112TH CONGRESS
1ST SESSION

S. 1113

To facilitate the reestablishment of domestic, critical mineral designation, assessment, production, manufacturing, recycling, analysis, forecasting, workforce, education, research, and international capabilities in the United States, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 26, 2011

Ms. MURKOWSKI (for herself, Mr. NELSON of Nebraska, Mr. WEBB, Mr. RISCH, Mrs. HAGAN, Mr. BLUNT, Mr. BARRASSO, Mr. ENZI, Mr. CONRAD, Mr. COCHRAN, Mr. BEGICH, Mr. HELLER, Mr. CRAPO, Ms. STABENOW, Mr. HOEVEN, Mrs. MCCASKILL, and Mr. MANCHIN) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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A BILL

To facilitate the reestablishment of domestic, critical mineral designation, assessment, production, manufacturing, recycling, analysis, forecasting, workforce, education, research, and international capabilities in the United States, 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; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the ''Critical Minerals Policy Act of 2011''.

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

Sec. 1. Short title; table of contents.
Sec. 2. Definitions.

TITLE I—DESIGNATIONS AND POLICIES

Sec. 101. Designations.
Sec. 102. Policy.
Sec. 103. Resource assessment.
Sec. 104. Permitting.
Sec. 105. Manufacturing.
Sec. 106. Recycling and alternatives.
Sec. 107. Analysis and forecasting.
Sec. 108. Education and workforce.
Sec. 109. International cooperation.

TITLE II—MINERAL-SPECIFIC ACTIONS

Sec. 201. Administration.
Sec. 202. Cobalt.
Sec. 203. Helium.
Sec. 204. Lead.
Sec. 205. Lithium.
Sec. 206. Low-Btu gas.
Sec. 207. Phosphate.
Sec. 208. Potash.
Sec. 209. Rare earth elements.
Sec. 210. Thorium.
Sec. 211. Updated resource information.

TITLE III—MISCELLANEOUS

Sec. 301. Offsets.
Sec. 302. Administration.
Sec. 303. Authorization of appropriations.

SEC. 2. DEFINITIONS.

In this Act:

(1) APPLICABLE COMMITTEES.—The term ''applicable committees'' means—

(A) the Committee on Energy and Natural Resources of the Senate;

(B) the Committee on Natural Resources of the House of Representatives;

(C) the Committee on Energy and Commerce of the House of Representatives; and

(D) the Committee on Science, Space, and Technology of the House of Representatives.

(2) CLEAN ENERGY TECHNOLOGY.—The term ''clean energy technology'' means a technology related to the production, use, transmission, storage, control, or conservation of energy that—

(A) reduces the need for additional energy supplies by using existing energy supplies with greater efficiency or by transmitting, distributing, storing, or transporting energy with greater effectiveness in or through the infrastructure of the United States;

(B) diversifies the sources of energy supply of the United States to strengthen energy security and to increase supplies with a favorable balance of environmental effects if the entire technology system is considered; or

(C) contributes to a stabilization of atmospheric greenhouse gas concentrations through reduction, avoidance, or sequestration of energy-related greenhouse gas emissions.

(3) CRITICAL MINERAL.—

(A) IN GENERAL.—The term ''critical mineral'' means any mineral designated as a critical mineral pursuant to section 101.

(B) EXCLUSIONS.—The term ''critical mineral'' does not include coal, oil, natural gas, or any other fossil fuels.

(4) CRITICAL MINERAL MANUFACTURING.—The term ''critical mineral manufacturing'' means—

(A) the production, processing, refining, alloying, separation, concentration, magnetic sintering, melting, or beneficiation of critical minerals within the United States;

(B) the fabrication, assembly, or production, within the United States, of clean energy technologies (including technologies related to wind, solar, and geothermal energy, efficient lighting, electrical superconducting materials, permanent magnet motors, batteries, and other energy storage devices), military equipment, and consumer electronics, or components necessary for applications; or

(C) any other value-added, manufacturing-related use of critical minerals undertaken within the United States.

(5) INDIAN TRIBE.—The term ''Indian tribe'' has the meaning given the term in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b).

(6) MILITARY EQUIPMENT.—The term ''military equipment'' means equipment used directly by the armed forces to carry out military operations.

(7) RARE EARTH ELEMENT.—

(A) IN GENERAL.—The term ''rare earth element'' means the chemical elements in the periodic table from lanthanum (atomic number 57) up to and including lutetium (atomic number 71).

(B) INCLUSIONS.—The term ''rare earth element'' includes the similar chemical elements yttrium (atomic number 39) and scandium (atomic number 21).

