

Calendar No. 513

116TH CONGRESS
2D SESSION**S. 999****[Report No. 116–251]**

To provide for Federal coordination of activities supporting sustainable chemistry, and for other purposes.

IN THE SENATE OF THE UNITED STATES

APRIL 3, 2019

Mr. COONS (for himself, Ms. COLLINS, Mrs. CAPITO, and Ms. KLOBUCHAR) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

AUGUST 12, 2020

Reported by Mr. WICKER, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]**A BILL**

To provide for Federal coordination of activities supporting sustainable chemistry, and for other purposes.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Sustainable Chemistry
5 ~~Research and Development Act of 2019~~”.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) Congress recognized the importance and
4 value of sustainable chemistry and the role of the
5 Federal Government in section 114 of the American
6 Innovation and Competitiveness Act (Public Law
7 114–329);

8 (2) sustainable chemistry and materials trans-
9 formation is a key value contributor to business
10 competitiveness across many industrial and con-
11 sumer sectors;

12 (3) companies across hundreds of supply chains
13 critical to the American economy are seeking to re-
14 duce costs and open new markets through innova-
15 tions in manufacturing and materials, and are in
16 need of new innovations in chemistry, including sus-
17 tainable chemistry;

18 (4) sustainable chemistry can improve the effi-
19 ciency with which natural resources are used to meet
20 human needs for chemical products while avoiding
21 environmental harm, reduce or eliminate the emis-
22 sions of and exposures to hazardous substances,
23 minimize the use of resources, and benefit the econ-
24 omy, people, and the environment; and

25 (5) a recent report by the Government Account-
26 ability Office (GAO–18–307) found that the Federal

1 Government could play an important role in helping
2 realize the full innovation and market potential of
3 sustainable chemistry technologies, including
4 through a coordinated national effort on sustainable
5 chemistry and standardized tools and definitions to
6 support sustainable chemistry research, development,
7 demonstration, and commercialization.

8 **SEC. 3. NATIONAL COORDINATING ENTITY FOR SUSTAIN-**
9 **ABLE CHEMISTRY.**

10 (a) **ESTABLISHMENT.**—Not later than 180 days after
11 the date of enactment of this Act, the Director of the Of-
12 fice of Science and Technology Policy shall convene an
13 interagency entity (referred to in this Act as the “Entity”)
14 under the National Science and Technology Council with
15 the responsibility to coordinate Federal programs and ac-
16 tivities in support of sustainable chemistry, including
17 those described in sections 5 and 6.

18 (b) **COORDINATION WITH EXISTING GROUPS.**—In
19 convening the Entity, the Director of the Office of Science
20 and Technology Policy shall consider overlap and possible
21 coordination with existing committees, subcommittees, or
22 other groups of the National Science and Technology
23 Council, such as—

24 (1) the Committee on Environment, Natural
25 Resources, and Sustainability;

- 1 (2) the Committee on Technology;
- 2 (3) the Committee on Science; or
- 3 (4) related groups or subcommittees.

4 (e) ~~CO-CHAIRS.~~—The Entity shall be co-chaired by
5 representatives from the Environmental Protection Agen-
6 cy, the National Institute of Standards and Technology,
7 and the National Science Foundation.

8 (d) ~~AGENCY PARTICIPATION.~~—The Entity shall in-
9 clude representatives, including subject matter experts,
10 from the Environmental Protection Agency, the National
11 Institute of Standards and Technology, the National
12 Science Foundation, the Department of Energy, the De-
13 partment of Agriculture, the Department of Defense, the
14 National Institutes of Health, the Centers for Disease
15 Control and Prevention, the Food and Drug Administra-
16 tion, and other related Federal agencies, as appropriate.

