

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

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.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Critical Minerals Policy Act of 2011”.

1 (b) TABLE OF CONTENTS.—The table of contents of
 2 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.

3 **SEC. 2. DEFINITIONS.**

4 In this Act:

5 (1) APPLICABLE COMMITTEES.—The term “ap-
 6 plicable committees” means—

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

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

1 (C) the Committee on Energy and Com-
2 merce of the House of Representatives; and

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

5 (2) CLEAN ENERGY TECHNOLOGY.—The term
6 “clean energy technology” means a technology re-
7 lated to the production, use, transmission, storage,
8 control, or conservation of energy that—

9 (A) reduces the need for additional energy
10 supplies by using existing energy supplies with
11 greater efficiency or by transmitting, distrib-
12 uting, storing, or transporting energy with
13 greater effectiveness in or through the infra-
14 structure of the United States;

15 (B) diversifies the sources of energy supply
16 of the United States to strengthen energy secu-
17 rity and to increase supplies with a favorable
18 balance of environmental effects if the entire
19 technology system is considered; or

20 (C) contributes to a stabilization of atmos-
21 pheric greenhouse gas concentrations through
22 reduction, avoidance, or sequestration of en-
23 ergy-related greenhouse gas emissions.

24 (3) CRITICAL MINERAL.—

1 (A) IN GENERAL.—The term “critical min-
2 eral” means any mineral designated as a crit-
3 ical mineral pursuant to section 101.

4 (B) EXCLUSIONS.—The term “critical
5 mineral” does not include coal, oil, natural gas,
6 or any other fossil fuels.

7 (4) CRITICAL MINERAL MANUFACTURING.—The
8 term “critical mineral manufacturing” means—

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

13 (B) the fabrication, assembly, or produc-
14 tion, within the United States, of clean energy
15 technologies (including technologies related to
16 wind, solar, and geothermal energy, efficient
17 lighting, electrical superconducting materials,
18 permanent magnet motors, batteries, and other
19 energy storage devices), military equipment,
20 and consumer electronics, or components nec-
21 essary for applications; or

22 (C) any other value-added, manufacturing-
23 related use of critical minerals undertaken with-
24 in the United States.

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

5 (6) MILITARY EQUIPMENT.—The term “mili-
6 tary equipment” means equipment used directly by
7 the armed forces to carry out military operations.

8 (7) RARE EARTH ELEMENT.—

9 (A) IN GENERAL.—The term “rare earth
10 element” means the chemical elements in the
11 periodic table from lanthanum (atomic number
12 57) up to and including lutetium (atomic num-
13 ber 71).

14 (B) INCLUSIONS.—The term “rare earth
15 element” includes the similar chemical elements
16 yttrium (atomic number 39) and scandium
17 (atomic number 21).

18 (8) SECRETARY.—

19 (A) TITLE I.—In title I, the term “Sec-
20 retary” means the Secretary of the Interior—

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

23 (ii) in consultation with (as appro-
24 priate)—

25 (I) the Secretary of Energy;

- 1 (II) the Secretary of Defense;
2 (III) the Secretary of Commerce;
3 (IV) the Secretary of State;
4 (V) the Secretary of Agriculture;
5 (VI) the United States Trade
6 Representative; and
7 (VII) the heads of other applica-
8 ble Federal agencies.

9 (B) TITLE II.—In title II, the term “Sec-
10 retary” means the Secretary of Energy.

11 (9) STATE.—The term “State” means—

- 12 (A) a State;
13 (B) the Commonwealth of Puerto Rico;
14 and
15 (C) any other territory or possession of the
16 United States.

17 (10) VALUE-ADDED.—The term “value-added”
18 means, with respect to an activity, an activity that
19 changes the form, fit, or function of a product, serv-
20 ice, raw material, or physical good such that the re-
21 sultant market price is greater than the cost of mak-
22 ing the changes.

23 (11) WORKING GROUP.—The term “Working
24 Group” means the Critical Minerals Working Group
25 established under section 104(a).

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

3 (1) a review of the methodology; and

4 (2) recommendations for improving the method-
5 ology.

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

12 (e) DESIGNATIONS.—Not later than 180 days after
13 the date of enactment of this Act, the Secretary shall pub-
14 lish in the Federal Register a list of minerals designated
15 as critical, pursuant to the final methodology under sub-
16 section (d), for purposes of carrying out this Act.

