days after the date of enactment of this subsection, the Adminis-

trator shall revise the certification requirements for the labeling of consumer, home, and office electronic products for program partners that have complied with all requirements of the Energy Star program for a period of at least 18 months.

(2) **ADMINISTRATION.**—In the case of a program partner described in paragraph (1), the new requirements under paragraph (1)—

(A) shall not require third-party certification for a product to be listed; but

(B) may require that test data and other product information be submitted to facilitate product listing and performance verification for a sample of products.

(3) **THIRD PARTIES.**—Nothing in this subsection prevents the Administrator from using third parties in the course of the administration of the Energy Star program.

(4) **TERMINATION.**—

(A) **IN GENERAL.**—Subject to subparagraph (B), an exemption from third-party certification provided to a program partner under paragraph (1) shall terminate if the program partner is found to have violated program requirements with respect to at least 2 separate models during a 2-year period.

(B) **RESUMPTION.**—A termination for a program partner under subparagraph (A) shall cease if the program partner complies with all Energy Star program requirements for a period of at least 3 years.

\* \* \* \* \*

**PART E—INDUSTRIAL ENERGY EFFICIENCY**

\* \* \* \* \*

**SEC. 376. SUSTAINABLE MANUFACTURING INITIATIVE.**

(a) **IN GENERAL.**—As part of the Office of Energy Efficiency and Renewable Energy of the Department of Energy, the Secretary, on the request of a manufacturer, shall carry out onsite technical assessments to identify opportunities for—

- (1) maximizing the energy efficiency of industrial processes and cross-cutting systems;
- (2) preventing pollution and minimizing waste;
- (3) improving efficient use of water in manufacturing processes;
- (4) conserving natural resources; and
- (5) achieving such other goals as the Secretary determines to be appropriate.

(b) **COORDINATION.**—To implement any recommendations resulting from an onsite technical assessment carried out under subsection (a) and to accelerate the adoption of new and existing technologies and processes that improve energy efficiency, the Secretary shall coordinate with—

- (1) the Advanced Manufacturing Office of the Department of Energy;
- (2) the Building Technologies Office of the Department of Energy;
- (3) the Federal Energy Management Program of the Department of Energy; and

(4) the private sector and other appropriate agencies, including the National Institute of Standards and Technology.

(c) RESEARCH AND DEVELOPMENT PROGRAM FOR SUSTAINABLE MANUFACTURING AND INDUSTRIAL TECHNOLOGIES AND PROCESSES.—As part of the industrial efficiency programs of the Department of Energy, the Secretary shall carry out a joint industry-government partnership program to research, develop, and demonstrate new sustainable manufacturing and industrial technologies and processes that maximize the energy efficiency of industrial plants, reduce pollution, and conserve natural resources.

\* \* \* \* \*

**ENERGY POLICY ACT OF 2005**

**Public Law 109-58, as amended**

\* \* \* \* \*

**[(SEC. 106. VOLUNTARY COMMITMENTS TO REDUCE INDUSTRIAL ENERGY INTENSITY.]**

[(a) DEFINITION OF ENERGY INTENSITY.—In this section, the term “energy intensity” means the primary energy consumed for each unit of physical output in an industrial process.]

[(b) VOLUNTARY AGREEMENTS.—The Secretary may enter into voluntary agreements with one or more persons in industrial sectors that consume significant quantities of primary energy for each unit of physical output to reduce the energy intensity of the production activities of the persons.]

[(c) GOAL.—Voluntary agreements under this section shall have as a goal the reduction of energy intensity by not less than 2.5 percent each year during the period of calendar years 2007 through 2016.]

[(d) RECOGNITION.—The Secretary, in cooperation with other appropriate Federal agencies, shall develop mechanisms to recognize and publicize the achievements of participants in voluntary agreements under this section.]

[(e) TECHNICAL ASSISTANCE.—A person that enters into an agreement under this section and continues to make a good faith effort to achieve the energy efficiency goals specified in the agreement shall be eligible to receive from the Secretary a grant or technical assistance, as appropriate, to assist in the achievement of those goals.]

[(f) REPORT.—Not later than each of June 30, 2012, and June 30, 2017, the Secretary shall submit to Congress a report that—

[(1) evaluates the success of the voluntary agreements under this section; and

[(2) provides independent verification of a sample of the energy savings estimates provided by participating firms.]]

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**ENERGY POLICY ACT OF 1992**

**Public Law 102-486, as amended**

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**[SEC. 131. ENERGY EFFICIENCY IN INDUSTRIAL FACILITIES.****[(a) GRANT PROGRAM.—**

**[(1) IN GENERAL.—**The Secretary shall make grants to industry associations to support programs to improve energy efficiency in industry. In order to be eligible for a grant under this subsection, an industry association shall establish a voluntary energy efficiency improvement target program.

**[(2) AWARDING OF GRANTS.—**The Secretary shall request project proposals and provide annual grants on a competitive basis. In evaluating grant proposals under this subsection, the Secretary shall consider—

**[(A)** potential energy savings;

**[(B)** potential environmental benefits;

**[(C)** the degree of cost sharing;

**[(D)** the degree to which new and innovative technologies will be encouraged;

**[(E)** the level of industry involvement;

**[(F)** estimated project cost-effectiveness; and

**[(G)** the degree to which progress toward the energy improvement targets can be monitored.

**[(3) ELIGIBLE PROJECTS.—**Projects eligible for grants under this subsection may include the following:

**[(A)** Workshops.

**[(B)** Training seminars.

**[(C)** Handbooks.

**[(D)** Newsletters.

**[(E)** Data bases.

**[(F)** Other activities approved by the Secretary.

**[(4) LIMITATION ON COST SHARING.—**Grants provided under this subsection shall not exceed \$250,000 and each grant shall not exceed 75 percent of the total cost of the project for which the grant is made.

**[(5) AUTHORIZATION.—**There are authorized to be appropriated such sums as are necessary to carry out this subsection.

**[(b) AWARD PROGRAM.—**The Secretary shall establish an annual award program to recognize those industry associations or individual industrial companies that have significantly improved their energy efficiency.

**[(c) REPORT ON INDUSTRIAL REPORTING AND VOLUNTARY TARGETS.—**Not later than one year after the date of the enactment of this Act, the Secretary shall, in consultation with affected industries, evaluate and report to the Congress regarding the establishment of Federally mandated energy efficiency reporting requirements and voluntary energy efficiency improvement targets for energy intensive industries. Such report shall include an evaluation of the costs and benefits of such reporting requirements and voluntary energy efficiency improvement targets, and recommendations regarding the role of such activities in improving energy efficiency in energy intensive industries.]