17 **SEC. 4. ROADMAP FOR SUSTAINABLE CHEMISTRY.**

18 (a) ~~ROADMAP.~~—Not later than 2 years after the date
19 of enactment of this Act, the Entity shall—

- 20 (1) develop a working framework of attributes
21 characterizing sustainable chemistry, as described in
22 subsection (b);
- 23 (2) assess the state of sustainable chemistry in
24 the United States as a key benchmark from which
25 progress under the activities described in this Act

1 can be measured, including assessing key sectors of
2 the United States economy, key technology plat-
3 forms, and barriers to innovation;

4 (3) coordinate and support Federal research,
5 development, demonstration, technology transfer,
6 commercialization, education, and training efforts in
7 sustainable chemistry, including budget coordination
8 and support for public-private partnerships, as ap-
9 propriate;

10 (4) identify methods by which the Federal
11 agencies can facilitate the development of incentives
12 for development, consideration and use of sustain-
13 able chemistry processes and products, including in-
14 novative financing mechanisms;

15 (5) identify major scientific challenges, road-
16 blocks, or hurdles to transformational progress in
17 improving the sustainability of the chemical sciences;
18 and

19 (6) identify other opportunities for expanding
20 Federal efforts in support of sustainable chemistry.

21 (b) ATTRIBUTES CHARACTERIZING SUSTAINABLE
22 CHEMISTRY.—The Entity shall develop a working frame-
23 work of attributes characterizing sustainable chemistry for
24 the purposes of carrying out the Act. In developing this
25 framework, the Entity shall—

1 (1) seek advice and input from stakeholders as
2 described in subsection (e);

3 (2) consider existing definitions of or frame-
4 works characterizing sustainable or green chemistry
5 already in use at Federal agencies;

6 (3) consider existing definitions of or frame-
7 works characterizing sustainable or green chemistry
8 already in use by international organizations of
9 which the United States is a member, such as the
10 Organisation for Economic Co-operation and Devel-
11 opment; and

12 (4) consider any other appropriate existing defi-
13 nitions of or frameworks characterizing sustainable
14 or green chemistry.

15 (c) CONSULTATION.—In carrying out the duties de-
16 scribed in subsections (a) and (b), the Entity shall consult
17 and coordinate with stakeholders qualified to provide ad-
18 vice and information to guide Federal activities related to
19 sustainable chemistry through workshops, requests for in-
20 formation, and other mechanisms as necessary. The stake-
21 holders shall include representatives from—

22 (1) business and industry (including trade asso-
23 ciations and small- and medium-sized enterprises
24 from across the value chain);

1 (2) the scientific community (including the Na-
2 tional Academies of Sciences, Engineering, and Med-
3 icine, scientific professional societies, and academia);

4 (3) the defense community;

5 (4) State, tribal, and local governments, includ-
6 ing nonregulatory State or regional sustainable
7 chemistry programs, as appropriate;

8 (5) nongovernmental organizations; and

9 (6) other appropriate organizations.

10 (d) REPORT TO CONGRESS.—

11 (1) IN GENERAL.—Not later than 3 years after
12 the date of enactment of this Act, the Entity shall
13 submit a report to the Committee on Environment
14 and Public Works, the Committee on Commerce,
15 Science, and Transportation, and the Committee on
16 Appropriations of the Senate, and the Committee on
17 Science, Space, and Technology, the Committee on
18 Energy and Commerce, and the Committee on Ap-
19 propriations of the House of Representatives. In ad-
20 dition to the elements described in subsections (a)
21 and (b), the report shall include—

22 (A) a summary of federally funded, sus-
23 tainable chemistry research, development, dem-
24 onstration, technology transfer, commercializa-
25 tion, education, and training activities;

1 ~~(B)~~ a summary of the financial resources
2 allocated to sustainable chemistry initiatives;

3 ~~(C)~~ an assessment of the current state of
4 sustainable chemistry in the United States, in-
5 cluding the role that Federal agencies are play-
6 ing in supporting it;

7 ~~(D)~~ an analysis of the progress made to-
8 ward achieving the goals and priorities of this
9 Act, and recommendations for future program
10 activities;

11 ~~(E)~~ an assessment of the benefits of ex-
12 panding existing, federally supported, regional
13 innovation and manufacturing hubs to include
14 sustainable chemistry and the value of directing
15 the creation of 1 or more dedicated sustainable
16 chemistry centers of excellence or hubs; and

17 ~~(F)~~ an evaluation of steps taken and fu-
18 ture strategies to avoid duplication of efforts,
19 streamline interagency coordination, facilitate
20 information sharing, and spread best practices
21 among participating agencies.