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

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

1 **SEC. 102. POLICY.**

2 (a) **POLICY.**—It is the policy of the United States to
3 promote an adequate, reliable, domestic, and stable supply
4 of critical minerals, produced in an environmentally re-
5 sponsible manner, in order to strengthen and sustain the
6 economic security, and the manufacturing, industrial, en-
7 ergy, technological, and competitive stature, of the United
8 States.

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

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

16 (2) to minimize duplication, needless paper-
17 work, and delays in the administration of applicable
18 laws (including regulations) and the issuance of per-
19 mits and authorizations necessary to explore for, de-
20 velop, and produce critical minerals and construct
21 and operate critical mineral manufacturing facilities
22 in an environmentally responsible manner;

23 (3) to promote the development of economically
24 stable and environmentally responsible domestic crit-
25 ical mineral production and manufacturing;

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

8 (5) to strengthen educational and research ca-
9 pabilities and workforce training;

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

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

15 (8) to develop alternatives to critical minerals;
16 and

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

20 **SEC. 103. RESOURCE ASSESSMENT.**

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

1 a comprehensive national assessment of each critical min-
2 eral that—

3 (1) identifies and quantifies known critical min-
4 eral resources, using all available public and private
5 information and datasets, including exploration his-
6 tories;

7 (2) estimates the cost of production of the crit-
8 ical mineral resources identified and quantified
9 under this section, using all available public and pri-
10 vate information and datasets, including exploration
11 histories;

12 (3) provides a quantitative and qualitative as-
13 sessment of undiscovered critical mineral resources
14 throughout the United States, including probability
15 estimates of tonnage and grade, using all available
16 public and private information and datasets, includ-
17 ing exploration histories;

18 (4) provides qualitative information on the envi-
19 ronmental attributes of the critical mineral resources
20 identified under this section; and

21 (5) pays particular attention to the identifica-
22 tion and quantification of critical mineral resources
23 on Federal land that is open to location and entry
24 for exploration, development, and other uses.

1 (b) FIELD WORK.—If existing information and
2 datasets prove insufficient to complete the assessment
3 under this section and there is no reasonable opportunity
4 to obtain the information and datasets from nongovern-
5 mental entities, the Secretary may carry out field work
6 (including drilling, remote sensing, geophysical surveys,
7 geological mapping, and geochemical sampling and anal-
8 ysis) to supplement existing information and datasets
9 available for determining the existence of critical minerals
10 on—

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

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

15 (3) State land, at the request and with the writ-
16 ten permission of the Governor of a State.

17 (c) TECHNICAL ASSISTANCE.—At the request of the
18 Governor of a State or an Indian tribe, the Secretary may
19 provide technical assistance to State governments and In-
20 dian tribes conducting critical mineral resource assess-
21 ments on non-Federal land.

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

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

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

7 (f) PRIORITIZATION.—

8 (1) IN GENERAL.—The Secretary may sequence
9 the completion of resource assessments for each crit-
10 ical mineral such that critical materials considered
11 to be most critical under the methodology estab-
12 lished pursuant to section 101 are completed first.

13 (2) REPORTING.—If the Secretary sequences
14 the completion of resource assessments for each crit-
15 ical material, the Secretary shall submit a report
16 under subsection (e) on an iterative basis over the
17 4-year period beginning on the date of enactment of
18 this Act.

19 (g) UPDATES.—The Secretary shall periodically up-
20 date the assessment conducted under this section based
21 on—

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

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

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

3 **SEC. 104. PERMITTING.**

4 (a) **CRITICAL MINERALS WORKING GROUP.**—

5 (1) **IN GENERAL.**—There is established within
6 the Department of the Interior a working group to
7 be known as the “Critical Minerals Working
8 Group”, which shall report to the President and
9 Congress through the Secretary.

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

12 (A) The Secretary of the Interior (or a
13 designee), who shall serve as chair of the Work-
14 ing Group.

15 (B) A Presidential designee from the Exec-
16 utive Office of the President, who shall serve as
17 vice-chair of the Working Group.

18 (C) The Secretary of Energy (or a des-
19 ignee).

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

22 (E) The Secretary of Defense (or a des-
23 ignee).

24 (F) The Secretary of Commerce (or a des-
25 ignee).

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

2 (H) The United States Trade Representa-
3 tive (or a designee).

4 (I) The Administrator of the Environ-
5 mental Protection Agency (or a designee).