**[SEC. 132. PROCESS-ORIENTED INDUSTRIAL ENERGY EFFICIENCY.****[(a) DEFINITIONS.—**For the purposes of this section—

**[(1)** the term “covered industry” means the food and food products industry, lumber and wood products industry, petroleum and coal products industry, and all other manufacturing

industries specified in Standard Industrial Classification Codes 20 through 39 (or successor classification codes);

[(2) the term “process-oriented industrial assessment” means—

[(A) the identification of opportunities in the production process (from the introduction of materials to final packaging of the product for shipping) for—

[(i) improving energy efficiency;

[(ii) reducing environmental impact; and

[(iii) designing technological improvements to increase competitiveness and achieve cost-effective product quality enhancement;

[(B) the identification of opportunities for improving the energy efficiency of lighting, heating, ventilation, air conditioning, and the associated building envelope; and

[(C) the identification of cost-effective opportunities for using renewable energy technology in the production process and in the systems described in subparagraph (B); and

[(3) the term “utility” means any person, State agency (including any municipality), or Federal agency, which sells electric or gas energy to retail customers.

[(b) GRANT PROGRAM.—

[(1) USE OF FUNDS.—The Secretary shall, to the extent funds are made available for such purpose, make grants to States which, consistent with State law, shall be used for the following purposes:

[(A) To promote, through appropriate institutions such as universities, nonprofit organizations, State and local government entities, technical centers, utilities, and trade organizations, the use of energy-efficient technologies in covered industries.

[(B) To establish programs to train individuals (on an industry-by-industry basis) in conducting process-oriented industrial assessments and to encourage the use of such trained assessors.

[(C) To assist utilities in developing, testing, and evaluating energy efficiency programs and technologies for industrial customers in covered industries.

[(2) CONSULTATION.—States receiving grants under this subsection shall consult with utilities and representatives of affected industries, as appropriate, in determining the most effective use of such funds consistent with the requirements of paragraph (1).

[(3) ELIGIBILITY CRITERIA.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall establish eligibility criteria for grants made pursuant to this subsection. Such criteria shall require a State applying for a grant to demonstrate that such State—

[(A) pursuant to section 111(a) of the Public Utility and Regulatory Policies Act of 1978 (16 U.S.C. 2621(a)), has considered and made a determination regarding the implementation of the standards specified in paragraphs (7) and (8) of section 111(d) of such Act (with respect to integrated resources planning and investments in conservation and demand management); and

[(B) by legislation or regulation—

[(i) allows utilities to recover the costs prudently incurred in providing process-oriented industrial assessments; and

[(ii) encourages utilities to provide to covered industries—

[(I) process-oriented industrial assessments; and

[(II) financial incentives for implementing energy efficiency improvements.

[(4) ALLOCATION OF FUNDS.—Grants made pursuant to this subsection shall be allocated each fiscal year among States meeting the criteria specified in paragraph (3) who have submitted applications 60 days before the first day of such fiscal year. Such allocation shall be made in accordance with a formula to be prescribed by the Secretary based on each State's share of value added in industry (as determined by the Census of Manufacturers) as a percentage of the value added by all such States.

[(5) RENEWAL OF GRANTS.—A grant under this subsection may continue to be renewed after 2 consecutive fiscal years during which a State receives a grant under this subsection, subject to the availability of funds, if—

[(A) the Secretary determines that the funds made available to the State during the previous 2 years were used in a manner required under paragraph (1); and

[(B) such State demonstrates, in a manner prescribed by the Secretary, utility participation in programs established pursuant to this subsection.

[(6) COORDINATION WITH OTHER FEDERAL PROGRAMS.—In carrying out the functions described in paragraph (1), States shall, to the extent practicable, coordinate such functions with activities and programs conducted by the Energy Analysis and Diagnostic Centers of the Department of Energy and the Manufacturing Technology Centers of the National Institute of Standards and Technology.

[(c) OTHER FEDERAL ASSISTANCE.—

[(1) ASSESSMENT CRITERIA.—Not later than 2 years after the date of the enactment of this Act, the Secretary shall, by contract with nonprofit organizations with expertise in process-oriented industrial energy efficiency technologies, establish and, as appropriate, update criteria for conducting process-oriented industrial assessments on an industry-by-industry basis. Such criteria shall be made available to State and local government, public utility commissions, utilities, representatives of affected process-oriented industries, and other interested parties.

[(2) DIRECTORY.—The Secretary shall establish a nationwide directory of organizations offering industrial energy efficiency assessments, technologies, and services consistent with the purposes of this section. Such directory shall be made available to State governments, public utility commissions, utilities, industry representatives, and other interested parties.

[(3) AWARD PROGRAM.—The Secretary shall establish an annual award program to recognize utilities operating out-

standing or innovative industrial energy efficiency technology assistance programs.

[(4) MEETINGS.—In order to further the purposes of this section, the Secretary shall convene annual meetings of parties interested in process-oriented industrial assessments, including representatives of State government, public utility commissions, utilities, and affected process-oriented industries.

[(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as may be necessary to carry out the purposes of this section.]

**[SEC. 133. INDUSTRIAL INSULATION AND AUDIT GUIDELINES.**

[(a) VOLUNTARY GUIDELINES FOR ENERGY EFFICIENCY AUDITING AND INSULATING.—Not later than 18 months after the date of the enactment of this Act, the Secretary, after consultation with utilities, major industrial energy consumers, and representatives of the insulation industry, shall establish voluntary guidelines for—

[(1) the conduct of energy efficiency audits of industrial facilities to identify cost-effective opportunities to increase energy efficiency; and

[(2) the installation of insulation to achieve cost-effective increases in energy efficiency in industrial facilities.

[(b) EDUCATIONAL AND TECHNICAL ASSISTANCE.—The Secretary shall conduct a program of educational and technical assistance to promote the use of the voluntary guidelines established under subsection (a).]

