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116TH CONGRESS
1ST SESSION

H. R. 4481

To authorize an energy critical elements program, to amend the National Materials and Minerals Policy, Research and Development Act of 1980, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 24, 2019

Mr. SWALWELL of California introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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A BILL

To authorize an energy critical elements program, to amend the National Materials and Minerals Policy, Research and Development Act of 1980, 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 ''Securing Energy Critical Elements and American Jobs Act of 2019''.

SEC. 2. DEFINITIONS.

In this Act:

(1) APPROPRIATE CONGRESSIONAL COMMITTEES.—The term ''appropriate Congressional com-

mittees'' means the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Energy and Natural Resources of the Senate.

(2) CENTER.—The term ''Center'' means the Critical Materials Information Center established under section 101(d).

(3) DEPARTMENT.—The term ''Department'' means the Department of Energy.

(4) ENERGY CRITICAL ELEMENT.—The term ''energy critical element'' means any of a class of chemical elements that have a high risk of a supply disruption and are critical to one or more new, energy-related technologies such that a shortage of such element would significantly inhibit large-scale deployment of technologies that produce, transmit, store, or conserve energy.

(5) INSTITUTION OF HIGHER EDUCATION.—The term ''institution of higher education'' has the meaning given such term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(6) PROGRAM.—The term ''program'' means the program authorized in section 101(a).

(7) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

TITLE I—ENERGY CRITICAL ELEMENTS

SEC. 101. ENERGY CRITICAL ELEMENTS PROGRAM.

(a) AUTHORIZATION OF PROGRAM.—

(1) IN GENERAL.—The Secretary shall carry out a program of research, development, demonstration, and commercial application to assure the long-term, secure, and sustainable supply of energy critical elements sufficient to satisfy the national security, economic well-being, and industrial production needs of the United States. This program may be carried out primarily by an Energy Innovation Hub established under section 206 of the Department of Energy Research Coordination Act (42 U.S.C. 18632).

(2) PROGRAM ACTIVITIES.—The program shall focus on areas that the private sector by itself is not likely to undertake because of technical and financial uncertainty and support activities to—

(A) improve methods for the extraction, processing, use, recovery, and recycling of energy critical elements;

(B) improve the understanding of the performance, processing, and adaptability in engineering designs using energy critical elements;

(C) improve the understanding of energy critical element supply chains, risks from supply disruption, supply restriction, volatility in demand, and difficulty to substitute;

(D) identify and test alternative materials that can be substituted for energy critical elements and maintain or exceed current performance; and

(E) engineer and test applications that—

(i) use recycled energy critical elements;

(ii) use alternative materials; or

(iii) seek to minimize energy critical element content.

(3) EXPANDING PARTICIPATION.—In carrying out the program, the Secretary shall encourage multidisciplinary collaborations of participants, including opportunities for students and post-doctoral staff at institutions of higher education.

(4) CONSISTENCY.—The program shall be consistent with the policies and programs in the Na-

tional Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1601 et seq.).

(5) INTERNATIONAL COLLABORATION.—In carrying out the program, the Secretary shall collaborate, to the extent practicable, on activities of mutual interest with the relevant agencies of foreign countries with interests relating to energy critical elements.

(b) PLAN.—

(1) IN GENERAL.—Within 180 days after the date of enactment of this Act and biennially thereafter, the Secretary shall prepare and submit to the appropriate Congressional committees a plan to carry out the program.

(2) SPECIFIC REQUIREMENTS.—The plan required under paragraph (1) shall include a description of—

(A) the research and development activities to be carried out by the program during the subsequent 2 years;

(B) the expected contributions of the program to the creation of innovative methods and technologies for the efficient and sustainable provision of energy critical elements to the domestic economy; and

(C) how the program is promoting the broadest possible participation by academic, industrial, and other contributors.

(3) CONSULTATION.—In preparing each plan under paragraph (1), the Secretary shall consult with appropriate representatives of industry, institutions of higher education, Department of Energy national laboratories, professional and technical societies, other Federal agencies, and other entities, as determined by the Secretary.

(c) COORDINATION AND NONDUPLICATION.—To the maximum extent practicable, the Secretary shall ensure that the activities carried out under this title are coordinated with, and do not unnecessarily duplicate the efforts of, other programs within the Federal Government.

(d) CRITICAL MATERIALS INFORMATION CENTER.—

(1) IN GENERAL.—In carrying out the program established under section 101, the Secretary shall establish and maintain a Critical Materials Information Center to collect, catalogue, disseminate, and archive information on energy critical elements in coordination with the Office of Scientific and Technical Information of the Department of Energy.