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

8 (b) CONSULTATION.—The Working Group shall oper-
9 ate in consultation with private sector, academic, and
10 other applicable stakeholders with experience related to—

11 (1) critical minerals exploration;

12 (2) critical minerals permitting;

13 (3) critical minerals production; and

14 (4) critical minerals manufacturing.

15 (c) DUTIES.—The Working Group shall—

16 (1) facilitate Federal agency efforts to optimize
17 efficiencies associated with the permitting of activi-
18 ties that will increase exploration and development
19 of domestic, critical minerals, while maintaining en-
20 vironmental standards;

21 (2) facilitate Federal agency review of laws (in-
22 cluding regulations) and policies that discourage in-
23 vestment in exploration and development of domes-
24 tic, critical minerals;

1 (3) assess whether Federal policies adversely
2 impact the global competitiveness of the domestic,
3 critical minerals exploration and development sector
4 (including taxes, fees, regulatory burdens, and ac-
5 cess restrictions);

6 (4) evaluate the sufficiency of existing mecha-
7 nisms for the provision of tenure on Federal land
8 and the role of the mechanisms in attracting capital
9 investment for the exploration and development of
10 domestic, critical minerals; and

11 (5) generate such other information and take
12 such other actions as the Working Group considers
13 appropriate to achieve the policy described in section
14 102(a).

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

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

20 (2) evaluates the amount of time typically re-
21 quired (including range derived from minimum and
22 maximum durations, mean, median, variance, and
23 other statistical measures or representations) to
24 complete each step (including those aspects outside
25 the control of the executive branch of the Federal

1 Government, such as judicial review, applicant deci-
2 sions, or State and local government involvement)
3 associated with the processing of applications, oper-
4 ating plans, leases, licenses, permits, and other use
5 authorizations for critical mineral-related activities
6 on Federal land, which shall serve as a baseline for
7 the performance metric developed and finalized
8 under subsections (e) and (f), respectively;

9 (3) identifies measures (including regulatory
10 changes and legislative proposals) that would opti-
11 mize efficiencies, while maintaining environmental
12 standards, associated with the permitting of activi-
13 ties that will increase exploration and development
14 of domestic, critical minerals; and

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

22 (e) DRAFT PERFORMANCE METRIC.—Not later than
23 330 days after the date of enactment of this Act, and upon
24 completion of the report required under subsection (d), the
25 Working Group shall publish in the Federal Register for

1 public comment a draft description of a performance met-
2 ric for evaluating the progress made by the executive
3 branch of the Federal Government on matters within the
4 control of that branch towards optimizing efficiencies,
5 while maintaining environmental standards, associated
6 with the permitting of activities that will increase explo-
7 ration and development of domestic, critical minerals (re-
8 ferred to in this section as the “performance metric”).

9 (f) FINAL PERFORMANCE METRIC.—Not later than
10 1 year after the date of enactment of this Act, and after
11 consideration of public comments received pursuant to
12 subsection (e), the Working Group shall publish in the
13 Federal Register a description of the final performance
14 metric.

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

21 (1) describes the progress made by the execu-
22 tive branch of the Federal Government on matters
23 within the control of that branch towards optimizing
24 efficiencies, while maintaining environmental stand-
25 ards, associated with the permitting of activities that

1 will increase exploration and development of domes-
 2 tic, critical minerals; and

3 (2) compares the United States to other coun-
 4 tries in terms of permitting efficiency, environmental
 5 standards, and other criteria relevant to a globally
 6 competitive economic sector.

7 (h) REPORT OF SMALL BUSINESS ADMINISTRA-
 8 TION.—Not later than 300 days after the date of enact-
 9 ment of this Act, the Administrator of the Small Business
 10 Administration shall submit to the applicable committees
 11 a report that assesses the performance of Federal agencies
 12 in—

13 (1) complying with chapter 6 of title 5, United
 14 States Code (commonly known as the “Regulatory
 15 Flexibility Act”), in promulgating regulations appli-
 16 cable to the critical minerals industry; and

17 (2) performing an analysis of regulations appli-
 18 cable to the critical minerals industry that may be
 19 outmoded, inefficient, duplicative, or excessively bur-
 20 densome.

21 (i) JUDICIAL REVIEW.—

22 (1) IN GENERAL.—Nothing in this section af-
 23 fects any judicial review of an agency action under
 24 any other provision of law.