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**SEC. 2101. GENERAL IMPROVED ENERGY EFFICIENCY.**

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on cost effective technologies to improve energy efficiency and increase the use of renewable energy in the buildings, industrial, and utility sectors. Such program shall include a broad range of technological approaches, and shall include field demonstrations of sufficient scale and number to prove technical and economic viability to meet the goals stated in section 2001. Such program shall include the activities required under [sections 2102, 2103, 2104, 2105, 2106, 2107, and 2108] *sections 2102, 2104, 2105, 2106, and 2108 of this Act and sections 376 of the Energy Policy and Conservation Act and ongoing activities of a similar nature at the Department of Energy.* Such program shall also include the activities conducted pursuant to the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (Public Law 100–680) and the Department of Energy Metal Casting Competitiveness Research Act of 1990 (Public Law 101–425).

\* \* \* \* \*

**[SEC. 2103. PULP AND PAPER.**

[(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on advanced pulp and paper technologies. Such program shall include activities on energy generation technologies, boilers, combustion processes, pulping processes (excluding de-inking), chemical recovery, causticizing, source reduction processes, and other related

technologies that can improve the energy efficiency of, and reduce the adverse environmental impacts of, pulp and papermaking operations. This section does not authorize projects involving the combustion of waste paper, other than gasification.

[(b) PROPOSALS.—Within 180 days after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.]

\* \* \* \* \*

**[SEC. 2107. IMPROVING EFFICIENCY IN ENERGY-INTENSIVE INDUSTRIES.**

[(a) SECRETARIAL ACTION.—The Secretary, in accordance with sections 3001 and 3002 of this Act, shall—

[(1) pursue a research, development, demonstration and commercial application program intended to improve energy efficiency and productivity in energy-intensive industries and industrial processes; and

[(2) undertake joint ventures to encourage the commercialization of technologies developed under paragraph (1).

[(b) JOINT VENTURES.—(1) The Secretary shall—

[(A) conduct a competitive solicitation for proposals from private firms and investors for such joint ventures under subsection (a)(2); and

[(B) provide financial assistance to at least five such joint ventures.

[(2) The purpose of the joint ventures shall be to design, test, and demonstrate changes to industrial processes that will result in improved energy efficiency and productivity. The joint ventures may also demonstrate other improvements of benefit to such industries so long as demonstration of energy efficiency improvements is the principal objective of the joint venture.

[(3) In evaluating proposals for financial assistance and joint ventures under this section, the Secretary shall consider

[(A) whether the activities conducted under this section improve the quality and energy efficiency of industries or industrial processes;

[(B) the regional distribution of the energy-intensive industries and industrial processes; and

[(C) whether the proposed joint venture project would be located in the region which has the energy-intensive industry and industrial processes that would benefit from the project.]

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**NATIONAL ENERGY CONSERVATION POLICY ACT**

**Public Law 95-619, as amended**

\* \* \* \* \*

**TITLE I—GENERAL PROVISIONS**

**SEC. 101. SHORT TITLE AND TABLE OF CONTENTS.**

\* \* \* \* \*

(b) Table of Contents.—

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TITLE V—FEDERAL ENERGY INITIATIVES

\* \* \* \* \*

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*Sec. 543. Energy and water management requirements.*  
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**TITLE V—FEDERAL ENERGY INITIATIVES**

\* \* \* \* \*

**PART 3—FEDERAL ENERGY MANAGEMENT**

\* \* \* \* \*

**SEC. 543. ENERGY AND WATER MANAGEMENT REQUIREMENTS.**

[(a) ENERGY PERFORMANCE REQUIREMENT FOR FEDERAL BUILDINGS.—(1) Subject to paragraph (2), each agency shall apply energy conservation measures to, and shall improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in fiscal years 2006 through 2015 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in fiscal year 2003, by the percentage specified in the following table:

[Fiscal Year	Percentage Reduction
[2006 .....	2
[2007 .....	4
[2008 .....	9
[2009 .....	12
[2010 .....	15
[2011 .....	18
[2012 .....	21
[2013 .....	24
[2014 .....	27
[2015 .....	30

[(2) An agency may exclude from the requirements of paragraph (1) any building, and the associated energy consumption and gross square footage, in which energy intensive activities are carried out. Each agency shall identify and list in each report made under section 548(a) the buildings designated by it for such exclusion.

[(3) Not later than December 31, 2014, the Secretary shall review the results of the implementation of the energy performance requirement established under paragraph (1) and submit to Congress recommendations concerning energy performance requirements for fiscal years 2016 through 2025.]

(a) *ENERGY AND WATER PERFORMANCE REQUIREMENTS FOR FEDERAL BUILDINGS.*—

[(1) *ENERGY REQUIREMENTS.*—Subject to paragraph (3), to the maximum extent life cycle cost-effective (as defined in subsection (f)(1)), each agency shall apply energy conservation measures to, and shall improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in fiscal years 2020 through 2027 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in fiscal year 2018, by the percentage specified in the following table:

<i>“Fiscal Year</i>	<i>Percentage Reduction</i>
2020 .....	2.5
2021 .....	5
2022 .....	7.5
2023 .....	10
2024 .....	12.5
2025 .....	15
2026 .....	17.5
2027 .....	20

(2) *WATER REQUIREMENTS.*—Subject to paragraph (3), the head of each Federal agency shall, for each of fiscal years 2020 through 2030, improve water use efficiency and management, including stormwater management, at facilities of the agency by reducing agency potable water consumption intensity—

(A) by 54 percent by fiscal year 2030, relative to the water consumption of the agency in fiscal year 2007, through reductions of 2 percent each fiscal year (as measured in gallons per gross square foot);

(B) by reducing the industrial, landscaping, and agricultural water consumption of the agency, as compared to a baseline of that consumption by the agency in fiscal year 2010, through reductions of 2 percent each fiscal year (as measured in gallons); and

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

(3) *ENERGY AND WATER INTENSIVE BUILDING EXCLUSION.*—

(A) *IN GENERAL.*—An agency may exclude from the requirements of paragraphs (1) and (2) any building (including the associated energy consumption and gross square footage of the building) in which energy and water intensive activities are carried out.

(B) *REPORTS.*—Each agency shall identify and include in each report under section 548(a) each building designated by the agency for exclusion under subparagraph (A) during the period covered by the report.

(4) *RECOMMENDATIONS.*—Not later than December 31, 2026, the Secretary shall—

(A) review the results of the implementation of the energy and water performance requirements established under paragraph (1);

(B) submit to Congress recommendations concerning energy performance requirements for fiscal years 2028 through 2037; and

(C) submit to Congress recommendations concerning water performance requirements for fiscal years 2031 through 2040.

