Purpose: In the nature of a substitute.

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.

Referred to the Committee on _____ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE INTENDED TO BE PROPOSED BY _____

Viz:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) Short Title.—This Act may be cited as the “Critical Minerals Policy Act of 2012”.

(b) Table of Contents.—The table of contents of this Act is as follows:

SEC. 2. DEFINITIONS.

In this Act:

(1) 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.

(2) 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—

(i) fuel minerals, including oil, natural gas, or any other fossil fuels; or

(ii) water, ice, or snow.

(C) ADMINISTRATION.—For purposes of section 101(d)(2), all rare earth elements shall be considered 1 critical mineral.

(3) 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 equipment, components, or other goods with clean energy technology-, defense-, agriculture-, consumer electronics-, or health care-related applications; or

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

(4) 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).

(5) MILITARY EQUIPMENT.—The term "military equipment" means equipment used directly by the Armed Forces to carry out military operations.

(6) 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).

(7) SECRETARY.—

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

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

(8) STATE.—The term "State" means—

(A) a State;

(B) the District of Columbia;

(C) the Commonwealth of Puerto Rico;

(D) Guam.

(E) American Samoa;

(F) the Commonwealth of the Northern Mariana Islands; and

(G) the United States Virgin Islands.

TITLE I—DESIGNATIONS AND POLICIES

SEC. 101. DESIGNATIONS.

(a) Draft Methodology.—Not later than 90 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-, agriculture-, consumer electronics-, 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) Final Methodology.—After reviewing public comments on the draft methodology under subsection (a) and updating the draft methodology as appropriate, not later than 270 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.

(d) Designations.—

(1) IN GENERAL.—Subject to paragraph (2), not later than 1 year 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 (c), for purposes of carrying out this title.

(2) LIMITATION.—In carrying out this title, subject to section 2(2)(C), the Secretary may designate as critical minerals not more than 10 minerals.

(e) Subsequent Review.—

(1) IN GENERAL.—The Secretary shall review the methodology and designations under subsections (c) and (d) at least every 5 years, or more frequently if considered appropriate by the Secretary.

(2) REVISIONS.—Subject to subsection (d)(2), the Secretary may—

(A) revise the methodology described in paragraph (1);

(B) determine that minerals previously determined to be critical minerals are no longer critical minerals; and

(C) designate additional minerals as critical minerals.

(f) Notice.—On finalization of the methodology under subsection (c), the list under subsection (d), or any update to the list under subsection (e), the Secretary shall submit to Congress written notice of the action.

SEC. 102. POLICY.

(a) In General.—Section 3 of the National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1602) is amended in the second sentence—

(1) by striking paragraph (3) and inserting the following:

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

(2) in paragraph (6), by striking "and" after the semicolon at the end;

(3) in paragraph (7), by striking the period at the end and inserting a semicolon; and

(4) by adding at the end the following:

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

"(9) avoid duplication of effort, prevent needless paperwork, and minimize 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 to construct critical mineral manufacturing facilities in accordance with applicable environmental laws;

"(10) strengthen educational and research capabilities and workforce training;

"(11) bolster international cooperation through technology transfer, information sharing, and other means;

"(12) promote the efficient production, use, and recycling of critical minerals;

"(13) develop alternatives to critical minerals; and

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

(b) Conforming Amendment.—Section 2(b) of the National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1601(b)) is amended by striking "(b) As used in this Act, the term" and inserting the following:

"(b) Definitions.—In this Act:

"(1) CRITICAL MINERAL.—The term 'critical mineral' means any mineral designated as a critical mineral pursuant to section 101 of the Critical Minerals Policy Act of 2012.

"(2) MATERIALS.—The term".

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, using established resource assessment methodologies and authorities of the United States Geological Survey, 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 on land available for mineral production, including probability estimates of tonnage and grade, using all available public and private information and datasets, including exploration histories; and

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

(b) Supplementary Information.—In carrying out this section, the Secretary (acting through the Director of the United States Geological Survey) may carry out field work (including drilling, remote sensing, geophysical surveys, geological mapping, hyperspectral imaging, and geochemical sampling and analysis) that is necessary or appropriate to supplement existing information and datasets available for determining the existence of critical minerals in the United States.