22 ~~(2) SUBMISSION TO GAO.—~~The Entity shall
23 also submit the report described in paragraph ~~(1)~~ to
24 the Comptroller General of the United States for
25 consideration in future Congressional inquiries.

1 **SEC. 5. AGENCY ACTIVITIES IN SUPPORT OF SUSTAINABLE**
2 **CHEMISTRY.**

3 (a) **IN GENERAL.**—The agencies participating in the
4 Entity shall carry out activities in support of sustainable
5 chemistry, as appropriate to the specific mission and pro-
6 grams of each agency.

7 (b) **ACTIVITIES.**—The activities described in sub-
8 section (a) shall—

9 (1) incorporate sustainable chemistry into exist-
10 ing research, development, demonstration, tech-
11 nology transfer, commercialization, education, and
12 training programs, that the agency determines to be
13 relevant, including consideration of—

14 (A) merit-based competitive grants to indi-
15 vidual investigators and teams of investigators,
16 including, to the extent practicable, early career
17 investigators for research and development;

18 (B) grants to fund collaborative research
19 and development partnerships among univer-
20 sities, industry, and nonprofit organizations;

21 (C) coordination of sustainable chemistry
22 research, development, demonstration, and tech-
23 nology transfer conducted at Federal labora-
24 tories and agencies;

1 (~~D~~) incentive prize competitions and chal-
2 lenges in coordination with such existing Fed-
3 eral agency programs; and

4 (~~E~~) grants, loans, and loan guarantees to
5 aid in the technology transfer and commer-
6 cialization of sustainable chemicals, materials,
7 processes, and products;

8 (2) collect and disseminate information on sus-
9 tainable chemistry research, development, technology
10 transfer, and commercialization, including informa-
11 tion on accomplishments and best practices;

12 (~~3~~) within education and training programs, ex-
13 pand the education and training of undergraduate
14 and graduate students and professional scientists
15 and engineers, and other professionals involved in
16 materials specification in sustainable chemistry and
17 engineering, including through partnerships with in-
18 dustry as described in section 6;

19 (4) as relevant to an agency's programs, exam-
20 ine methods by which the Federal agencies, in col-
21 laboration and consultation with the National Insti-
22 tute of Standards and Technology, can facilitate the
23 development or recognition of validated, standard-
24 ized tools for performing sustainability assessments
25 of chemistry processes or products;

1 (5) through programs identified by an agency,
2 support (including through technical assistance, par-
3 ticipation, financial support, communications tools,
4 awards, or other forms of support) outreach and dis-
5 semination of sustainable chemistry advances such
6 as non-Federal symposia, forums, conferences, and
7 publications in collaboration with, as appropriate, in-
8 dustry, academia, scientific and professional soci-
9 eties, and other relevant groups;

10 (6) provide for public input and outreach to be
11 integrated into the activities described in this section
12 by the convening of public discussions, through
13 mechanisms such as public meetings, consensus con-
14 ferences, and educational events, as appropriate;

15 (7) within each agency, develop metrics to track
16 the outputs and outcomes of the programs supported
17 by that agency; and

18 (8) incentivize or recognize actions that advance
19 sustainable chemistry products, processes, or initia-
20 tives, including through the establishment of a na-
21 tionally recognized awards program through the En-
22 vironmental Protection Agency to identify, publicize,
23 and celebrate innovations in sustainable chemistry
24 and chemical technologies.