25 (2) CONSTRUCTION.—This section—

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

3 (B) does not create any right or benefit,
4 substantive or procedural, enforceable at law or
5 equity by a party against the United States (in-
6 cluding an agency, instrumentality, officer, or
7 employee thereof) or any other person.

8 **SEC. 105. MANUFACTURING.**

9 (a) AGREEMENT.—At the request of the Governor of
10 a State, the President (or a designee) may enter into a
11 cooperative agreement with the State for the processing
12 of permits for critical mineral manufacturing facilities (in-
13 cluding those related to wind, solar, and geothermal en-
14 ergy, efficient lighting, electrical superconducting mate-
15 rials, permanent magnet motors, and batteries and other
16 energy storage devices) under which each party to the
17 agreement identifies steps, including timelines, that the
18 party will take to optimize efficiencies, while maintaining
19 environmental standards, associated with the environ-
20 mental review and consideration of Federal and State per-
21 mits for a new critical mineral manufacturing facility.

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

24 (1) accept from an applicant a consolidated ap-
25 plication for all permits required by the Federal

1 Government, to the extent consistent with other ap-
2 plicable law;

3 (2) facilitate memoranda of agreement between
4 Federal agencies to coordinate consideration of ap-
5 plications and permits among Federal agencies; and

6 (3) enter into memoranda of agreement with a
7 State, under which Federal and State review of per-
8 mit applications will be coordinated and concurrently
9 considered, to the maximum extent practicable.

10 (c) STATE ASSISTANCE.—The President may provide
11 technical, legal, or other assistance to State governments
12 to facilitate State review of applications to build new crit-
13 ical mineral manufacturing facilities

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

18 “(11) Critical mineral manufacturing related to
19 the deployment of clean energy technologies (as de-
20 fined in section 2 of the Critical Minerals Policy Act
21 of 2011).”.

22 **SEC. 106. RECYCLING AND ALTERNATIVES.**

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

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

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

5 (1) Federal agencies and National Laboratories;

6 (2) critical mineral producers;

7 (3) critical mineral manufacturers;

8 (4) trade associations;

9 (5) academic institutions;

10 (6) small businesses; and

11 (7) other relevant entities or individuals.

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

15 (1) advanced critical mineral production or
16 processing technologies that decrease the environ-
17 mental impact, and costs of production, of such ac-
18 tivities;

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

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

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

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

8 (d) REPORT.—Not later than 2 years after the date
9 of enactment of this Act and every 5 years thereafter, the
10 Secretaries shall submit to the applicable committees a re-
11 port summarizing the activities, findings, and progress of
12 the program.

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

17 “(12) Critical mineral recycling and alternatives
18 related to clean energy technologies (as defined in
19 section 2 of the Critical Minerals Policy Act of
20 2011).”.

21 **SEC. 107. ANALYSIS AND FORECASTING.**

22 (a) CAPABILITIES.—In order to evaluate existing crit-
23 ical mineral policies and inform future actions that may
24 be taken to avoid supply shortages, mitigate price vola-
25 tility, and prepare for demand growth and other market

1 shifts, the Secretary, in consultation with academic insti-
2 tutions, the Energy Information Administration, and oth-
3 ers in order to maximize the application of existing com-
4 petencies related to developing and maintaining computer-
5 models and similar analytical tools, shall conduct and pub-
6 lish the results of an annual report that includes—

7 (1) as part of the annually published Mineral
8 Commodity Summaries from the United States Geo-
9 logical Survey, a comprehensive review of critical
10 mineral production, consumption, and recycling pat-
11 terns, including—

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

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

18 (C) market price data for each critical
19 mineral;

20 (D) an assessment of—

21 (i) critical mineral requirements to
22 meet the national security, energy, eco-
23 nomic, industrial, technological, and other
24 needs of the United States during the pre-
25 ceding year;

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

4 (iii) the implications of any supply
5 shortages, restrictions, or disruptions dur-
6 ing the preceding year;

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

9 (F) the market penetration during the pre-
10 ceeding year of alternatives to each critical min-
11 eral;

12 (G) a discussion of applicable international
13 trends associated with the discovery, produc-
14 tion, consumption, use, costs of production,
15 prices, and recycling of each critical mineral as
16 well as the development of alternatives to crit-
17 ical minerals; and

18 (H) such other data, analyses, and evalua-
19 tions as the Secretary finds are necessary to
20 achieve the purposes of this section; and

