114TH CONGRESS
1ST SESSION

S. 1447

To provide for the implementation of a Sustainable Chemistry Program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 21, 2015

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

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A BILL

To provide for the implementation of a Sustainable Chemistry Program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Sustainable Chemistry Research and Development Act of 2015".

SEC. 2. DEFINITIONS.

In this Act—

(1) ADVISORY COUNCIL.—The term "Advisory Council" means the advisory council established under section 3(d).

(2) INTERAGENCY WORKING GROUP.—The term ''Interagency Working Group'' means the interagency working group established under section 3(c).

(3) PROGRAM.—The term ''Program'' means the Sustainable Chemistry Program described in section 3.

(4) SUSTAINABLE CHEMISTRY.—The term ''sustainable chemistry'' means the design, development, demonstration, and commercialization of high-quality chemicals and materials, chemical processes and products, and engineering and manufacturing processes that eliminate or reduce chemical risks to benefit human health and the environment across the chemical lifecycle, to the highest extent practicable, through—

(A) increasing the use of more sustainable, renewable, or recycled substances and materials;

(B) increasing the use of substitutes for rare substances;

(C) promoting safe and more efficient manufacturing;

(D) minimizing or eliminating lifecycle impacts, including environmental and health impacts;

(E) optimizing product design and encouraging the reduction of waste and the reuse or recycling of chemicals and materials and design for the end of life or the final disposition of the product; or

(F) increasing the design and use of safe molecules, chemicals, materials, chemistries, and chemical processes.

SEC. 3. SUSTAINABLE CHEMISTRY PROGRAM.

(a) IN GENERAL.—The President shall establish an interagency Sustainable Chemistry Program to promote and coordinate Federal sustainable chemistry research, development, demonstration, technology transfer, commercialization, education, and training activities.

(b) PROGRAM ACTIVITIES.—The activities of the Program shall be designed to—

(1) provide sustained support for sustainable chemistry research, development, demonstration, technology transfer, commercialization, education, and training through—

(A) merit-based competitive grants to individual investigators and teams of investigators, including, to the extent practicable, young investigators, for research and development;

(B) grants to fund collaborative research and development partnerships among universities, industry, and nonprofit organizations;

(C) grants, loans, and loan guarantees to aid in the technology transfer and commercialization of sustainable chemicals, materials, processes, and products;

(D) incentive prize competitions and challenges;

(E) coordination of sustainable chemistry research, development, demonstration, and technology transfer conducted at Federal laboratories and agencies; and

(F) to the extent practicable, encouragement of consideration of sustainable chemistry in, as appropriate—

(i) the conduct of Federal and State science and engineering research and development; and

(ii) the solicitation and evaluation of applicable proposals for science and engineering research and development;

(2) examine methods by which the Federal Government can create incentives for consideration and

use of sustainable chemistry processes and products, including innovative financing mechanisms;

(3) facilitate the adoption of sustainable chemistry innovations and methods;

(4) expand the education and training of undergraduate and graduate students and professional scientists and engineers, including through partnerships with industry, in sustainable chemistry science and engineering;

(5) collect and disseminate information on sustainable chemistry research, development, and technology transfer including information on—

(A) incentives and impediments to development, manufacturing, and commercialization;

(B) accomplishments;

(C) best practices; and

(D) costs and benefits;

(6) support (including through technical assistance, participation, financial support, or other forms of support) venues for outreach and dissemination of sustainable chemistry advances such as symposia, forums, conferences, and written materials in collaboration with, as appropriate, industry, academia, scientific and professional societies, and other relevant groups;

(7) support (including through technical assistance, participation, financial support, or other forms of support) economic, legal, and other appropriate social science research to identify barriers to commercialization and methods to advance commercialization of sustainable chemistry;

(8) provide for public input and outreach to be integrated into the Program by the convening of public discussions, through mechanisms such as public meetings, consensus conferences, and educational events, as appropriate; and

(9) develop metrics to track the outputs and outcomes of the Program.