(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) Report.—Not later than 4 years and 60 days after the date of enactment of this Act, the Secretary shall submit to Congress a report describing the results of the assessment conducted under this section.

(e) 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 (d) on an interim basis over the 4-year and 60-day period beginning on the date of enactment of this Act.

(f) 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 surveys, academic institutions, trade associations, or other entities or individuals.

SEC. 104. STUDY.

(a) In General.—The Secretary shall enter into an arrangement with the National Academy of Sciences (referred to in this section as the "Academy") under which the Academy shall—

(1) conduct a study of using a life cycle approach to critical mineral analysis and management through the examination of not less than 3, and not more than 5, minerals or groups of minerals as examples; and

(2) not later than 2 years after the date of enactment of this Act, submit to Congress and the Secretary a report on the results of the study, including any recommendations.

(b) Minerals.—In selecting minerals for examination under this section, the Academy—

(1) shall select minerals that represent a range of needs in critical defense, energy, infrastructure, and telecommunications technologies; and

(2) may base the selection on factors such as—

(A) large-scale primary production from highly concentrated ores;

(B) large-scale primary production or coproduction from low-concentration ores; and

(C) minerals recovered as byproducts.

(c) Components.—

(1) IN GENERAL.—The Academy shall study—

(A) advanced technologies for mineral exploration, extraction, processing, and reclamation, including an examination of technologies for—

(i) exploration for new mineral resources;

(ii) in-situ, underground, and surface mining;

(iii) remining, reprocessing, or reopening of existing or abandoned mines and mine-related facilities; and

(iv) recycling;

(B) the comparative and potential impact of activities described in subparagraph (A) on the environment and human health, if undertaken in compliance with—

(i) applicable laws (including regulations) of the United States; and

(ii) applicable laws (including regulations) of a representative sample of other countries with active mining or related manufacturing industries;

(C) the degree to which new technology developments can incorporate—

(i) increased measures of worker safety; or

(ii) improved environmental performance;

(D) the degree to which new technology developments can lower the costs of exploration, extraction, production, processing, or recycling;

(E) relevant technologies from other industries, including the petroleum, medical, and transportation industries;

(F) necessary research and data collection to support exploration, extraction, processing, and recycling;

(G) the use of energy and water in extraction, processing, and recycling;

(H) incentives for research on advanced technologies described in this paragraph; and

(I) as appropriate, a comparison of the practices and policies in the United States and other relevant countries with regard to any of the factors described in subparagraphs (A) through (H).

(2) BASELINE CONDITIONS.—The Academy shall study advanced approaches for establishing baseline conditions for land, surface, and ground water, and ecological systems and for monitoring mine sites before, during, and after mine operation, and through the period of post-closure management of mine sites, including an examination of—

(A) key datasets required and gaps in knowledge, including the potential effect on biota and water;

(B) the geochemistry of mine wastes and water; and

(C) best practices for—

(i) mine reclamation;

(ii) reuse and recycling; and

(iii) long-term care and maintenance.

(3) REGULATORY FRAMEWORK.—The Academy shall provide an update of the 1999 report of the Academy entitled "Hardrock Mining on Federal Lands," prepared pursuant to section 120 of the Department of the Interior and Related Agencies Appropriations Act, 1999 (Public Law 105–277; 112 Stat. 2681–257), including an examination of—

(A) regulatory changes implemented since 1999 and the extent to which the changes address recommendations made in the report; and

(B) additional steps that can be taken—

(i) to reduce the quantity of time required to reach final decisions on applications, operating plans, leases, licenses, permits, and other use authorizations for mining activities on Federal land; and

(ii) to prevent unnecessary or undue degradation of Federal land.

(4) LIFE CYCLE.—The Academy shall conduct an analysis of the life cycle from the time a mineral is first explored through extraction and subsequent processing for incorporation and use in manufactured products, including an examination of—

(A) key datasets and information used or needed by the Federal Government;

(B) signals at different points in the supply chain that might be used to anticipate supply chain pinch points;

(C) Federal responsibilities along different parts of the supply chain to identify the appropriate information required to address pinch points; and

(D) the potential for recyclability.

SEC. 105. AGENCY REVIEW AND REPORTS.