(b) **ENERGY AND WATER MANAGEMENT REQUIREMENT FOR FEDERAL AGENCIES.**—[(1) Not later than January 1, 2005, each agency shall, to the maximum extent practicable, install in Federal buildings owned by the United States all energy and water conservation measures with payback periods of less than 10 years, as determined by using the methods and procedures developed pursuant to section 544.]

(1) *IN GENERAL.*—Each agency shall—

(A) not later than October 1, 2019, to the maximum extent practicable, begin installing in Federal buildings owned by the United States all energy and water conservation measures determined by the Secretary to be life cycle cost-effective (as defined in subsection (f)(1)); and

(B) complete the installation described in subparagraph (A) as soon as practicable after the date referred to in that subparagraph.

(2) *EXPLANATION OF NONCOMPLIANCE.*—

(A) *IN GENERAL.*—If an agency fails to comply with paragraph (1), the agency shall submit to the Secretary, using guidelines developed by the Secretary, an explanation of the reasons for the failure.

(B) *REPORT TO CONGRESS.*—Not later than October 1, 2021, and every 2 years thereafter, the Secretary shall submit to Congress a report that describes any noncompliance by an agency with the requirements of paragraph (1).

[(2)] (3) The Secretary may waive the requirements of this subsection for any agency for such periods as the Secretary may determine if the Secretary finds that the agency is taking all practicable steps to meet the requirements and that the requirements of this subsection will pose an unacceptable burden upon the agency. If the Secretary waives the requirements of this subsection, the Secretary shall, as part of the report required under section 548(b), notify the Congress in writing with an explanation and a justification of the reasons for such waiver.



[(3)] (4) This subsection shall not apply to an agency's facilities that generate or transmit electric energy or to the uranium enrichment facilities operated by the Department of Energy.

[(4)] (5) An agency may participate in the Environmental Protection Agency's "Green Lights" program for purposes of receiving technical assistance in complying with the requirements of this section.

(c) EXCLUSIONS.—(1)(A) [An agency] *The head of each agency* may exclude, from the energy or water performance requirement for a fiscal year established under subsection (a) and the energy or water management requirement established under subsection (b), any Federal building or collection of Federal buildings, if the head of the agency finds that—

(i) compliance with those requirements would be impracticable;

(ii) the agency has completed and submitted all federally required energy management reports;

(iii) the agency has achieved compliance with the energy efficiency requirements of this Act, the Energy Policy Act of 1992, Executive orders, and other Federal law; and

(iv) the agency has implemented all practicable, life cycle cost-effective projects with respect to the Federal building or collection of Federal buildings to be excluded.

(B) A finding of impracticability under subparagraph (A)(i) shall be based on—

(i) the energy or water intensiveness of activities carried out in the Federal building or collection of Federal buildings; or

(ii) the fact that the Federal building or collection of Federal buildings is used in the performance of a national security function.

(2) Each agency shall identify and list, in each report made under section 548(a), the Federal buildings designated by it for such exclusion. The Secretary shall review such findings for consistency with the standards for exclusion set forth in paragraph (1), and may within 90 days after receipt of the findings, reverse the exclusion. In the case of any such reversal, the agency shall comply with the requirements of subsections (a) and (b)(1) for the building concerned.

(3) Not later than 180 days after the date of enactment of this paragraph, the Secretary shall issue guidelines that establish criteria for exclusions under paragraph (1).

(d) IMPLEMENTATION STEPS.—The Secretary shall consult with the Secretary of Defense and the Administrator of General Services in developing guidelines for the implementation of this part. To meet the requirements of this section, each agency shall—

(1) prepare and submit to the Secretary, not later than December 31, 1993, a plan describing how the agency intends to meet such requirements, including how it will—

(A) designate personnel primarily responsible for achieving such requirements;

(B) identify high priority projects through calculation of payback periods;

(C) take maximum advantage of contracts authorized under title VIII of this Act, of financial incentives and other services provided by utilities for efficiency invest-

ment, and of other forms of financing to reduce the direct costs to the Government; and

(D) otherwise implement this part;

(2) perform energy *and water* surveys of its Federal buildings to the extent necessary and update such surveys as needed, incorporating any relevant information obtained from the survey conducted pursuant to section 550;

(3) using such surveys, determine the cost and payback period of energy and water conservation measures likely to achieve the requirements of this section;

(4) install energy and water conservation measures that will achieve the requirements of this section through the methods and procedures established pursuant to section 544; and

(5) ensure that the operation and maintenance procedures applied under this section are continued.

(e) METERING OF ENERGY AND WATER USE.—

(1) DEADLINE.—By **【October 1, 2012】** *October 1, 2020*, in accordance with guidelines established by the Secretary under paragraph (2), all Federal buildings shall, for the purposes of efficient use of energy *and water* and reduction in the cost of electricity *and water* used in such buildings, be metered. Each agency shall use, to the maximum extent practicable, advanced meters or advanced metering devices that provide data at least daily and that measure at least hourly consumption of electricity and water in the Federal buildings of the agency. Not later than October 1, 2016, each agency shall provide for equivalent metering of natural gas and steam, in accordance with guidelines established by the Secretary under paragraph (2). Such data shall be incorporated into existing Federal energy and water tracking systems and made available to Federal facility managers.

(2) GUIDELINES.—

(A) IN GENERAL.—Not later than 180 days after the date of enactment of this subsection, the Secretary, in consultation with the Department of Defense, the General Services Administration, representatives from the metering industry, utility industry, energy services industry, energy efficiency industry, energy efficiency advocacy organizations, national laboratories, universities, **【and】** Federal facility managers, *and any other person the Secretary deems necessary*, shall establish guidelines for agencies to carry out paragraph (1).

(B) REQUIREMENTS FOR GUIDELINES.—The guidelines shall—

(i) take into consideration—

(I) the cost of metering and the reduced cost of operation and maintenance expected to result from metering;

(II) the extent to which metering is expected to result in increased potential for energy *and water* management, increased potential for energy *and water* savings and energy *and water* efficiency improvement, and cost and energy *and water* savings due to utility contract aggregation; and

(III) the measurement and verification protocols of the Department of Energy;

(ii) include recommendations concerning the amount of funds and the number of trained personnel necessary to gather and use the metering information to track and reduce energy and water use;

(iii) establish priorities for types and locations of buildings to be metered based on cost-effectiveness and a schedule of one or more dates, not later than 1 year after the date of issuance of the guidelines, on which the requirements specified in paragraph (1) shall take effect; and

(iv) establish exclusions from the requirements specified in paragraph (1) based on the de minimis quantity of energy *and water* use of a Federal building, industrial process, or structure.