(c) INTERAGENCY WORKING GROUP.—

(1) ESTABLISHMENT.—Not later than 180 days after the date of enactment of this Act, the President, in consultation with the Office of Science and Technology Policy, shall establish an Interagency Working Group that shall include representatives from the National Science Foundation, the National Institute of Standards and Technology, the Department of Energy, the Environmental Protection Agency, the Department of Agriculture, the Department of Defense, the National Institutes of Health, and any other agency that the President may des-

ignate to oversee the planning, management, and coordination of the Program.

(2) GOVERNANCE.—The Director of the National Science Foundation and the Assistant Administrator for Research and Development of the Environmental Protection Agency, or their designees, shall serve as co-chairs of the Interagency Working Group.

(3) RESPONSIBILITIES.—In overseeing the planning, management, and coordination of the Program, the Interagency Working Group shall—

(A) establish goals and priorities for the Program, in consultation with the Advisory Council;

(B) provide for interagency coordination, including budget coordination, of activities under the Program;

(C) meet not later than 90 days from its establishment and periodically thereafter; and

(D) consult with the Advisory Council on a regular basis.

(d) ADVISORY COUNCIL.—

(1) ESTABLISHMENT.—Not later than 180 days after the date of the establishment of the Interagency Working Group, the co-chairs of the Inter-

agency Working Group shall establish an Advisory Council on Sustainable Chemistry that shall make recommendations to the Interagency Working Group and provide it with ongoing advice and assistance.

(2) MEMBERSHIP.—The Advisory Council members shall not be employees of the Federal Government and shall include a diverse representation of knowledgeable individuals from the private sector (including small- and medium-sized enterprises from across the value chain), academia, State and tribal governments, and nongovernmental organizations and others who are in a position to provide expertise. Once a year the public may petition the co-chairs of the Interagency Working Group to take into consideration the nomination of an individual to serve on the Advisory Council.

(3) CONFLICT OF INTEREST.—

(A) IN GENERAL.—The Interagency Working Group shall make its best efforts to ensure that—

(i) no individual appointed to serve on the Advisory Council has a conflict of interest that is relevant to the functions to be performed, unless such conflict is promptly and publicly disclosed and the

Interagency Working Group determines that the conflict is unavoidable;

(ii) the Advisory Council membership is fairly balanced as determined by the Interagency Working Group to be appropriate for the functions to be performed;

(iii) any products of the Interagency Working Group will be the result of the Interagency Working Group's independent judgment; and

(iv) the meetings and proceedings of the Advisory Council be open and available to the public.

(B) NOTIFICATION OF CONFLICTS.—The Interagency Working Group shall require that individuals nominated or appointed to serve on the Advisory Council inform the Interagency Working Group of any conflicts of interest that are relevant to the functions to be performed.

(C) FACA APPLICABILITY.—All proceedings and meetings of the Advisory Council shall be subject to the Federal Advisory Committee Act (5 U.S.C. App.).

(4) GOVERNANCE.—The co-chairs of the Interagency Working Group—

(A) may appoint new members of the Advisory Council as needed; and

(B) shall appoint the original Chair to serve a term of 1 year.

(5) APPOINTMENT OF CHAIR.—The Advisory Council shall appoint a Chair from among the members of the Advisory Council after the term of the original Chair appointed under paragraph (3)(B) expires.

(e) AGENCY BUDGET REQUESTS.—

(1) IN GENERAL.—Each Federal agency and department participating in the Program shall, as part of its annual request for appropriations to the Office of Management and Budget, submit a report to the Office of Management and Budget that—

(A) identifies the activities of the agency or department that contribute directly to the Program; and

(B) states the portion of the agency or department's request for appropriations that is allocated to those activities.