(a) Performance Improvements.—To significantly reduce the aggregate time required to make decisions in the permitting and review of critical mineral projects by the Federal Government, while improving environmental and community outcomes, the Secretary (acting through the

Director of the Bureau of Land Management) and the Secretary of Agriculture (acting through the Chief of the Forest Service) (referred to in this section as the "Secretaries") shall—

(1) ensure that Federal permitting and review processes inform decisionmakers and affected communities about the potential benefits and impacts of proposed projects;

(2) ensure that projects are designed, built, and maintained in a manner that is consistent with protecting the public health, welfare, safety, national security, and environment of the United States; and

(3) take all steps within the authority of the Secretaries, consistent with available resources, to execute Federal permitting and review processes with maximum efficiency and effectiveness, ensuring the health, safety, and security of communities and the environment while supporting vital economic growth, by—

(A) setting and adhering to timelines and schedules for completion of reviews;

(B) setting clear permitting performance goals and tracking progress against those goals;

(C) encouraging early collaboration among agencies, project sponsors, and affected stakeholders to incorporate and address their interests and minimize delays;

(D) providing for transparency and accountability by using cost-effective information technology to collect and disseminate information about individual projects and agency performance;

(E) achieving early and active consultation with State, local, and tribal governments to avoid conflicts or duplication of effort, resolve concerns, and allow for concurrent rather than sequential reviews;

(F) integrating the elements under subparagraphs (A) through (E) into project planning processes so that projects are designed appropriately—

(i) to avoid, to the extent practicable, adverse impacts on public health, security, historic properties and other cultural resources, and the environment; and

(ii) to minimize or mitigate impacts that may occur;

(G) providing demonstrable improvements in the performance of Federal permitting and review processes, including lower costs, more timely decisions, and a healthier and cleaner environment;

(H) expanding and institutionalizing permitting and review process improvements that have proven effective;

(I) developing mechanisms to better communicate priorities and resolve disputes among agencies at the national and regional levels; and

(J) developing other practices, such as pre-application procedures.

(b) Review and Report.—Not later than 180 days after the date of receipt of the report of the study under section 104, the Secretaries shall submit to Congress a report that—

(1) describes the recommendations from the study under section 104 that the Secretaries have existing legal authority for and intend to implement, including estimated timelines for

the implementation;

(2) identifies additional measures (including regulatory and legislative proposals, as appropriate) that would increase the effectiveness and operational efficiency of agency management of permitting activities for the exploration and development of domestic critical minerals;

(3) identifies options (including cost recovery paid by applicants) for ensuring adequate staffing (including training programs) of Federal entities responsible for the consideration of applications, operating plans, leases, licenses, permits, and other use authorizations for critical mineral-related activities on Federal land;

(4) in coordination with the heads of other appropriate Federal agencies, assesses whether other Federal laws (including regulations and tax provisions) or policies are adversely affecting the global competitiveness of , or investment in, the domestic critical minerals industry, including the critical minerals manufacturing industry;

(5) evaluates the quantity of time typically required (including the 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 development and processing of applications, operating plans, leases, licenses, permits, and other use authorizations for critical mineral-related activities on Federal land; and

(6) describes actions taken pursuant to subsection (a).

(c) Annual Reports.—Beginning with the first budget submission by the President under section 1105 of title 31, United States Code, after submission to Congress of the report under subsection (b), and for the next 10 annual budget submissions thereafter, the Secretaries shall submit to Congress a report on—

(1) the implementation of recommendations, measures, and options identified in paragraphs (1) through (3) of subsection (b);

(2) achievement of, or progress towards, the target levels of performance developed under subsection (d); and

(3) actions taken under subsection (a).

(d) Metrics of Agency Performance.—

(1) ESTABLISHMENT.—Not later than 180 days after the date of the submission of the report under subsection (b), the Secretaries, after public notice and comment, shall develop and publish target levels of performance for agency management of activities associated with the exploration for and development of domestic critical minerals in accordance with applicable laws, against which actual achievement or progress can be compared, in—

(A) the timeliness of decisions, taking into consideration the evaluation described in subsection (b)(5); and

(B) cost savings.