(8) SECRETARY.—

(A) TITLE I.—In title I, the term ''Secretary'' means the Secretary of the Interior—

(i) acting through the Director of the United States Geological Survey; and

(ii) in consultation with (as appropriate)—

(I) the Secretary of Energy;

(II) the Secretary of Defense;

(III) the Secretary of Commerce;

(IV) the Secretary of State;

(V) the Secretary of Agriculture;

(VI) the United States Trade Representative; and

(VII) the heads of other applicable Federal agencies.

(B) TITLE II.—In title II, the term ''Secretary'' means the Secretary of Energy.

(9) STATE.—The term ''State'' means—

(A) a State;

(B) the Commonwealth of Puerto Rico; and

(C) any other territory or possession of the United States.

(10) VALUE-ADDED.—The term ''value-added'' means, with respect to an activity, an activity that changes the form, fit, or function of a product, service, raw material, or physical good such that the resultant market price is greater than the cost of making the changes.

(11) WORKING GROUP.—The term ''Working Group'' means the Critical Minerals Working Group established under section 104(a).

TITLE I—DESIGNATIONS AND POLICIES

SEC. 101. DESIGNATIONS.

(a) DRAFT METHODOLOGY.—Not later than 30 days after the date of enactment of this Act, the Secretary shall publish in the Federal Register for public comment a draft methodology for determining which minerals qualify as critical minerals based on an assessment of whether the minerals are—

(1) subject to potential supply restrictions (including restrictions associated with foreign political risk, abrupt demand growth, military conflict, and anti-competitive or protectionist behaviors); and

(2) important in use (including clean energy technology-, defense-, and health care-related applications).

(b) AVAILABILITY OF DATA.—If available data is insufficient to provide a quantitative basis for the methodology developed under this section, qualitative evidence may be used.

(c) REVIEW OF METHODOLOGY.—After reviewing public comments on the draft methodology under subsection (a) and updating that draft methodology as appropriate, the Secretary shall enter into an arrangement with the National Academy of Sciences and the National Acad-

emy of Engineering to obtain, not later than 120 days after the date of enactment of this Act—

(1) a review of the methodology; and

(2) recommendations for improving the methodology.

(d) FINAL METHODOLOGY.—After reviewing the recommendations under subsection (c), not later than 150 days after the date of enactment of this Act, the Secretary shall publish in the Federal Register a description of the final methodology for determining which minerals qualify as critical minerals.

(e) DESIGNATIONS.—Not later than 180 days after the date of enactment of this Act, the Secretary shall publish in the Federal Register a list of minerals designated as critical, pursuant to the final methodology under subsection (d), for purposes of carrying out this Act.

(f) SUBSEQUENT REVIEW.—The methodology and designations developed under subsections (d) and (e) shall be updated at least every 5 years, or in more regular intervals if considered appropriate by the Secretary.

(g) NOTICE.—On finalization of the methodology under subsection (d), the list under subsection (e), or any update to the list under subsection (f), the Secretary shall submit to the applicable committees written notice of the action.

SEC. 102. POLICY.

(a) POLICY.—It is the policy of the United States to promote an adequate, reliable, domestic, and stable supply of critical minerals, produced in an environmentally responsible manner, in order to strengthen and sustain the economic security, and the manufacturing, industrial, energy, technological, and competitive stature, of the United States.

(b) COORDINATION.—The President, acting through the Executive Office of the President, shall coordinate the actions of Federal agencies under this and other Acts—

(1) to encourage Federal agencies to facilitate the availability, development, and environmentally responsible production of domestic resources to meet national critical minerals needs;

(2) to minimize duplication, needless paperwork, and delays in the administration of applicable laws (including regulations) and the issuance of permits and authorizations necessary to explore for, develop, and produce critical minerals and construct and operate critical mineral manufacturing facilities in an environmentally responsible manner;

(3) to promote the development of economically stable and environmentally responsible domestic critical mineral production and manufacturing;

(4) to establish an analytical and forecasting capability for identifying critical mineral demand, supply, and other market dynamics relevant to policy formulation such that informed actions can be taken to avoid supply shortages, mitigate price volatility, and prepare for demand growth and other market shifts;

(5) to strengthen educational and research capabilities and workforce training;

(6) to bolster international cooperation through technology transfer, information sharing, and other means;

(7) to promote the efficient production, use, and recycling of critical minerals;

(8) to develop alternatives to critical minerals; and

(9) to establish contingencies for the production of, or access to, critical minerals for which viable sources do not exist within the United States.

SEC. 103. RESOURCE ASSESSMENT.