1 (c) ~~LIMITATIONS.~~—Financial support provided under
2 this section shall—

3 (1) ~~be available only for pre-competitive activi-~~
4 ~~ties; and~~

5 (2) ~~not be used to promote the sale of a specific~~
6 ~~product, process, or technology; or to disparage a~~
7 ~~specific product, process, or technology.~~

8 (d) ~~AGENCY BUDGET REQUESTS.~~—

9 (1) ~~IN GENERAL.~~—Each Federal agency and
10 department participating in the activities described
11 in this section shall, as part of its annual request for
12 appropriations to the Office of Management and
13 Budget, submit a report to the Office of Manage-
14 ment and Budget that—

15 (A) ~~identifies the activities of the agency or~~
16 ~~department that contribute directly to these ac-~~
17 ~~tivities; and~~

18 (B) ~~estimates the portion of the agency or~~
19 ~~department's request for appropriations that is~~
20 ~~intended to be allocated to those activities.~~

21 (2) ~~ANNUAL BUDGET REQUEST TO CON-~~
22 ~~GRESS.~~—The President shall include in the annual
23 budget request to Congress a statement of the por-
24 tion of the annual budget request for each agency or

1 department that will be allocated to activities under-
2 taken pursuant to this section.

3 **SEC. 6. PARTNERSHIPS IN SUSTAINABLE CHEMISTRY.**

4 (a) IN GENERAL.—The agencies participating in the
5 Entity may facilitate and support, through financial, tech-
6 nical, or other assistance, the creation of partnerships be-
7 tween institutions of higher education, nongovernmental
8 organizations, consortia, or companies across the value
9 chain in the chemical industry, including small- and me-
10 dium-sized enterprises, to—

11 (1) create collaborative sustainable chemistry
12 research, development, demonstration, technology
13 transfer, and commercialization programs; and

14 (2) train students and retrain professional sci-
15 entists, engineers, and others involved in materials
16 specification on the use of sustainable chemistry con-
17 cepts and strategies by methods, including—

18 (A) developing or recognizing curricular
19 materials and courses for undergraduate and
20 graduate levels and for the professional develop-
21 ment of scientists, engineers, and others in-
22 volved in materials specification; and

23 (B) publicizing the availability of profes-
24 sional development courses in sustainable chem-

1 istry and recruiting professionals to pursue
2 such courses.

3 (b) PRIVATE SECTOR PARTICIPATION.—To be eligi-
4 ble for support under this section, a partnership in sus-
5 tainable chemistry shall include at least one private sector
6 organization.

7 (c) SELECTION OF PARTNERSHIPS.—In selecting
8 partnerships for support under this section, the agencies
9 participating in the Entity shall also consider the extent
10 to which the applicants are willing and able to dem-
11 onstrate evidence of support for, and commitment to, the
12 goals outlined in the roadmap and report described in sec-
13 tion 4.

14 (d) PROHIBITED USE OF FUNDS.—Financial support
15 provided under this section may not be used—

16 (1) to support or expand a regulatory chemical
17 management program at an implementing agency
18 under a State law;

19 (2) to construct or renovate a building or struc-
20 ture; or

21 (3) to promote the sale of a specific product,
22 process, or technology, or to disparage a specific
23 product, process, or technology.

1 **SEC. 7. PRIORITIZATION.**

2 In carrying out this Act, the Entity shall focus its
3 support for sustainable chemistry activities on those that
4 achieve, to the highest extent practicable, the goals out-
5 lined in the Act.

6 **SEC. 8. RULE OF CONSTRUCTION.**

7 Nothing in this Act shall be construed to alter or
8 amend any State law or action with regard to sustainable
9 chemistry or green chemistry, as defined by the State.

