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110TH CONGRESS
1ST SESSION

# H. R. 2850

To provide for the implementation of a Green Chemistry Research and Development Program, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

JUNE 25, 2007

Mr. GINGREY (for himself, Mr. WU, Mr. EHLERS, Mr. MARIO DIAZ-BALART of Florida, and Mr. WELCH of Vermont) introduced the following bill; which was referred to the Committee on Science and Technology

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# A BILL

To provide for the implementation of a Green Chemistry Research and Development 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 ''Green Chemistry Research and Development Act of 2007''.

**SEC. 2. DEFINITIONS.**

In this Act—

(1) the term ''green chemistry'' means chemistry and chemical engineering to design chemical products and processes that reduce or eliminate the

use or generation of hazardous substances while producing high quality products through safe and efficient manufacturing processes;

(2) the term ''Interagency Working Group'' means the interagency working group established under section 3(c); and

(3) the term ''Program'' means the Green Chemistry Research and Development Program described in section 3.

**SEC. 3. GREEN CHEMISTRY RESEARCH AND DEVELOPMENT PROGRAM.**

(a) IN GENERAL.—The President shall establish a Green Chemistry Research and Development Program to promote and coordinate Federal green chemistry research, development, demonstration, education, and technology transfer activities.

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

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

(A) merit-reviewed 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) green chemistry research, development, demonstration, and technology transfer conducted at Federal laboratories; and

(D) to the extent practicable, encouragement of consideration of green chemistry in—

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

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

(2) examine methods by which the Federal Government can create incentives for consideration and use of green chemistry processes and products;

(3) facilitate the adoption of green chemistry innovations;

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

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

(A) incentives and impediments to development and commercialization;

(B) accomplishments;

(C) best practices; and

(D) costs and benefits;

(6) provide venues for outreach and dissemination of green 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 economic, legal, and other appropriate social science research to identify barriers to commercialization and methods to advance commercialization of green chemistry; and

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

(c) INTERAGENCY WORKING GROUP.—The President shall establish an Interagency Working Group, which shall

include representatives from the National Science Foundation, the National Institute of Standards and Technology, the Department of Energy, the Environmental Protection Agency, and any other agency that the President may designate. The Director of the National Science Foundation and the Assistant Administrator for Research and Development of the Environmental Protection Agency shall serve as co-chairs of the Interagency Working Group. The Interagency Working Group shall oversee the planning, management, and coordination of the Program. The Interagency Working Group shall—

(1) establish goals and priorities for the Program, to the extent practicable in consultation with green chemistry researchers and potential end-users of green chemistry products and processes; and

(2) provide for interagency coordination, including budget coordination, of activities under the Program.

(d) AGENCY BUDGET REQUESTS.—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 which identifies its activities that contribute directly to the Program and states the portion of its request for appropriations that

is allocated to those activities. The President shall include in his annual budget request to Congress a statement of the portion of each agency's or department's annual budget request allocated to its activities undertaken pursuant to the Program.

(e) REPORT TO CONGRESS.—Not later than 2 years after the date of enactment of this Act, the Interagency Working Group shall transmit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate. This report shall include—

(1) a summary of federally funded green chemistry research, development, demonstration, education, and technology transfer activities, including the green chemistry budget for each of these activities; and

(2) an analysis of the progress made toward achieving the goals and priorities for the Program, and recommendations for future program activities.

**SEC. 4. MANUFACTURING EXTENSION CENTER GREEN SUPPLIERS NETWORK GRANT PROGRAM.**

Section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a)) is amended—

(1) by striking ''and'' at the end of paragraph (4);

(2) by striking the period at the end of paragraph (5) and inserting ''; and''; and

(3) by adding at the end the following:

''(6) the enabling of supply chain manufacturers to continuously improve products and processes, increase energy efficiency, identify cost-saving opportunities, and optimize resources and technologies with the aim of reducing or eliminating the use or generation of hazardous substances.''.

**SEC. 5. UNDERGRADUATE EDUCATION IN CHEMISTRY AND CHEMICAL ENGINEERING.**

(a) PROGRAM AUTHORIZED.—(1) As part of the Program activities under section 3(b)(4), the Director of the National Science Foundation shall carry out a program to award grants to institutions of higher education to support efforts by such institutions to revise their undergraduate curriculum in chemistry and chemical engineering to incorporate green chemistry concepts and strategies.

(2) Grants shall be awarded under this section on a competitive, merit-reviewed basis and shall require cost sharing in cash from non-Federal sources, to match the Federal funding.