(a) IN GENERAL.—Not later than 4 years after the date of enactment of this Act, in consultation with applicable State (including geological surveys), local, academic, industry, and other entities, the Secretary shall complete

a comprehensive national assessment of each critical mineral that—

(1) identifies and quantifies known critical mineral resources, using all available public and private information and datasets, including exploration histories;

(2) estimates the cost of production of the critical mineral resources identified and quantified under this section, using all available public and private information and datasets, including exploration histories;

(3) provides a quantitative and qualitative assessment of undiscovered critical mineral resources throughout the United States, including probability estimates of tonnage and grade, using all available public and private information and datasets, including exploration histories;

(4) provides qualitative information on the environmental attributes of the critical mineral resources identified under this section; and

(5) pays particular attention to the identification and quantification of critical mineral resources on Federal land that is open to location and entry for exploration, development, and other uses.

(b) FIELD WORK.—If existing information and datasets prove insufficient to complete the assessment under this section and there is no reasonable opportunity to obtain the information and datasets from nongovernmental entities, the Secretary may carry out field work (including drilling, remote sensing, geophysical surveys, geological mapping, and geochemical sampling and analysis) to supplement existing information and datasets available for determining the existence of critical minerals on—

(1) Federal land that is open to location and entry for exploration, development, and other uses;

(2) Indian tribe land, at the request and with the written permission of the Indian tribe; and

(3) State land, at the request and with the written permission of the Governor of a State.

(c) TECHNICAL ASSISTANCE.—At the request of the Governor of a State or an Indian tribe, the Secretary may provide technical assistance to State governments and Indian tribes conducting critical mineral resource assessments on non-Federal land.

(d) FINANCIAL ASSISTANCE.—The Secretary may make grants to State governments, or Indian tribes and economic development entities of Indian tribes, to cover

the costs associated with assessments of critical mineral resources on State or Indian tribe land.

(e) REPORT.—Not later than 4 years after the date of enactment of this Act, the Secretary shall submit to the applicable committees a report describing the results of the assessment conducted under this section.

(f) PRIORITIZATION.—

(1) IN GENERAL.—The Secretary may sequence the completion of resource assessments for each critical mineral such that critical materials considered to be most critical under the methodology established pursuant to section 101 are completed first.

(2) REPORTING.—If the Secretary sequences the completion of resource assessments for each critical material, the Secretary shall submit a report under subsection (e) on an iterative basis over the 4-year period beginning on the date of enactment of this Act.

(g) UPDATES.—The Secretary shall periodically update the assessment conducted under this section based on—

(1) the generation of new information or datasets by the Federal government; or

(2) the receipt of new information or datasets from critical mineral producers, State geological sur-

veys, academic institutions, trade associations, or other entities or individuals.

SEC. 104. PERMITTING.

(a) CRITICAL MINERALS WORKING GROUP.—

(1) IN GENERAL.—There is established within the Department of the Interior a working group to be known as the ''Critical Minerals Working Group'', which shall report to the President and Congress through the Secretary.

(2) COMPOSITION.—The Working Group shall be composed of the following:

(A) The Secretary of the Interior (or a designee), who shall serve as chair of the Working Group.

(B) A Presidential designee from the Executive Office of the President, who shall serve as vice-chair of the Working Group.

(C) The Secretary of Energy (or a designee).

(D) The Secretary of Agriculture (or a designee).

(E) The Secretary of Defense (or a designee).

(F) The Secretary of Commerce (or a designee).

(G) The Secretary of State (or a designee).

(H) The United States Trade Representative (or a designee).

(I) The Administrator of the Environmental Protection Agency (or a designee).

(J) The Chief of Engineers of the Corps of Engineers (or a designee).

(b) CONSULTATION.—The Working Group shall operate in consultation with private sector, academic, and other applicable stakeholders with experience related to—

(1) critical minerals exploration;

(2) critical minerals permitting;

(3) critical minerals production; and

(4) critical minerals manufacturing.

(c) DUTIES.—The Working Group shall—

(1) facilitate Federal agency efforts to optimize efficiencies associated with the permitting of activities that will increase exploration and development of domestic, critical minerals, while maintaining environmental standards;

(2) facilitate Federal agency review of laws (including regulations) and policies that discourage investment in exploration and development of domestic, critical minerals;

(3) assess whether Federal policies adversely impact the global competitiveness of the domestic, critical minerals exploration and development sector (including taxes, fees, regulatory burdens, and access restrictions);

(4) evaluate the sufficiency of existing mechanisms for the provision of tenure on Federal land and the role of the mechanisms in attracting capital investment for the exploration and development of domestic, critical minerals; and

(5) generate such other information and take such other actions as the Working Group considers appropriate to achieve the policy described in section 102(a).