21 (2) a comprehensive forecast, entitled the “An-
22 nual Critical Minerals Outlook”, of projected critical
23 mineral production, consumption, and recycling pat-
24 terns, including—

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

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

7 (C) market price projections for each crit-
8 ical mineral, to the maximum extent practicable
9 and based on the best available information;

10 (D) an assessment of—

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

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

18 (iii) the projected implications of po-
19 tential supply shortages, restrictions, or
20 disruptions;

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

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

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

3 (G) a discussion of reasonably foreseeable
4 international trends associated with the dis-
5 covery, production, consumption, use, costs of
6 production, prices, and recycling of each critical
7 mineral as well as the development of alter-
8 natives to critical minerals; and

9 (H) such other projections relating to each
10 critical mineral as the Secretary determines to
11 be necessary to achieve the purposes of this sec-
12 tion.

13 (b) PROPRIETARY INFORMATION.—In preparing a re-
14 port described in subsection (a), the Secretary shall ensure
15 that—

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

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

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

3 (3) procedures are established to require the
4 withholding of any information or data collected for
5 the report if the Secretary determines that with-
6 holding is necessary to protect proprietary informa-
7 tion, including any trade secrets or other confiden-
8 tial information.

9 **SEC. 108. EDUCATION AND WORKFORCE.**

10 (a) **WORKFORCE ASSESSMENT.**—Not later than 300
11 days after the date of enactment of this Act, the Secretary
12 of Labor (in consultation with the Secretary of the Inte-
13 rior, the Director of the National Science Foundation, and
14 employers in the critical minerals sector) shall submit to
15 Congress an assessment of the domestic availability of
16 technically trained personnel necessary for critical mineral
17 assessment, production, manufacturing, recycling, anal-
18 ysis, forecasting, education, and research, including an
19 analysis of—

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

22 (2) skills that are projected to be in short sup-
23 ply in the future;

1 (3) the demographics of the critical minerals in-
2 dustry and how the demographics will evolve under
3 the influence of factors such as an aging workforce;

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

6 (5) opportunities to hire locally for new and ex-
7 isting critical mineral activities;

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

11 (7) the potential need for new training pro-
12 grams to have a measurable effect on the supply of
13 trained workers in the critical minerals industry.

14 (b) CURRICULUM STUDY.—

15 (1) IN GENERAL.—The Secretary and the Sec-
16 retary of Labor shall jointly enter into an arrange-
17 ment with the National Academy of Sciences and the
18 National Academy of Engineering under which the
19 Academies shall coordinate with the National
20 Science Foundation on conducting a study—

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

1 mineral exploration, development, and manufac-
2 turing;

3 (B) to address undergraduate and grad-
4 uate education, especially to assist in the devel-
5 opment of graduate level programs of research
6 and instruction that lead to advanced degrees
7 with an emphasis on the critical mineral supply
8 chain or other positions that will increase do-
9 mestic, critical mineral exploration, develop-
10 ment, and manufacturing;

11 (C) to develop guidelines for proposals
12 from institutions of higher education with sub-
13 stantial capabilities in the required disciplines
14 to improve the critical mineral supply chain and
15 advance the capacity of the United States to in-
16 crease domestic, critical mineral exploration, de-
17 velopment, and manufacturing; and

18 (D) to outline criteria for evaluating per-
19 formance and recommendations for the amount
20 of funding that will be necessary to establish
21 and carry out the grant program described in
22 subsection (c).

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

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

3 (c) GRANT PROGRAM.—

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

9 (A) startup costs for newly designated fac-
10 ulty positions in integrated critical mineral edu-
11 cation, research, innovation, training, and work-
12 force development programs consistent with
13 subsection (b);

14 (B) internships, scholarships, and fellow-
15 ships for students enrolled in critical mineral
16 programs; and

17 (C) equipment necessary for integrated
18 critical mineral innovation, training, and work-
19 force development programs.

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

1 **SEC. 109. INTERNATIONAL COOPERATION.**

2 (a) ESTABLISHMENT.—The Secretary of State, in co-
3 ordination with the Secretary, shall carry out a program
4 to promote international cooperation on critical mineral
5 supply chain issues with allies of the United States.