(C) *UPDATE.*—Not later than 180 days after the date of enactment of this subparagraph, the Secretary shall update the guidelines established under subparagraph (A) to take into account water efficiency requirements under this section.

(3) *PLAN.*—Not later than 180 days after the date on which guidelines are [established under paragraph (2)] *updated under paragraph (2)(C)*, in a report submitted by the agency under section 548(a), each agency shall submit to the Secretary a plan describing the manner in which the agency will implement the requirements of paragraph (1), including—

(A) how the agency will designate personnel primarily responsible for achieving the requirements; and

(B) a demonstration by the agency, complete with documentation, of any finding that advanced meters or advanced metering devices (as those terms are used in paragraph (1)), are not practicable.

(4) *BEST PRACTICES REPORT.*—

(A) *IN GENERAL.*—Not later than 180 days after the date of enactment of [this paragraph] *the Energy Savings and Industrial Competitiveness Act of 2019*, the Secretary of Energy, in consultation with the Secretary of Defense and the Administrator of General Services, shall develop, and issue a report on, best practices for the use of advanced metering of energy *and water* use in Federal facilities, buildings, and equipment by Federal agencies.

(B) *COMPONENTS.*—The report shall include, at a minimum—

(i) summaries and analysis of the reports by agencies under paragraph (3);

(ii) recommendations on standard requirements or guidelines for automated energy *and water* management systems, including—

(I) potential common communications standards to allow data sharing and reporting;

(II) means of facilitating continuous commissioning of buildings and evidence-based maintenance of buildings and building systems; and

(III) standards for sufficient levels of security and protection against cyber threats to ensure systems cannot be controlled by unauthorized persons; and

(iii) an analysis of—

(I) the types of advanced metering and monitoring systems being piloted, tested, or installed in Federal buildings; and

(II) existing techniques used within the private sector or other non-Federal government buildings.

(f) USE OF ENERGY AND WATER EFFICIENCY MEASURES IN FEDERAL BUILDINGS.—

(1) DEFINITIONS.—In this subsection:

(A) Commissioning.—The term “commissioning”, with respect to a facility, means a systematic process—

(i) of ensuring, using appropriate verification and documentation, during the period beginning on the initial day of the design phase of the facility and ending not earlier than 1 year after the date of completion of construction of the facility, that all facility systems perform interactively in accordance with—

(I) the design documentation and intent of the facility; and

(II) the operational needs of the owner of the facility, including preparation of operation personnel; and

(ii) the primary goal of which is to ensure fully functional systems that can be properly operated and maintained during the useful life of the facility.

(B) ENERGY MANAGER.—

(i) IN GENERAL.—The term “energy manager”, with respect to a facility, means the individual who is responsible for—

(I) ensuring compliance with this subsection by the facility; and

(II) reducing energy use at the facility.

(ii) INCLUSIONS.—The term “energy manager” may include—

(I) a contractor of a facility;

(II) a part-time employee of a facility; and

(III) an individual who is responsible for multiple facilities.

(C) FACILITY.—

(i) IN GENERAL.—The term “facility” means any building, installation, structure, or other property (including any applicable fixtures) owned or operated by, or constructed or manufactured and leased to, the Federal Government.

(ii) INCLUSIONS.—The term “facility” includes—

(I) a group of facilities at a single location or multiple locations managed as an integrated operation; and

(II) contractor-operated facilities owned by the Federal Government.

(iii) EXCLUSIONS.—The term “facility” does not include any land or site for which the cost of utilities is not paid by the Federal Government.

(D) LIFE CYCLE COST-EFFECTIVE.—The term “life cycle cost-effective”, with respect to a measure, means a measure, the estimated savings of which exceed the estimated costs over the lifespan of the measure, as determined in accordance with section 544.

(E) ONGOING COMMISSIONING.—*The term ‘ongoing commissioning’ means an ongoing process of commissioning using monitored data, the primary goal of which is to ensure continuous optimum performance of a facility, in accordance with design or operating needs, over the useful life of the facility, while meeting facility occupancy requirements.*

**[(E)] (F) PAYBACK PERIOD.—**

(i) IN GENERAL.—Subject to clause (ii), the term “payback period”, with respect to a measure, means a value equal to the quotient obtained by dividing—

(I) the estimated initial implementation cost of the measure (other than financing costs); by

(II) the annual cost savings resulting from the measure, including—

(aa) net savings in estimated energy and water costs; and

(bb) operations, maintenance, repair, replacement, and other direct costs.

(ii) MODIFICATIONS AND EXCEPTIONS.—The Secretary, in guidelines issued pursuant to paragraph (6), may make such modifications and provide such exceptions to the calculation of the payback period of a measure as the Secretary determines to be appropriate to achieve the purposes of this Act.

**[(F)] (G) RECOMMISSIONING.—**The term “recommissioning” means a process—

(i) of commissioning a facility or system beyond the project development and warranty phases of the facility or system; and

(ii) the primary goal of which is to ensure optimum performance of a facility, in accordance with design or current operating needs, over the useful life of the facility, while meeting building occupancy requirements.

**[(G)] (H) RETROCOMMISSIONING.—**The term “retrocommissioning” means a process of commissioning a facility or system that was not commissioned at the time of construction of the facility or system.

(2) FACILITY ENERGY MANAGERS.—

(A) IN GENERAL.—Each Federal agency shall designate an energy manager responsible for implementing this subsection and reducing energy *and water* use at each facility that meets criteria under subparagraph (B).

(B) COVERED FACILITIES.—The Secretary shall develop criteria, after consultation with affected agencies, **[energy]** efficiency advocates, and energy and utility service providers, that cover, at a minimum, Federal facilities, includ-

ing central utility plants and distribution systems and other energy intensive operations, that constitute at least 75 percent of facility energy or water use at each agency.