(2) INCORPORATION IN ANNUAL PERFORMANCE PLANS.—The Secretaries shall use the

target levels of performance under paragraph (1) as performance goals in the appropriate agency performance plans under section 1115 of title 31, United States Code.

(e) Judicial Review.—

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

SEC. 106. RECYCLING AND EFFICIENCY.

(a) Establishment.—The Secretary of Energy shall conduct a program of research and development to promote the efficient production, use, and recycling of 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 of Energy shall carry out activities that include the identification and development of—

(1) advanced critical mineral extraction, production, separation, alloying, or processing technologies that decrease the energy consumption, environmental impact, and costs of those activities;

(2) technologies or process improvements that minimize the use, or lead to more efficient use, of critical minerals across the full supply chain;

(3) technologies, process improvements, or design optimizations that facilitate the recycling of critical minerals, and options for improving the rates of collection of products and scrap containing critical minerals from post-consumer, industrial, or other waste streams;

(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 3 years after the date of enactment of this Act, the Secretary of Energy shall submit to Congress a report summarizing the activities, findings, and progress of the program.

SEC. 107. ALTERNATIVES.

(a) Establishment.—The Secretary of Energy shall conduct a program of research, development, demonstration, and commercial application to promote the development of alternatives to critical minerals.

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

(1) Federal agencies (including 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.—To lessen the need for critical materials, the program under this section shall carry out activities that include the identification and development of—

(1) alternative minerals, metals, and materials used in clean energy technologies, particularly those that are available in abundance in the United States and are not subject to potential supply restrictions; and

(2) alternative clean energy technologies or alternative designs of existing clean energy technologies, particularly those that use materials in abundance in the United States and are not subject to potential supply restrictions.

(d) Report.—Not later than 3 years after the date of enactment of this Act, the Secretary of Energy shall submit to Congress a report summarizing the activities, findings, and progress of the program under this section.

SEC. 108. 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, consistent with section 5(f) of the National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1604(f)), 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 aggregate 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. 109. EDUCATION AND WORKFORCE.

(a) Workforce Assessment.—Not later than 1 year and 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 policies described in section 3 of the National Materials and Minerals Policy, Research and Development Act of 1980 (30 U.S.C. 1602); 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. 110. 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 of State 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 of State 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 108.

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 Congress 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. 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. 204. 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. 205. 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.

SEC. 206. 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 Congress a report summarizing the findings of the study.

SEC. 207. UPDATED RESOURCE INFORMATION.

(a) Resources.—Not later than 1 year after the date of enactment of this Act, the Secretary of the Interior shall complete an update of existing resource information for 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 Congress written notification certifying that the resource information for phosphate and rare earth elements is up-to-date.

TITLE III—MISCELLANEOUS

SEC. 301. REPEAL; AUTHORIZATION OFFSET.

(a) Repeal.—

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

(2) 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.),".

(b) Authorization Offset.—Section 207(c) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17022(c)) is amended by inserting before the period at the end the following: ", except that the amount authorized to be appropriated to carry out this section not appropriated as of the date of enactment of the Critical Minerals Policy Act of 2012 shall be reduced by $60,000,000".

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 $60,000,000, of which—

(1) $2,000,000 may be used to carry out section 101, to remain available until expended;

(2) $20,000,000 may be used to carry out the amendment made by section 103, to remain available until expended;

(3) $2,000,000 may be used to carry out section 104, to remain available until expended;

(4) $4,000,000 may be used to carry out section 105, to remain available until expended;

(5) $1,000,000 for each of fiscal years 2013 through 2015 may be used to carry out sections 106 and 107, to remain available until expended;

(6)(A) $1,500,000 for each of fiscal years 2013 and 2014 may be used to carry out section 108, to remain available until expended; and

(B) $3,000,000 for fiscal year 2015 may be used to carry out section 108, to remain available until expended;

(7) $2,000,000 for each of fiscal years 2013 through 2015 may be used to carry out section 109, to remain available until expended;

(8) $500,000 for each of fiscal years 2013 through 2015 may be used to carry out section 110, to remain available until expended;

(9) $1,000,000 for each of fiscal years 2013 through 2015 may be used to carry out sections 202, 203, 204, and 205 and the amendment made by those sections; and

(10) $500,000 may be used to carry out section 206, to remain available until expended.