(d) REPORT.—Not later than 300 days after the date of enactment of this Act, the Working Group shall submit to the applicable committees a report that—

(1) describes the results of actions taken under subsection (c);

(2) evaluates the amount of time typically required (including range derived from minimum and maximum durations, mean, median, variance, and other statistical measures or representations) to complete each step (including those aspects outside the control of the executive branch of the Federal

Government, such as judicial review, applicant decisions, or State and local government involvement) associated with the processing of applications, operating plans, leases, licenses, permits, and other use authorizations for critical mineral-related activities on Federal land, which shall serve as a baseline for the performance metric developed and finalized under subsections (e) and (f), respectively;

(3) identifies measures (including regulatory changes and legislative proposals) that would optimize efficiencies, while maintaining environmental standards, associated with the permitting of activities that will increase exploration and development of domestic, critical minerals; and

(4) identifies options (including cost recovery paid by applicants) for ensuring adequate staffing of divisions, field offices, or other entities responsible for the consideration of applications, operating plans, leases, licenses, permits, and other use authorizations for critical mineral-related activities on Federal land.

(e) DRAFT PERFORMANCE METRIC.—Not later than 330 days after the date of enactment of this Act, and upon completion of the report required under subsection (d), the Working Group shall publish in the Federal Register for

public comment a draft description of a performance metric for evaluating the progress made by the executive branch of the Federal Government on matters within the control of that branch towards optimizing efficiencies, while maintaining environmental standards, associated with the permitting of activities that will increase exploration and development of domestic, critical minerals (referred to in this section as the ''performance metric'').

(f) FINAL PERFORMANCE METRIC.—Not later than 1 year after the date of enactment of this Act, and after consideration of public comments received pursuant to subsection (e), the Working Group shall publish in the Federal Register a description of the final performance metric.

(g) ANNUAL REPORT.—Not later than 2 years after the date of enactment of this Act, using the performance metric under subsection (f), and annually thereafter, the Working Group shall submit to the applicable committees, as part of the budget request of the Department of the Interior for each fiscal year, each report that—

(1) describes the progress made by the executive branch of the Federal Government on matters within the control of that branch towards optimizing efficiencies, while maintaining environmental standards, associated with the permitting of activities that

will increase exploration and development of domestic, critical minerals; and

(2) compares the United States to other countries in terms of permitting efficiency, environmental standards, and other criteria relevant to a globally competitive economic sector.

(h) REPORT OF SMALL BUSINESS ADMINISTRATION.—Not later than 300 days after the date of enactment of this Act, the Administrator of the Small Business Administration shall submit to the applicable committees a report that assesses the performance of Federal agencies in—

(1) complying with chapter 6 of title 5, United States Code (commonly known as the ''Regulatory Flexibility Act''), in promulgating regulations applicable to the critical minerals industry; and

(2) performing an analysis of regulations applicable to the critical minerals industry that may be outmoded, inefficient, duplicative, or excessively burdensome.

(i) JUDICIAL REVIEW.—

(1) IN GENERAL.—Nothing in this section affects any judicial review of an agency action under any other provision of law.

(2) CONSTRUCTION.—This section—

(A) is intended to improve the internal management of the Federal Government; and

(B) does not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States (including an agency, instrumentality, officer, or employee thereof) or any other person.

SEC. 105. MANUFACTURING.

(a) AGREEMENT.—At the request of the Governor of a State, the President (or a designee) may enter into a cooperative agreement with the State for the processing of permits for critical mineral manufacturing facilities (including those related to wind, solar, and geothermal energy, efficient lighting, electrical superconducting materials, permanent magnet motors, and batteries and other energy storage devices) under which each party to the agreement identifies steps, including timelines, that the party will take to optimize efficiencies, while maintaining environmental standards, associated with the environmental review and consideration of Federal and State permits for a new critical mineral manufacturing facility.

(b) AUTHORITY UNDER AGREEMENT.—In carrying out this section, the President may—

(1) accept from an applicant a consolidated application for all permits required by the Federal

Government, to the extent consistent with other applicable law;

(2) facilitate memoranda of agreement between Federal agencies to coordinate consideration of applications and permits among Federal agencies; and

(3) enter into memoranda of agreement with a State, under which Federal and State review of permit applications will be coordinated and concurrently considered, to the maximum extent practicable.

(c) STATE ASSISTANCE.—The President may provide technical, legal, or other assistance to State governments to facilitate State review of applications to build new critical mineral manufacturing facilities

(d) INCENTIVES FOR INNOVATIVE TECHNOLOGIES.—Section 1703(b) of the Energy Policy Act of 2005 (42 U.S.C. 16513(b)) is amended by adding at the end the following:

''(11) Critical mineral manufacturing related to the deployment of clean energy technologies (as defined in section 2 of the Critical Minerals Policy Act of 2011).''.