(2) ANNUAL BUDGET REQUEST TO CONGRESS.—The President shall include in the annual budget request to Congress a statement of the portion of the annual budget request for each agency or

department that will be allocated to activities undertaken pursuant to the Program.

(f) REPORT TO CONGRESS.—

(1) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Interagency Working Group shall submit a report to the Committee on Science, Space, and Technology and Committee on Energy and Commerce of the House of Representatives and the Committee on Environment and Public Works and the Committee on Commerce, Science, and Transportation of the Senate that shall include—

(A) a summary of federally funded sustainable chemistry research, development, demonstration, technology transfer, commercialization, education, and training activities;

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

(C) an analysis of the progress made toward achieving the goals and priorities of this Act, and recommendations for future program activities;

(D) an assessment of the benefits of expanding existing, federally supported regional innovation and manufacturing hubs to include

sustainable chemistry and the value of directing the creation of one or more dedicated sustainable chemistry centers of excellence or hubs; and

(E) an evaluation of steps taken and future strategies to avoid duplication of efforts, streamline interagency coordination, facilitate information sharing, and spread best practices between participating agencies in the Program.

(2) SUBMISSION TO GAO.—The Interagency Working Group shall also submit the report described in paragraph (1) to the Government Accountability Office for consideration in future Congressional inquiries.

SEC. 4. PARTNERSHIPS IN SUSTAINABLE CHEMISTRY.

(a) AUTHORIZATION.—The Interagency Working Group shall lead the agencies participating in the Program to carry out a joint, coordinated program to award grants to institutions of higher education to establish partnerships with companies across the value chain in the chemical industry, including small- and medium-sized enterprises, to—

(1) create collaborative research, development, demonstration, technology transfer, and commercialization programs; and

(2) train students and retrain professional scientists and engineers in the use of sustainable chemistry concepts and strategies by methods including—

(A) developing curricular materials and courses for undergraduate and graduate levels and for the professional development of scientists and engineers; and

(B) publicizing the availability of professional development courses in sustainable chemistry and recruiting scientists and engineers to pursue such courses.

(b) GUIDELINES.—The Interagency Working Group shall establish guidelines and criteria for—

(1) a partnership between a company in the chemical industry and an institution of higher education eligible for a grant under subsection (a); and

(2) the grant application and awarding process, which shall include—

(A) competitive, merit-based review of each grant application; and

(B) cost-sharing from non-Federal sources by members of the partnerships.

SEC. 5. STUDY OF SUSTAINABLE CHEMISTRY.

The Director of the National Science Foundation shall enter into an arrangement with the National Research Council to conduct a study that shall—

(1) assess the current status of sustainable chemistry research in the United States, and suggest high-priority research and development needs within sustainable chemistry;

(2) examine the status of sustainable chemistry in the education of chemists and chemical engineers and other relevant professions and identify recommendations to improve and broaden the implementation of sustainable chemistry practices in science and engineering education, including examining the role of toxicology, chemical hazard and risk assessment, lifecycle assessment, and environmental fate and effects in science and engineering education;

(3) examine case studies of successful and unsuccessful attempts at commercialization and adoption of sustainable chemistry processes and products in the United States and abroad and recommend research areas, priorities, and public policy options that would help to overcome identified barriers to commercialization; and

(4) using available economic analyses, discuss the potential economic impact of sustainable chemistry, including job creation.

SEC. 6. NATIONAL STRATEGY AND IMPLEMENTATION PLAN.

Not later than 2 years after the release of the study described in section 5, the Interagency Working Group, in consultation with the Advisory Council, shall produce a national strategy and accompanying implementation plan for sustainable chemistry that provides a framework for advancing sustainable chemistry research, development, technology transfer, commercialization, and education and training.

SEC. 7. PRIORITIZATION.

In carrying out this Act, the Interagency Working Group shall prioritize support for activities that achieve, to the highest extent practicable, the goals of sustainable chemistry.

SEC. 8. RULE OF CONSTRUCTION.

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

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