10 **SECTION 1. SHORT TITLE.**

11 *This Act may be cited as the “Sustainable Chemistry*
12 *Research and Development Act of 2019”.*

13 **SEC. 2. FINDINGS.**

14 *Congress finds that—*

15 *(1) Congress recognized the importance and*
16 *value of sustainable chemistry in section 114 of the*
17 *American Innovation and Competitiveness Act (Pub-*
18 *lic Law 114–329);*

19 *(2) sustainable chemistry and materials trans-*
20 *formation is a key value contributor to business com-*
21 *petitiveness across many industrial and consumer sec-*
22 *tors;*

23 *(3) companies across hundreds of supply chains*
24 *critical to the American economy are seeking to re-*
25 *duce costs and open new markets through innovations*
26 *in manufacturing and materials, and are in need of*

1 *new innovations in chemistry, including sustainable*
2 *chemistry;*

3 *(4) sustainable chemistry can improve the effi-*
4 *ciency with which natural resources are used to meet*
5 *human needs for chemical products while avoiding*
6 *environmental harm, reduce or eliminate the emis-*
7 *sions of and exposures to hazardous substances, mini-*
8 *mize the use of resources, and benefit the economy,*
9 *people, and the environment; and*

10 *(5) a recent report by the Government Account-*
11 *ability Office (GAO–18–307) found that the Federal*
12 *Government could play an important role in helping*
13 *realize the full innovation and market potential of*
14 *sustainable chemistry technologies, including through*
15 *a coordinated national effort on sustainable chemistry*
16 *and standardized tools and definitions to support sus-*
17 *tainable chemistry research, development, demonstra-*
18 *tion, and commercialization.*

19 **SEC. 3. NATIONAL COORDINATING ENTITY FOR SUSTAIN-**
20 **ABLE CHEMISTRY.**

21 *(a) ESTABLISHMENT.—Not later than 180 days after*
22 *the date of enactment of this Act, the Director of the Office*
23 *of Science and Technology Policy shall convene an inter-*
24 *agency entity (referred to in this Act as the “Entity”) under*
25 *the National Science and Technology Council with the re-*

1 *sponsibility to coordinate Federal programs and activities*
2 *in support of sustainable chemistry, including those de-*
3 *scribed in sections 5 and 6.*

4 (b) *COORDINATION WITH EXISTING GROUPS.—In con-*
5 *vening the Entity, the Director of the Office of Science and*
6 *Technology Policy shall consider overlap and possible co-*
7 *ordination with existing committees, subcommittees, or*
8 *other groups of the National Science and Technology Coun-*
9 *cil, such as—*

10 (1) *the Committee on Environment;*

11 (2) *the Committee on Technology;*

12 (3) *the Committee on Science; or*

13 (4) *related groups or subcommittees.*

14 (c) *CO-CHAIRS.—The Entity shall be co-chaired by the*
15 *Director of the Office of Science and Technology Policy and*
16 *a representative from the Environmental Protection Agen-*
17 *cy, the National Institute of Standards and Technology, the*
18 *National Science Foundation, or the Department of Energy,*
19 *as selected by the Director of the Office of Science and Tech-*
20 *nology Policy.*

21 (d) *AGENCY PARTICIPATION.—The Entity shall in-*
22 *clude representatives, including subject matter experts, from*
23 *the Environmental Protection Agency, the National Insti-*
24 *tute of Standards and Technology, the National Science*
25 *Foundation, the Department of Energy, the Department of*

1 *Agriculture, the Department of Defense, the National Insti-*
2 *tutes of Health, the Centers for Disease Control and Preven-*
3 *tion, the Food and Drug Administration, and other related*
4 *Federal agencies, as appropriate.*

5 *(e) TERMINATION.—The Entity shall terminate on the*
6 *date that is 10 years after the date of enactment of this*
7 *Act.*

8 **SEC. 4. STRATEGIC PLAN FOR SUSTAINABLE CHEMISTRY.**

9 *(a) STRATEGIC PLAN.—Not later than 2 years after*
10 *the date of enactment of this Act, the Entity shall—*