SEC. 106. RECYCLING AND ALTERNATIVES.

(a) ESTABLISHMENT.—The Secretary of Energy shall conduct a program of research and development to

promote the efficient production, use, and recycling of, and alternatives to, critical minerals.

(b) COOPERATION.—In carrying out the program, the Secretary of Energy shall cooperate with appropriate—

(1) Federal agencies and National Laboratories;

(2) critical mineral producers;

(3) critical mineral manufacturers;

(4) trade associations;

(5) academic institutions;

(6) small businesses; and

(7) other relevant entities or individuals.

(c) ACTIVITIES.—Under the program, the Secretary shall carry out activities that include the identification and development of—

(1) advanced critical mineral production or processing technologies that decrease the environmental impact, and costs of production, of such activities;

(2) techniques and practices that minimize or lead to more efficient use of critical minerals;

(3) techniques and practices that facilitate the recycling of critical minerals, including options for improving the rates of collection of post-consumer products containing critical minerals;

(4) commercial markets, advanced storage methods, energy applications, and other beneficial uses of critical minerals processing byproducts; and

(5) alternative minerals, metals, and materials, particularly those available in abundance within the United States and not subject to potential supply restrictions, that lessen the need for critical minerals.

(d) REPORT.—Not later than 2 years after the date of enactment of this Act and every 5 years thereafter, the Secretaries shall submit to the applicable committees a report summarizing the activities, findings, and progress of the program.

(e) INCENTIVES FOR INNOVATIVE TECHNOLOGIES.—Section 1703(b) of the Energy Policy Act of 2005 (42 U.S.C. 16513(b)) (as amended by section 106(d)) is amended by adding at the end the following:

''(12) Critical mineral recycling and alternatives related to clean energy technologies (as defined in section 2 of the Critical Minerals Policy Act of 2011).''.

SEC. 107. ANALYSIS AND FORECASTING.

(a) CAPABILITIES.—In order to evaluate existing critical mineral policies and inform future actions that may be taken to avoid supply shortages, mitigate price volatility, and prepare for demand growth and other market

shifts, the Secretary, in consultation with academic institutions, the Energy Information Administration, and others in order to maximize the application of existing competencies related to developing and maintaining computer-models and similar analytical tools, shall conduct and publish the results of an annual report that includes—

(1) as part of the annually published Mineral Commodity Summaries from the United States Geological Survey, a comprehensive review of critical mineral production, consumption, and recycling patterns, including—

(A) the quantity of each critical mineral domestically produced during the preceding year;

(B) the quantity of each critical mineral domestically consumed during the preceding year;

(C) market price data for each critical mineral;

(D) an assessment of—

(i) critical mineral requirements to meet the national security, energy, economic, industrial, technological, and other needs of the United States during the preceding year;

(ii) the reliance of the United States on foreign sources to meet those needs during the preceding year; and

(iii) the implications of any supply shortages, restrictions, or disruptions during the preceding year;

(E) the quantity of each critical mineral domestically recycled during the preceding year;

(F) the market penetration during the preceding year of alternatives to each critical mineral;

(G) a discussion of applicable international trends associated with the discovery, production, consumption, use, costs of production, prices, and recycling of each critical mineral as well as the development of alternatives to critical minerals; and

(H) such other data, analyses, and evaluations as the Secretary finds are necessary to achieve the purposes of this section; and

(2) a comprehensive forecast, entitled the ''Annual Critical Minerals Outlook'', of projected critical mineral production, consumption, and recycling patterns, including—

(A) the quantity of each critical mineral projected to be domestically produced over the subsequent 1-year, 5-year, and 10-year periods;

(B) the quantity of each critical mineral projected to be domestically consumed over the subsequent 1-year, 5-year, and 10-year periods;

(C) market price projections for each critical mineral, to the maximum extent practicable and based on the best available information;

(D) an assessment of—

(i) critical mineral requirements to meet projected national security, energy, economic, industrial, technological, and other needs of the United States;

(ii) the projected reliance of the United States on foreign sources to meet those needs; and

(iii) the projected implications of potential supply shortages, restrictions, or disruptions;

(E) the quantity of each critical mineral projected to be domestically recycled over the subsequent 1-year, 5-year, and 10-year periods;

(F) the market penetration of alternatives to each critical mineral projected to take place

over the subsequent 1-year, 5-year, and 10-year periods;

(G) a discussion of reasonably foreseeable international trends associated with the discovery, production, consumption, use, costs of production, prices, and recycling of each critical mineral as well as the development of alternatives to critical minerals; and

(H) such other projections relating to each critical mineral as the Secretary determines to be necessary to achieve the purposes of this section.