(2) CENTER ACTIVITIES.—The Center shall—

(A) serve as the repository for scientific and technical data generated by the research and development activities funded under this section;

(B) assist scientists and engineers in making the fullest possible use of the Center's data holdings;

(C) seek and incorporate other information on energy critical elements to enhance the Center's utility for program participants and other users; and

(D) provide advice to the Secretary concerning the program.

(e) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—There are authorized to be appropriated to the Secretary to carry out this Act the following sums:

(A) For fiscal year 2020, $30,000,000.

(B) For fiscal year 2021, $31,500,000.

(C) For fiscal year 2022, $33,075,000.

(D) For fiscal year 2023, $34,728,750.

(E) For fiscal year 2024, $36,465,188.

(2) AVAILABILITY.—Such sums shall remain available until expended.

SEC. 102. SUPPLY OF ENERGY CRITICAL ELEMENTS.

The President, acting through the Critical Material Supply Chain Subcommittee of the Committee on Environment, Natural Resources, and Sustainability of the National Science and Technology Council, shall—

(1) coordinate the actions of applicable Federal agencies to promote an adequate and stable supply of energy critical elements necessary to maintain national security, economic well-being, and industrial production with appropriate attention to a long-term balance between resource production, energy use, a healthy environment, natural resources conservation, and social needs;

(2) identify energy critical elements and establish scenario modeling systems for supply problems of energy critical elements;

(3) establish a mechanism for the coordination and evaluation of Federal programs with energy critical element needs, including Federal programs involving research and development, in a manner that complements related efforts carried out by the private sector and other domestic and international agencies and organizations;

(4) promote and encourage private enterprise in the development of an economically sound and stable domestic energy critical elements supply chain;

(5) promote and encourage the recycling of energy critical elements, taking into account the logistics, economic viability, environmental sustainability, and research and development needs for completing the recycling process;

(6) promote and encourage the development of substitute materials and processes that lower the dependence of the United States on energy critical elements;

(7) assess the need for, and make recommendations concerning, the availability and adequacy of the supply of technically trained personnel necessary for energy critical elements research, development, extraction, and industrial production, with a particular focus on the problem of attracting and maintaining high-quality professionals for maintaining an adequate supply of energy critical elements; and

(8) report to the appropriate Congressional committees on activities and findings under this section.

TITLE II—NATIONAL MATERIALS AND MINERALS POLICY, RESEARCH, AND DEVELOPMENT

SEC. 201. AMENDMENTS TO NATIONAL MATERIALS AND MINERALS POLICY, RESEARCH AND DEVELOPMENT ACT OF 1980.

(a) PROGRAM PLAN.—Section 5 of the National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1604) is amended—

(1) by striking ''date of enactment of this Act'' each place it appears and inserting ''date of enactment of the Securing Energy Critical Elements and American Jobs Act of 2019'';

(2) in subsection (b)(1), by striking ''Federal Coordinating Council for Science, Engineering, and Technology'' and inserting ''National Science and Technology Council'';

(3) in subsection (c)—

(A) in the matter preceding paragraph (1)—

(i) by striking ''the Federal Emergency'' and all that follows through ''Agency, and''; and

(ii) by striking ''appropriate shall'' and inserting ''appropriate, shall'';

(B) by striking paragraph (1);

(C) in paragraph (2), by striking ''in the case'' and all that follows through ''subsection,'';

(D) by redesignating paragraphs (2) and (3) as paragraphs (1) and (2), respectively; and

(E) by amending paragraph (2), as so redesignated, to read as follows:

''(2) assess the adequacy and stability of the supply of materials necessary to maintain national security, economic well-being, and industrial production.'';

(4) by striking subsection (d); and

(5) by redesignating subsections (e) and (f) as subsections (d) and (e), respectively.

(b) POLICY.—Section 3 of the National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1602) is amended—

(1) by striking ''The Congress declares that it'' and inserting ''It''; and

(2) by striking ''The Congress further declares that implementation'' and inserting ''Implementation''.

(c) IMPLEMENTATION.—Section 4 of the National Materials and Minerals Policy, Research and Development

Act of 1980 (30 U.S.C. 1603) is amended, in the matter preceding paragraph (1)—

(1) by striking ''For the purpose'' and all that follows through ''declares that the'' and inserting ''The''; and

(2) by striking ''departments and agencies,'' and inserting ''departments and agencies to implement the policy specified in section 3''.

SEC. 202. CONFORMING REPEAL.

The National Critical Materials Act of 1984 (30 U.S.C. 1801 et seq.) is repealed.

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