(C) *ENERGY MANAGEMENT SYSTEM.*—*An energy manager designated for a facility under subparagraph (A) shall take into consideration—*

*“(i) the use of a system to manage energy and water use at the facility; and*

*“(ii) the applicability of the certification of the facility in accordance with the International Organization for Standardization standard numbered 50001 and entitled ‘Energy Management Systems’.”*

**[(3) ENERGY AND WATER EVALUATIONS.—**

**[(A) EVALUATIONS.—**Effective beginning on the date that is 180 days after the date of enactment of this subsection and annually thereafter, energy managers shall complete, for each calendar year, a comprehensive energy and water evaluation for approximately 25 percent of the facilities of each agency that meet the criteria under paragraph (2)(B) in a manner that ensures that an evaluation of each such facility is completed at least once every 4 years.

**[(B) RECOMMISSIONING AND RETROCOMMISSIONING.—**As part of the evaluation under subparagraph (A), the energy manager shall identify and assess recommissioning measures (or, if the facility has never been commissioned, retrocommissioning measures) for each such facility.

**[(4) IMPLEMENTATION OF IDENTIFIED ENERGY AND WATER EFFICIENCY MEASURES.—**Not later than 2 years after the completion of each evaluation under paragraph (3), each energy manager may—

**[(A)** implement any energy- or water-saving measure that the Federal agency identified in the evaluation conducted under paragraph (3) that is life cycle cost-effective; and

**[(B)** bundle individual measures of varying paybacks together into combined projects.]

**(3) ENERGY AND WATER EVALUATIONS AND COMMISSIONING.—**

**(A) EVALUATIONS.—***Except as provided in subparagraph (B), not later than the date that is 180 days after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, and annually thereafter, each energy manager shall complete, for the preceding calendar year, a comprehensive energy and water evaluation and recommissioning or retrocommissioning for approximately 25 percent of the facilities of the applicable agency that meet the criteria under paragraph (2)(B) in a manner that ensures that an evaluation of each facility is completed not less frequently than once every 4 years.*

**(B) EXCEPTIONS.—***An evaluation and recommissioning or retrocommissioning shall not be required under subparagraph (A) with respect to a facility that, as of the date on which the evaluation and recommissioning or retrocommissioning would occur*

*(i) has had a comprehensive energy and water evaluation during the preceding 8-year period;*

(ii)(I) has been commissioned, recommissioned, or retrocommissioned during the preceding 10-year period; or

(II) is under ongoing commissioning, recommissioning, or retrocommissioning;

(iii) has not had a major change in function or use since the previous evaluation and recommissioning or retrocommissioning;

(iv) has been benchmarked with public disclosure under paragraph (8) during the preceding calendar year; and

(v)(I) based on the benchmarking described in clause (iv), has achieved at a facility level the most recent cumulative energy savings target under subsection (a) compared to the earlier of—

(aa) the date of the most recent evaluation;

or

(bb) the date—

(AA) of the most recent commissioning, recommissioning, or retrocommissioning;

or

“(BB) on which ongoing commissioning began; or

(II) has a long-term contract in place guaranteeing energy savings at least as great as the energy savings target under subclause (I).

(4) IMPLEMENTATION OF IDENTIFIED ENERGY AND WATER EFFICIENCY MEASURES.—Not later than 2 years after the date of completion of each evaluation under paragraph (3), each energy manager shall—

(A) implement any energy- or water-saving measure that the Federal agency identified in the evaluation that is life cycle cost-effective; and

(B) bundle individual measures of varying paybacks together into combined projects.

(5) FOLLOW-UP ON IMPLEMENTED MEASURES.—For each measure implemented under paragraph (4), each energy manager shall ensure that—

(A) equipment, including building and equipment controls, is fully commissioned at acceptance to be operating at design specifications;

(B) a plan for appropriate operations, maintenance, and repair of the equipment is in place at acceptance and is followed;

(C) equipment and system performance is measured during its entire life to ensure proper operations, maintenance, and repair; and

(D) energy and water savings are measured and verified.

(6) GUIDELINES.—

(A) IN GENERAL.—The Secretary shall issue guidelines and necessary criteria that each Federal agency shall follow for implementation of—

(i) paragraphs (2) and (3) not later than 180 days after the date of enactment of this subsection; and

(ii) paragraphs (4) and (5) not later than 1 year after the date of enactment of this subsection.

(B) RELATIONSHIP TO FUNDING SOURCE.—The guidelines issued by the Secretary under subparagraph (A) shall be appropriate and uniform for measures funded with each type of funding made available under paragraph (10), but may distinguish between different types of measures project size, and other criteria the Secretary determines are relevant.

(7) WEB-BASED CERTIFICATION.—

(A) IN GENERAL.—For each facility that meets the criteria established by the Secretary under paragraph (2)(B), the energy manager shall use the web-based tracking system under subparagraph (B)—

(i) to certify compliance with the requirements for—

(I) energy and water evaluations under paragraph (3);

(II) implementation of identified energy and water measures under paragraph (4); and

(III) follow-up on implemented measures under paragraph (5); and

(ii) to publish energy and water consumption data on an individual facility basis.

(B) DEPLOYMENT.—

(i) IN GENERAL.—Not later than 1 year after the date of enactment of this subsection, the Secretary shall develop and deploy a web-based tracking system required under this paragraph in a manner that tracks, at a minimum—

(I) the covered facilities;

(II) the status of meeting the requirements specified in subparagraph (A);

(III) the estimated cost and savings for measures required to be implemented in a facility;

(IV) the measured savings and persistence of savings for implemented measures; and

(V) the benchmarking information disclosed under paragraph (8)(C).

(ii) Ease of compliance.—The Secretary shall ensure that energy manager compliance with the requirements in this paragraph, to the maximum extent practicable—

(I) can be accomplished with the use of streamlined procedures and templates that minimize the time demands on Federal employees; and

(II) is coordinated with other applicable energy *and water* reporting requirements.

(C) AVAILABILITY.—

(i) IN GENERAL.—Subject to clause (ii), the Secretary shall make the web-based tracking system required under this paragraph available to Congress, other Federal agencies, and the public through the Internet.

(ii) EXEMPTIONS.—At the request of a Federal agency, the Secretary may exempt specific data for specific



facilities from disclosure under clause (i) for national security purposes.

(8) BENCHMARKING OF FEDERAL FACILITIES.—

(A) IN GENERAL.—The energy manager shall enter energy use data for each metered building that is (or is a part of) a facility that meets the criteria established by the Secretary under paragraph (2)(B) into a building energy use benchmarking system, such as the Energy Star Portfolio Manager.