(b) PROPRIETARY INFORMATION.—In preparing a report described in subsection (a), the Secretary shall ensure that—

(1) no person uses the information and data collected for the report for a purpose other than the development of or reporting of aggregate data in a manner such that the identity of the person who supplied the information is not discernible and is not material to the intended uses of the information;

(2) no person discloses any information or data collected for the report unless the information or data has been transformed into a statistical or ag-

gregate form that does not allow the identification of the person who supplied particular information; and

(3) procedures are established to require the withholding of any information or data collected for the report if the Secretary determines that withholding is necessary to protect proprietary information, including any trade secrets or other confidential information.

SEC. 108. EDUCATION AND WORKFORCE.

(a) WORKFORCE ASSESSMENT.—Not later than 300 days after the date of enactment of this Act, the Secretary of Labor (in consultation with the Secretary of the Interior, the Director of the National Science Foundation, and employers in the critical minerals sector) shall submit to Congress an assessment of the domestic availability of technically trained personnel necessary for critical mineral assessment, production, manufacturing, recycling, analysis, forecasting, education, and research, including an analysis of—

(1) skills that are in the shortest supply as of the date of the assessment;

(2) skills that are projected to be in short supply in the future;

(3) the demographics of the critical minerals industry and how the demographics will evolve under the influence of factors such as an aging workforce;

(4) the effectiveness of training and education programs in addressing skills shortages;

(5) opportunities to hire locally for new and existing critical mineral activities;

(6) the sufficiency of personnel within relevant areas of the Federal Government for achieving the policy described in section 102(a); and

(7) the potential need for new training programs to have a measurable effect on the supply of trained workers in the critical minerals industry.

(b) CURRICULUM STUDY.—

(1) IN GENERAL.—The Secretary and the Secretary of Labor shall jointly enter into an arrangement with the National Academy of Sciences and the National Academy of Engineering under which the Academies shall coordinate with the National Science Foundation on conducting a study—

(A) to design an interdisciplinary program on critical minerals that will support the critical mineral supply chain and improve the ability of the United States to increase domestic, critical

mineral exploration, development, and manufacturing;

(B) to address undergraduate and graduate education, especially to assist in the development of graduate level programs of research and instruction that lead to advanced degrees with an emphasis on the critical mineral supply chain or other positions that will increase domestic, critical mineral exploration, development, and manufacturing;

(C) to develop guidelines for proposals from institutions of higher education with substantial capabilities in the required disciplines to improve the critical mineral supply chain and advance the capacity of the United States to increase domestic, critical mineral exploration, development, and manufacturing; and

(D) to outline criteria for evaluating performance and recommendations for the amount of funding that will be necessary to establish and carry out the grant program described in subsection (c).

(2) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall

submit to Congress a description of the results of the study required under paragraph (1).

(c) GRANT PROGRAM.—

(1) ESTABLISHMENT.—The Secretary and the National Science Foundation shall jointly conduct a competitive grant program under which institutions of higher education may apply for and receive 4-year grants for—

(A) startup costs for newly designated faculty positions in integrated critical mineral education, research, innovation, training, and workforce development programs consistent with subsection (b);

(B) internships, scholarships, and fellowships for students enrolled in critical mineral programs; and

(C) equipment necessary for integrated critical mineral innovation, training, and workforce development programs.

(2) RENEWAL.—A grant under this subsection shall be renewable for up to 2 additional 3-year terms based on performance criteria outlined under subsection (b)(1)(D).

SEC. 109. INTERNATIONAL COOPERATION.

(a) ESTABLISHMENT.—The Secretary of State, in coordination with the Secretary, shall carry out a program to promote international cooperation on critical mineral supply chain issues with allies of the United States.

(b) ACTIVITIES.—Under the program, the Secretary may work with allies of the United States—

(1) to increase the global, responsible production of critical minerals, if a determination is made by the Secretary that there is no viable production capacity for the critical minerals within the United States;

(2) to improve the efficiency and environmental performance of extraction techniques;

(3) to increase the recycling of, and deployment of alternatives to, critical minerals;

(4) to assist in the development and transfer of critical mineral extraction, processing, and manufacturing technologies that would have a beneficial impact on world commodity markets and the environment;

(5) to strengthen and maintain intellectual property protections; and

(6) to facilitate the collection of information necessary for analyses and forecasts conducted pursuant to section 107.

TITLE II—MINERAL-SPECIFIC ACTIONS

SEC. 201. ADMINISTRATION.

Nothing in this title or an amendment made by this title affects the methodology or designations established under section 101.

SEC. 202. COBALT.