(b) SELECTION PROCESS.—(1) An institution of higher education seeking funding under this section shall

submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include at a minimum—

(A) a description of the content and schedule for adoption of the proposed curricular revisions to the courses of study offered by the applicant in chemistry and chemical engineering; and

(B) a description of the source and amount of cost sharing to be provided.

(2) In evaluating the applications submitted under paragraph (1), the Director shall consider, at a minimum—

(A) the level of commitment demonstrated by the applicant in carrying out and sustaining lasting curriculum changes in accordance with subsection (a)(1); and

(B) the amount of cost sharing to be provided.

(c) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts authorized under section 8, from sums otherwise authorized to be appropriated by the National Science Foundation Authorization Act of 2002, there are authorized to be appropriated to the National Science Foundation for carrying out this section $7,000,000 for

fiscal year 2008, $7,500,000 for fiscal year 2009, and $8,000,000 for fiscal year 2010.

**SEC. 6. STUDY ON COMMERCIALIZATION OF GREEN CHEMISTRY.**

(a) STUDY.—The Director of the National Science Foundation shall enter into an arrangement with the National Research Council to conduct a study of the factors that constitute barriers to the successful commercial application of promising results from green chemistry research and development.

(b) CONTENTS.—The study shall—

(1) examine successful and unsuccessful attempts at commercialization of green chemistry in the United States and abroad; and

(2) recommend research areas and priorities and public policy options that would help to overcome identified barriers to commercialization.

(c) REPORT.—The Director shall submit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on the findings and recommendations of the study within 18 months after the date of enactment of this Act.

**SEC. 7. PARTNERSHIPS IN GREEN CHEMISTRY.**

(a) PROGRAM AUTHORIZED.—(1) The agencies participating in the Program shall carry out a joint, coordinated program to award grants to institutions of higher education to establish partnerships with companies in the chemical industry to retrain chemists and chemical engineers in the use of green chemistry concepts and strategies.

(2) Grants shall be awarded under this section on a competitive, merit-reviewed basis and shall require cost sharing from non-Federal sources by members of the partnerships.

(3) In order to be eligible to receive a grant under this section, an institution of higher education shall enter into a partnership with two or more companies in the chemical industry. Such partnerships may also include other institutions of higher education and professional associations.

(4) Grants awarded under this section shall be used for activities to provide retraining for chemists or chemical engineers in green chemistry, including—

(A) the development of curricular materials and the designing of undergraduate and graduate level courses; and

(B) publicizing the availability of professional development courses of study in green chemistry and

recruiting graduate scientists and engineers to pursue such courses.

Grants may provide stipends for individuals enrolled in courses developed by the partnership.

(b) SELECTION PROCESS.—(1) An institution of higher education seeking funding under this section shall submit an application at such time, in such manner, and containing such information as shall be specified by the Interagency Working Group and published in a proposal solicitation for the Program. The application shall include at a minimum—

(A) a description of the partnership and the role each member will play in implementing the proposal;

(B) a description of the courses of study that will be provided;

(C) a description of the number and size of stipends, if offered;

(D) a description of the source and amount of cost sharing to be provided; and

(E) a description of the manner in which the partnership will be continued after assistance under this section ends.

(2) The evaluation of the applications submitted under paragraph (1) shall be carried out in accordance

with procedures developed by the Interagency Working Group and shall consider, at a minimum—

(A) the ability of the partnership to carry out effectively the proposed activities;

(B) the degree to which such activities are likely to prepare chemists and chemical engineers sufficiently to be competent to apply green chemistry concepts and strategies in their work; and

(C) the amount of cost sharing to be provided.

**SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

(a) NATIONAL SCIENCE FOUNDATION.—There are authorized to be appropriated to the National Science Foundation for carrying out this Act—

(1) $20,000,000 for fiscal year 2008;

(2) $21,000,000 for fiscal year 2009; and

(3) $22,000,000 for fiscal year 2010.

(b) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this Act—

(1) $8,000,000 for fiscal year 2008;

(2) $9,000,000 for fiscal year 2009; and

(3) $10,000,000 for fiscal year 2010.

(c) DEPARTMENT OF ENERGY.—There are authorized to be appropriated to the Department of Energy for carrying out this Act—

(1) $13,000,000 for fiscal year 2008;

(2) $14,000,000 for fiscal year 2009; and

(3) $15,000,000 for fiscal year 2010.

(d) ENVIRONMENTAL PROTECTION AGENCY.—There are authorized to be appropriated to the Environmental Protection Agency for carrying out this Act—

(1) $10,000,000 for fiscal year 2008;

(2) $11,000,000 for fiscal year 2009; and

(3) $12,000,000 for fiscal year 2010.

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