(B) SYSTEM AND GUIDANCE.—Not later than 1 year after the date of enactment of this subsection, the Secretary shall—

(i) select or develop the building energy use benchmarking system required under this paragraph for each type of building; and

(ii) issue guidance for use of the system.

(C) PUBLIC DISCLOSURE.—Each energy manager shall post the information entered into, or generated by, a benchmarking system under this subsection, on the web-based tracking system under paragraph (7)(B). The energy manager shall update such information each year, and shall include in such reporting previous years’ information to allow changes in building performance to be tracked over time.

(9) FEDERAL AGENCY SCORECARDS.—

(A) IN GENERAL.—The Director of the Office of Management and Budget shall issue semiannual scorecards for energy and water management activities carried out by each Federal agency that includes—

(i) summaries of the status of implementing the various requirements of the agency and its energy managers under this subsection; and

(ii) any other means of measuring performance that the Director considers appropriate.

(B) AVAILABILITY.—The Director shall make the scorecards required under this paragraph available to Congress, other Federal agencies, and the public through the Internet.

(10) FUNDING AND IMPLEMENTATION.—

(A) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this subsection.

(B) FUNDING OPTIONS.—

(i) IN GENERAL.—To carry out this subsection, a Federal agency may use any combination of—

(I) appropriated funds made available under subparagraph (A); and

(II) private financing otherwise authorized under Federal law, including financing available through energy savings performance contracts or utility energy service contracts.

(ii) COMBINED FUNDING FOR SAME MEASURE.—A Federal agency may use any combination of appropriated funds and private financing described in clause (i) to carry out the same measure under this subsection.

(C) IMPLEMENTATION.—Each Federal agency may implement the requirements under this subsection itself or may contract out performance of some or all of the requirements.

(11) RULE OF CONSTRUCTION.—This subsection shall not be construed to require or to obviate any contractor savings guarantees.

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(h) *FEDERAL IMPLEMENTATION STRATEGY FOR ENERGY-EFFICIENT AND ENERGY-SAVING INFORMATION TECHNOLOGIES.*—

(1) *DEFINITIONS.*—In this subsection:

(A) *DIRECTOR.*—The term ‘Director’ means the Director of the Office of Management and Budget.

(B) *INFORMATION TECHNOLOGY.*—The term ‘information technology’ has the meaning given that term in section 11101 of title 40, United States Code.

(2) *DEVELOPMENT OF IMPLEMENTATION STRATEGY.*—Not later than 1 year after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, each Federal agency shall coordinate with the Director, the Secretary, and the Administrator of the Environmental Protection Agency to develop an implementation strategy (including best-practices and measurement and verification techniques) for the maintenance, purchase, and use by the Federal agency of energy-efficient and energy-saving information technologies at or for facilities owned and operated by the Federal agency, taking into consideration the performance goals established under paragraph (4).

(3) *ADMINISTRATION.*—In developing an implementation strategy under paragraph (2), each Federal agency shall consider—

(A) advanced metering infrastructure;

(B) energy efficient data center strategies and methods of increasing asset and infrastructure utilization;

(C) advanced power management tools;

(D) building information modeling, including building energy management;

(E) secure telework and travel substitution tools; and

(F) mechanisms to ensure that the agency realizes the energy cost savings of increased efficiency and utilization.

(4) *PERFORMANCE GOALS.*—

(A) *IN GENERAL.*—Not later than 180 days after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019, the Director, in consultation with the Secretary, shall establish performance goals for evaluating the efforts of Federal agencies in improving the maintenance, purchase, and use of energy-efficient and energy-saving information technology at or for facilities owned and operated by the Federal agencies.

(B) *BEST PRACTICES.*—The Chief Information Officers Council established under section 3603 of title 44, United States Code, shall recommend best practices for the attainment of the performance goals established under subparagraph (A), which shall include, to the extent applicable by law, consideration by a Federal agency of the use of—

(i) energy savings performance contracting; and

(ii) utility energy services contracting.

(5) *REPORTS.*—

(A) *AGENCY REPORTS.*—Each Federal agency shall include in the report of the agency under section 527 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17143) a description of the efforts and results of the agency under this subsection.

(B) *OMB GOVERNMENT EFFICIENCY REPORTS AND SCORECARDS.*—Effective beginning not later than October 1, 2019, the Director shall include in the annual report and scorecard of the Director required under section 528 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17144) a description of the efforts and results of Federal agencies under this subsection.

(C) *USE OF EXISTING REPORTING STRUCTURES.*—The Director may require Federal agencies to submit any information required to be submitted under this subsection though reporting structures in use as of the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2019.

(i) *FEDERAL ENERGY MANAGEMENT PROGRAM.*—

(1) *IN GENERAL.*—The Secretary shall establish a program, to be known as the ‘Federal Energy Management Program’ (referred to in this subsection as the ‘Program’), to facilitate the implementation by the Federal Government of cost-effective energy and water management and energy-related investment practices—

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

(B) to promote environmental stewardship.

(2) *PROGRAM ACTIVITIES.*—

(A) *STRATEGIC PLANNING AND TECHNICAL ASSISTANCE.*—Under the Program, the Federal Director appointed under paragraph (3)(A) (referred to in this subsection as the ‘Federal Director’) shall—

(i) provide technical assistance and project implementation support and guidance to Federal agencies to identify, implement, procure, and track energy and water conservation measures required under this Act and under other provisions of law (including regulations);

(ii) in coordination with the Administrator of the General Services Administration, establish appropriate procedures, methods, and best practices for use by Federal agencies to select, monitor, and terminate contracts entered into under section 546 with utilities;

(iii) in coordination with the Federal Acquisition Regulatory Council, establish appropriate procedures, methods, and best practices for use by Federal agencies to select, monitor, and terminate contracts entered into under section 801 with energy service contractors and utilities;

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

(v) coordinate comprehensive and strategic approaches to energy and water resilience planning for Federal agencies; and

(vi) establish a recognition program for Federal achievement in energy and water management, energy-related investment practices, environmental stewardship, and other relevant areas, through events such as individual recognition award ceremonies and public announcements.