(a) AUTHORIZATION.—The Secretary shall support research programs that focus on novel uses for cobalt (including energy technologies and super-alloys), including—

(1) use in clean energy technologies (including, for purposes of this section, rechargeable batteries, catalysts, photovoltaic cells, permanent magnets, and fuel cells);

(2) use in alloys with military equipment, civil aviation, and electricity generation applications; and

(3) use as coal-to-gas and coal-to-liquid catalysts.

(b) CATEGORIES.—Research under this section shall be conducted in—

(1) a fundamental category, including laboratory and literature research; and

(2) an applied category, including plant and field research.

(c) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall submit to the applicable committees a report describing—

(1) the research programs carried out under this section;

(2) the findings of the programs; and

(3) future research efforts planned.

SEC. 203. HELIUM.

(a) INCENTIVES FOR INNOVATIVE TECHNOLOGIES.—Section 1703(b) of the Energy Policy Act of 2005 (42 U.S.C. 16513(b)) (as amended by section 106(e)) is amended by adding at the end the following:

''(13) Helium projects.''.

(b) RESOURCE ASSESSMENT.—The Secretary of the Interior shall update existing resource information for helium in accordance with section 211.

SEC. 204. LEAD.

(a) IN GENERAL.—The Secretary shall support research programs that focus on advanced lead manufacturing processes, including programs that—

(1) contribute to the establishment of a secure, domestic supply of lead;

(2) produce technologies that represent an environmental improvement compared to conventional production processes; or

(3) produce technologies that attain a higher efficiency level compared to conventional production processes.

(b) COORDINATION.—In carrying out the programs under subsection (a), the Secretary shall coordinate with other entities to promote the development of environmentally responsible lead manufacturing, including—

(1) other Federal agencies;

(2) States with affected interests;

(3) manufacturers;

(4) clean energy technology manufacturers, including producers of batteries and other energy storage technologies; and

(5) any others considered appropriate by the Secretary.

SEC. 205. LITHIUM.

Subtitle E of title VI of the Energy Independence and Security Act of 2007 (42 U.S.C. 17241 et seq.) is amended by adding at the end the following:

"SEC. 657. GRANTS FOR LITHIUM PRODUCTION RESEARCH AND DEVELOPMENT.

''(a) DEFINITION OF ELIGIBLE ENTITY.—In this section, the term 'eligible entity' means—

''(1) a private partnership or other entity that is—

''(A) organized in accordance with Federal law; and

''(B) engaged in lithium production for use in advanced battery technologies;

''(2) a public entity, such as a State, tribal, or local governmental entity; or

''(3) a consortium of entities described in paragraphs (1) and (2).

''(b) GRANTS.—The Secretary shall provide grants to eligible entities for research, development, demonstration, and commercial application of domestic industrial processes that are designed to enhance domestic lithium production for use in advanced battery technologies, as determined by the Secretary.

''(c) USE.—An eligible entity shall use a grant provided under this section to develop or enhance—

''(1) domestic industrial processes that increase lithium production, processing, or recycling for use in advanced lithium batteries; or

''(2) industrial processes associated with new formulations of lithium feedstock for use in advanced lithium batteries.''.

SEC. 206. LOW-BTU GAS.

(a) DEFINITION OF LOW-BTU GAS.—In this section, the term ''low-Btu gas'' means a fuel gas with a heating

value of less than 250 Btu per cubic foot measured as the higher heating value resulting from the inclusion of noncombustible gases, including nitrogen, helium, argon, and carbon dioxide.

(b) AUTHORIZATION.—The Secretary shall support programs of research, development, commercial application, and conservation to expand the domestic production of low-Btu gas and helium resources, including the programs described in subsection (c).

(c) PROGRAMS.—

(1) MEMBRANE TECHNOLOGY RESEARCH.—The Secretary, in consultation with appropriate agencies, shall support a civilian research program to develop advanced membrane technology that is used in the separation of gases from applications, including technologies that—

(A) remove constituent gases that lower the Btu content of natural gas; or

(B) remove gases from landfills and separate out methane.

(2) HELIUM SEPARATION TECHNOLOGY.—The Secretary shall support a research program to develop technologies for separating, gathering, and processing helium in low concentrations that occur

naturally in geologic reservoirs or formations, including low-Btu gas production streams.

(3) INDUSTRIAL HELIUM PROGRAM.—The Secretary, working through the Industrial Technologies Program of the Department of Energy, shall support a research program—

(A) to develop technologies for recycling, reprocessing, and reusing helium; and

(B) to develop industrial gathering technologies to capture helium from other chemical processing, including ammonia processing.