11 *(1) consult with relevant stakeholders, including*
12 *representatives from industry, academia, national*
13 *labs, the Federal Government, and international enti-*
14 *ties, to develop and update, as needed, a consensus*
15 *definition of “sustainable chemistry” to guide the ac-*
16 *tivities under this Act;*

17 *(2) develop a working framework of attributes*
18 *characterizing and metrics for assessing sustainable*
19 *chemistry, as described in subsection (b);*

20 *(3) assess the state of sustainable chemistry in*
21 *the United States as a key benchmark from which*
22 *progress under the activities described in this Act can*
23 *be measured, including assessing key sectors of the*
24 *United States economy, key technology platforms,*
25 *commercial priorities, and barriers to innovation;*

1 (4) *coordinate and support Federal research, de-*
2 *velopment, demonstration, technology transfer, com-*
3 *mercialization, education, and training efforts in sus-*
4 *tainable chemistry, including budget coordination*
5 *and support for public-private partnerships, as ap-*
6 *propriate;*

7 (5) *identify any Federal regulatory barriers to,*
8 *and opportunities for, Federal agencies facilitating*
9 *the development of incentives for development, consid-*
10 *eration and use of sustainable chemistry processes*
11 *and products;*

12 (6) *identify major scientific challenges, road-*
13 *blocks, or hurdles to transformational progress in im-*
14 *proving the sustainability of the chemical sciences;*
15 *and*

16 (7) *review, identify, and make effort to eliminate*
17 *duplicative Federal funding and duplicative Federal*
18 *research in sustainable chemistry.*

19 (b) *CHARACTERIZING AND ASSESSING SUSTAINABLE*
20 *CHEMISTRY.—The Entity shall develop a working frame-*
21 *work of attributes characterizing and metrics for assessing*
22 *sustainable chemistry for the purposes of carrying out the*
23 *Act. In developing this framework, the Entity shall—*

24 (1) *seek advice and input from stakeholders as*
25 *described in subsection (c);*

1 (2) *consider existing definitions of, or frame-*
2 *works characterizing and metrics for assessing, sus-*
3 *tainable chemistry already in use at Federal agencies;*

4 (3) *consider existing definitions of, or frame-*
5 *works characterizing and metrics for assessing, sus-*
6 *tainable chemistry already in use by international or-*
7 *ganizations of which the United States is a member,*
8 *such as the Organisation for Economic Co-operation*
9 *and Development; and*

10 (4) *consider any other appropriate existing defi-*
11 *nitions of, or frameworks characterizing and metrics*
12 *for assessing, sustainable chemistry.*

13 (c) *CONSULTATION.—In carrying out the duties de-*
14 *scribed in subsections (a) and (b), the Entity shall consult*
15 *and coordinate with stakeholders qualified to provide advice*
16 *and information to guide Federal activities related to sus-*
17 *tainable chemistry through workshops, requests for informa-*
18 *tion, or other mechanisms as necessary. The stakeholders*
19 *shall include representatives from—*

20 (1) *business and industry (including trade asso-*
21 *ciations and small- and medium-sized enterprises*
22 *from across the value chain);*

23 (2) *the scientific community (including the Na-*
24 *tional Academies of Sciences, Engineering, and Medi-*

1 *cine, scientific professional societies, national labs,*
2 *and academia);*

3 *(3) the defense community;*

4 *(4) State, tribal, and local governments, includ-*
5 *ing nonregulatory State or regional sustainable chem-*
6 *istry programs, as appropriate;*

7 *(5) nongovernmental organizations; and*

8 *(6) other appropriate organizations.*

9 *(d) REPORT TO CONGRESS.—*

10 *(1) IN GENERAL.—Not later than 3 years after*
11 *the date of enactment of this Act, the Entity shall*
12 *submit a report to the Committee on Environment*
13 *and Public Works, the Committee on Commerce,*
14 *Science, and Transportation, and the Committee on*
15 *Appropriations of the Senate, and the Committee on*
16 *Science, Space, and Technology, the Committee on*
17 *Energy and Commerce, and the Committee on Appro-*
18 *priations of the House of Representatives. In addition*
19 *to the elements described in subsections (a) and (b),*
20 *the report shall include—*