(B) *Energy and water management and reporting.*—Under the Program, the Federal Director shall—

(i) track and report on the progress of Federal agencies in meeting the requirements of the agency under this section;

(ii) make publicly available annual Federal agency performance data required under—

(I) this section and sections 544 through 548; and

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

(iii)(I) collect energy and water use and consumption data from each Federal agency; and

(II) based on that data, submit to each Federal agency a report that will facilitate the energy and water management, energy-related investment practices, and environmental stewardship of the agency in support of Federal goals under this Act and under other provisions of law (including regulations);

(iv)(I) establish new Federal building energy efficiency standards; and

(II) in consultation with the Administrator of the General Services Administration, acting through the head of the Office of High-Performance Green Buildings, establish and implement Federal building sustainable design principles for Federal facilities;

(v) manage the implementation of Federal building energy efficiency standards established under section 305 of the Energy Conservation and Production Act (42 U.S.C. 6834); and

(vi) designate products that meet the highest energy conservation standards for categories not covered under the Energy Star program established under section 324A of the Energy Policy and Conservation Act (42 U.S.C. 6294a).

(C) *FEDERAL POLICY COORDINATION.*—Under the Program, the Federal Director shall—

(i) develop and implement accredited training consistent with existing Federal programs and activities—

(I) relating to energy and water use, management, and resilience in Federal buildings, energy-related investment practices, and environmental stewardship; and

(II) that includes in-person training, internet-based programs, and national in-person training events;

(ii) coordinate and facilitate energy and water management, energy-related investment practices, and environmental stewardship through the Interagency Energy Management Task Force established under section 547; and

(iii) report on the implementation of the priorities of the President, including Executive orders, relating to energy and water use in Federal buildings, in coordination with—

(I) the Office of Management and Budget;

(II) the Council on Environmental Quality; and

(III) any other entity, as considered necessary by the Federal Director.

(D) FACILITY AND FLEET OPTIMIZATION.—Under the Program, the Federal Director shall develop guidance, supply assistance to, and track the progress of Federal agencies—

(i) in conducting portfolio-wide facility energy and water resilience planning and project integration;

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

(iii) in developing guidelines for—

(I) building commissioning; and

(II) facility operations and maintenance; and

(iv) in coordination with the Administrator of the General Services Administration, in meeting statutory and agency goals for Federal fleet vehicles.

(3) FEDERAL DIRECTOR.—

(A) APPOINTMENT.—The Secretary shall appoint an individual to serve as Federal Director of the Program, which shall be a career position in the Senior Executive service, to manage the Program and carry out the activities of the Program described in paragraph (2).

(B) DUTIES.—The Federal Director shall—

(i) oversee, manage, and administer the Program;

(ii) provide leadership in energy and water management, energy-related investment practices, and environmental stewardship through coordination with Federal agencies and other appropriate entities; and

(iii) establish a management council to advise the Federal Director that shall—

(I) convene not less frequently than once every quarter; and

(II) consist of representatives from

(aa) the Council on Environmental Quality;

(bb) the Office of Management and Budget;

and

(cc) the Office of Federal High-Performance Green Buildings in the General Services Administration.

(4) SAVINGS CLAUSE.—Nothing in this subsection impedes, supersedes, or alters the authority of the Secretary to carry out the remainder of this section or section 305 of the Energy Conservation and Production Act (42 U.S.C. 6834).

(5) *AUTHORIZATION OF APPROPRIATIONS.*—*There is authorized to be appropriated to the Secretary to carry out this subsection \$36,000,000 for each of fiscal years 2020 through 2030.*

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## FINANCIAL INSTITUTIONS REFORM, RECOVERY, AND ENFORCEMENT ACT OF 1989

Public Law 101-73, as amended

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### TITLE XI—REAL ESTATE APPRAISAL REFORM AMENDMENTS

\* \* \* \* \*

#### SEC. 1110. FUNCTIONS OF THE FEDERAL FINANCIAL INSTITUTIONS REGULATORY AGENCIES RELATING TO APPRAISAL STANDARDS.

Each Federal financial institutions regulatory agency and the Resolution Trust Corporation shall prescribe appropriate standards for the performance of real estate appraisals in connection with federally related transactions under the jurisdiction of each such agency or instrumentality. These rules shall require, at a minimum—

(1) that real estate appraisals be performed in accordance with generally accepted appraisal standards as evidenced by the appraisal standards promulgated by the Appraisal Standards Board of the Appraisal Foundation;

(2) that such appraisals shall be written appraisals[; and];

(3) that such appraisals shall be subject to appropriate review for compliance with the Uniform Standards of Professional Appraisal Practice[.]; and

(4) that State certified and licensed appraisers have timely access, whenever practicable, to information from the property owner and the lender that may be relevant in developing an opinion of value regarding the energy- and water-saving improvements or features of a property, such as—

(A) labels or ratings of buildings;

(B) installed appliances, measures, systems or technologies;

(C) blueprints;

(D) construction costs;

(E) financial or other incentives regarding energy- and water-efficient components and systems installed in a property;

(F) utility bills;

(G) energy consumption and benchmarking data; and

(H) third-party verifications or representations of energy and water efficiency performance of a property, observing all financial privacy requirements adhered to by certified and licensed appraisers, including section 501 of the Gramm-Leach-Bliley Act (15 U.S.C. 6801).

*Unless a property owner consents to a lender, an appraiser, in carrying out the requirements of paragraph (4), shall not have access to the commercial or financial information of the owner that is privileged or confidential.*

Each such agency or instrumentality may require compliance with additional standards if it makes a determination in writing that such additional standards are required in order to properly carry out its statutory responsibilities.

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**SEC. 1113. TRANSACTIONS REQUIRING THE SERVICES OF A STATE CERTIFIED APPRAISER.**

In determining whether an appraisal in connection with a federally related transaction shall be performed by a State certified appraiser, an agency or instrumentality under this title shall consider whether transactions, either individually or collectively, are of sufficient financial or public policy importance to the United States that an individual who performs an appraisal in connection with such transactions should be a State certified appraiser, except that—

(1) a State certified appraiser shall be required for all federally related transactions having a value of \$1,000,000 or more, *or any real property on which the appraiser makes adjustments using an energy efficiency report*; and

(2) 1-to-4 unit, single family residential appraisals may be performed by State licensed appraisers unless the size and complexity requires a State certified appraiser, where a complex 1-to-4 unit single family residential appraisal means an appraisal for which the property to be appraised, the form of ownership, the property characteristics, or the market conditions are atypical, *or an appraisal on which the appraiser makes adjustments using an energy efficiency report.*

\* \* \* \* \*