(d) INCENTIVES FOR INNOVATIVE TECHNOLOGIES.—Section 1703(b) of the Energy Policy Act of 2005 (42 U.S.C. 16513(b)) (as amended by section 203(a)) is amended by adding at the end the following:

''(14) Projects promoting low-Btu gas (as defined in section 206(a) of the Critical Minerals Policy Act of 2011).''.

SEC. 207. PHOSPHATE.

The Secretary of the Interior shall update existing resource information for phosphate in accordance with section 211.

SEC. 208. POTASH.

The Secretary of the Interior shall update existing resource information for potash in accordance with section 211.

SEC. 209. RARE EARTH ELEMENTS.

The Secretary of the Interior shall update existing resource information for rare earth elements in accordance with section 211.

SEC. 210. THORIUM.

(a) STUDY.—The Secretary, in consultation with the Nuclear Regulatory Commission, shall conduct a study on the technical, economic, and policy issues (including nonproliferation) associated with establishing a licensing pathway for the complete thorium nuclear fuel cycle (including mining, milling, processing, fabrication, reactors, disposal, and decommissioning) that—

(1) identifies the gaps in the technical knowledge that could lead to a licensing pathway; and

(2) considers technologies and applications for any thorium byproducts of critical mineral production or processing.

(b) COOPERATION.—In conducting the study under subsection (a), the Secretary shall cooperate with appropriate—

(1) trade associations;

(2) equipment manufacturers;

(3) National Laboratories;

(4) institutions of higher education; and

(5) other applicable entities.

(c) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall submit to the applicable committees a report summarizing the findings of the study.

SEC. 211. UPDATED RESOURCE INFORMATION.

(a) RESOURCES.—Not later than 21 months after the date of enactment of this Act, the Secretary of the Interior shall complete an update of existing resource information for helium, phosphate, potash, and rare earth elements.

(b) CONSULTATION.—In updating resource information under this section, the Secretary of the Interior shall consult with—

(1) the heads of appropriate State geological surveys;

(2) mineral producers;

(3) mineral processors;

(4) trade associations;

(5) academic institutions; and

(6) such other entities or individuals as the Secretary of the Interior considers appropriate.

(c) LIMITATION.—

(1) IN GENERAL.—Resource information updates carried out pursuant to this section shall be limited to collection of existing information.

(2) ADMINISTRATION.—If any mineral covered by this section is designated as a critical mineral under section 101, this section shall not apply.

(d) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary of the Interior shall submit to the applicable committees written notification certifying that the resource information for helium, phosphate, potash, and rare earth elements is up-to-date.

TITLE III—MISCELLANEOUS

SEC. 301. OFFSETS.

(a) IN GENERAL.—The following Acts are repealed:

(1) The National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1601 et seq.), other than subsections (e) and (f) of section 5 of that Act (30 U.S.C. 1604).

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

(b) CONFORMING AMENDMENT.—Section 3(d) of the National Superconductivity and Competitiveness Act of 1988 (15 U.S.C. 5202(d)) is amended in the first sentence by striking ", with the assistance of the National Critical

Materials Council as specified in the National Critical Materials Act of 1984 (30 U.S.C. 1801 et seq.),''.

SEC. 302. ADMINISTRATION.

Nothing in this Act or an amendment made by this Act modifies any requirement or authority provided by the matter under the heading ''GEOLOGICAL SURVEY'' of the first section of the Act of March 3, 1879 (43 U.S.C. 31(a)).

SEC. 303. AUTHORIZATION OF APPROPRIATIONS.

There is authorized to be appropriated to carry out this Act and the amendments made by this Act $106,000,000, of which—

(1) $1,000,000 shall be used to carry out section 101, to remain available until expended;

(2) $20,000,000 shall be used to carry out section 103, to remain available until expended;

(3) $5,000,000 shall be used to carry out section 104, to remain available until expended;

(4) $1,500,000 for each of fiscal years 2011 through 2016 shall be used to carry out section 106 and the amendment made by that section, to remain available until expended;

(5)(A) $2,000,000 for each of fiscal years 2011 and 2012 shall be used to carry out section 107, to remain available until expended; and

(B) $1,000,000 for each of fiscal years 2013 through 2016 shall be used to carry out section 107;

(6) $5,000,000 for each of fiscal years 2011 through 2016 shall be used to carry out section 108, to remain available until expended;

(7) $1,500,000 for each of fiscal years 2011 through 2016 shall be used to carry out section 109, to remain available until expended;

(8) $1,000,000 for each of fiscal years 2011 through 2014 shall be used to carry out sections 202, 204, 205, 206, and 210 and the amendments made by those sections; and

(9) $4,000,000 shall be used to carry out section 211, to remain available until expended.

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