21 *(A) a summary of federally funded, sustain-*
22 *able chemistry research, development, demonstra-*
23 *tion, technology transfer, commercialization,*
24 *education, and training activities;*

1 (B) a summary of the financial resources
2 allocated to sustainable chemistry initiatives;

3 (C) an assessment of the current state of
4 sustainable chemistry in the United States, in-
5 cluding the role that Federal agencies are play-
6 ing in supporting it;

7 (D) an analysis of the progress made to-
8 ward achieving the goals and priorities of this
9 Act, and any recommendations for future pro-
10 gram activities;

11 (E) an evaluation of steps taken and future
12 strategies to avoid duplication of efforts, stream-
13 line interagency coordination, facilitate informa-
14 tion sharing, and spread best practices among
15 participating agencies; and

16 (F) an evaluation of duplicative Federal
17 funding and duplicative Federal research in sus-
18 tainable chemistry, efforts undertaken by the En-
19 tity to eliminate duplicative funding and re-
20 search, and recommendations on how to achieve
21 these goals.

22 (2) SUBMISSION TO GAO.—The Entity shall also
23 submit the report described in paragraph (1) to the
24 Comptroller General of the United States for consider-
25 ation in future Congressional inquiries.

1 **SEC. 5. AGENCY ACTIVITIES IN SUPPORT OF SUSTAINABLE**
2 **CHEMISTRY.**

3 (a) *IN GENERAL.*—*The agencies participating in the*
4 *Entity shall carry out activities in support of sustainable*
5 *chemistry, as appropriate to the specific mission and pro-*
6 *grams of each agency.*

7 (b) *ACTIVITIES.*—*The activities described in subsection*
8 *(a) shall—*

9 (1) *incorporate sustainable chemistry into exist-*
10 *ing basic and applied research, development, dem-*
11 *onstration, technology transfer, commercialization,*
12 *education, and training programs, that the agency*
13 *determines to be relevant, including consideration*
14 *of—*

15 (A) *merit-based competitive grants to indi-*
16 *vidual investigators and teams of investigators,*
17 *including, to the extent practicable, early career*
18 *investigators for research and development;*

19 (B) *grants to fund collaborative research*
20 *and development partnerships among univer-*
21 *sities, industry, and nonprofit organizations;*

22 (C) *coordination of sustainable chemistry*
23 *research, development, demonstration, and tech-*
24 *nology transfer conducted at Federal laboratories*
25 *and agencies;*

1 (D) incentive prize competitions and chal-
2 lenges in coordination with such existing Federal
3 agency programs; and

4 (E) grants, loans, and loan guarantees to
5 aid in the technology transfer and commer-
6 cialization of sustainable chemicals, materials,
7 processes, and products;

8 (2) collect and disseminate information on sus-
9 tainable chemistry research, development, technology
10 transfer, and commercialization, including informa-
11 tion on accomplishments and best practices;

12 (3) within education and training programs, ex-
13 pand the education and training of undergraduate
14 and graduate students and professional scientists and
15 engineers, and other professionals involved in all as-
16 pects of sustainable chemistry and engineering, in-
17 cluding through partnerships with industry as de-
18 scribed in section 6;

19 (4) as relevant to an agency's programs, examine
20 methods by which the Federal agencies, in collabora-
21 tion and consultation with the National Institute of
22 Standards and Technology, can facilitate the develop-
23 ment or recognition of validated, standardized tools
24 for performing sustainability assessments of chemistry
25 processes or products;

1 (5) through programs identified by an agency,
2 support (including through technical assistance, par-
3 ticipation, financial support, communications tools,
4 awards, or other forms of support) outreach and dis-
5 semination of sustainable chemistry advances such as
6 non-Federal symposia, forums, conferences, and publi-
7 cations in collaboration with, as appropriate, indus-
8 try, academia, scientific and professional societies,
9 and other relevant groups;

10 (6) provide for public input and outreach to be
11 integrated into the activities described in this section
12 by the convening of public discussions, through mech-
13 anisms such as public meetings, consensus con-
14 ferences, and educational events, as appropriate;

15 (7) within each agency, develop or adapt metrics
16 to track the outputs and outcomes of the programs
17 supported by that agency; and

18 (8) incentivize or recognize actions that advance
19 sustainable chemistry products, processes, or initia-
20 tives, including through the establishment of a nation-
21 ally recognized awards program through the Environ-
22 mental Protection Agency to identify, publicize, and
23 celebrate innovations in sustainable chemistry and
24 chemical technologies.

1 (c) *LIMITATIONS*.—*Financial support provided under*
2 *this section shall—*

3 (1) *be available only for pre-competitive activi-*
4 *ties; and*

5 (2) *not be used to promote the sale of a specific*
6 *product, process, or technology, or to disparage a spe-*
7 *cific product, process, or technology.*

8 **SEC. 6. PARTNERSHIPS IN SUSTAINABLE CHEMISTRY.**

9 (a) *IN GENERAL*.—*The agencies participating in the*
10 *Entity may facilitate and support, through financial, tech-*
11 *nical, or other assistance, the creation of partnerships be-*
12 *tween institutions of higher education, nongovernmental or-*
13 *ganizations, consortia, or companies across the value chain*
14 *in the chemical industry, including small- and medium-*
15 *sized enterprises, to—*

16 (1) *create collaborative sustainable chemistry re-*
17 *search, development, demonstration, technology trans-*
18 *fer, and commercialization programs; and*

19 (2) *train students and retrain professional sci-*
20 *entists, engineers, and others involved in materials*
21 *specification on the use of sustainable chemistry con-*
22 *cepts and strategies by methods, including—*

23 (A) *developing or recognizing curricular*
24 *materials and courses for undergraduate and*
25 *graduate levels and for the professional develop-*

1 *ment of scientists, engineers, and others involved*
2 *in materials specification; and*

3 *(B) publicizing the availability of profes-*
4 *sional development courses in sustainable chem-*
5 *istry and recruiting professionals to pursue such*
6 *courses.*

7 *(b) PRIVATE SECTOR PARTICIPATION.—To be eligible*
8 *for support under this section, a partnership in sustainable*
9 *chemistry shall include at least one private sector organiza-*
10 *tion.*

11 *(c) SELECTION OF PARTNERSHIPS.—In selecting part-*
12 *nerships for support under this section, the agencies partici-*
13 *pating in the Entity shall also consider the extent to which*
14 *the applicants are willing and able to demonstrate evidence*
15 *of support for, and commitment to, the goals outlined in*
16 *the strategic plan and report described in section 4.*

17 *(d) PROHIBITED USE OF FUNDS.—Financial support*
18 *provided under this section may not be used—*

19 *(1) to support or expand a regulatory chemical*
20 *management program at an implementing agency*
21 *under a State law;*

22 *(2) to construct or renovate a building or struc-*
23 *ture; or*

1 (3) to promote the sale of a specific product,
2 process, or technology, or to disparage a specific prod-
3 uct, process, or technology.

4 **SEC. 7. PRIORITIZATION.**

5 In carrying out this Act, the Entity shall focus its sup-
6 port for sustainable chemistry activities on those that
7 achieve, to the highest extent practicable, the goals outlined
8 in the Act.

9 **SEC. 8. RULE OF CONSTRUCTION.**

10 Nothing in this Act shall be construed to alter or
11 amend any State law or action with regard to sustainable
12 chemistry, as defined by the State.

Calendar No. 513

116TH CONGRESS
2^D SESSION

S. 999

[Report No. 116-251]

A BILL

To provide for Federal coordination of activities supporting sustainable chemistry, and for other purposes.

AUGUST 12, 2020

Reported with an amendment