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

8 (1) to increase the global, responsible produc-
9 tion of critical minerals, if a determination is made
10 by the Secretary that there is no viable production
11 capacity for the critical minerals within the United
12 States;

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

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

17 (4) to assist in the development and transfer of
18 critical mineral extraction, processing, and manufac-
19 turing technologies that would have a beneficial im-
20 pact on world commodity markets and the environ-
21 ment;

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

24 (6) to facilitate the collection of information
25 necessary for analyses and forecasts conducted pur-
26 suant to section 107.

1 **TITLE II—MINERAL-SPECIFIC**
2 **ACTIONS**

3 **SEC. 201. ADMINISTRATION.**

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

7 **SEC. 202. COBALT.**

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

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

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

17 (3) use as coal-to-gas and coal-to-liquid cata-
18 lysts.

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

21 (1) a fundamental category, including labora-
22 tory and literature research; and

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

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

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

6 (2) the findings of the programs; and

7 (3) future research efforts planned.

8 **SEC. 203. HELIUM.**

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

13 “(13) Helium projects.”.

14 (b) RESOURCE ASSESSMENT.—The Secretary of the
15 Interior shall update existing resource information for he-
16 lium in accordance with section 211.

17 **SEC. 204. LEAD.**

18 (a) IN GENERAL.—The Secretary shall support re-
19 search programs that focus on advanced lead manufac-
20 turing processes, including programs that—

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

23 (2) produce technologies that represent an envi-
24 ronmental improvement compared to conventional
25 production processes; or

1 “(A) organized in accordance with Federal
2 law; and

3 “(B) engaged in lithium production for use
4 in advanced battery technologies;

5 “(2) a public entity, such as a State, tribal, or
6 local governmental entity; or

7 “(3) a consortium of entities described in para-
8 graphs (1) and (2).

9 “(b) GRANTS.—The Secretary shall provide grants to
10 eligible entities for research, development, demonstration,
11 and commercial application of domestic industrial pro-
12 cesses that are designed to enhance domestic lithium pro-
13 duction for use in advanced battery technologies, as deter-
14 mined by the Secretary.

15 “(c) USE.—An eligible entity shall use a grant pro-
16 vided under this section to develop or enhance—

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

20 “(2) industrial processes associated with new
21 formulations of lithium feedstock for use in ad-
22 vanced lithium batteries.”.

23 **SEC. 206. LOW-BTU GAS.**

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

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

5 (b) AUTHORIZATION.—The Secretary shall support
6 programs of research, development, commercial applica-
7 tion, and conservation to expand the domestic production
8 of low-Btu gas and helium resources, including the pro-
9 grams described in subsection (c).

10 (c) PROGRAMS.—

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

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

19 (B) remove gases from landfills and sepa-
20 rate out methane.

21 (2) HELIUM SEPARATION TECHNOLOGY.—The
22 Secretary shall support a research program to de-
23 velop technologies for separating, gathering, and
24 processing helium in low concentrations that occur

1 naturally in geologic reservoirs or formations, includ-
2 ing low-Btu gas production streams.

3 (3) INDUSTRIAL HELIUM PROGRAM.—The Sec-
4 retary, working through the Industrial Technologies
5 Program of the Department of Energy, shall support
6 a research program—

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

9 (B) to develop industrial gathering tech-
10 nologies to capture helium from other chemical
11 processing, including ammonia processing.

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

16 “(14) Projects promoting low-Btu gas (as de-
17 fined in section 206(a) of the Critical Minerals Pol-
18 icy Act of 2011).”.

19 **SEC. 207. PHOSPHATE.**

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

1 **SEC. 208. POTASH.**

2 The Secretary of the Interior shall update existing
3 resource information for potash in accordance with section
4 211.

5 **SEC. 209. RARE EARTH ELEMENTS.**

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

9 **SEC. 210. THORIUM.**

10 (a) STUDY.—The Secretary, in consultation with the
11 Nuclear Regulatory Commission, shall conduct a study on
12 the technical, economic, and policy issues (including non-
13 proliferation) associated with establishing a licensing
14 pathway for the complete thorium nuclear fuel cycle (in-
15 cluding mining, milling, processing, fabrication, reactors,
16 disposal, and decommissioning) that—

17 (1) identifies the gaps in the technical knowl-
18 edge that could lead to a licensing pathway; and

19 (2) considers technologies and applications for
20 any thorium byproducts of critical mineral produc-
21 tion or processing.

22 (b) COOPERATION.—In conducting the study under
23 subsection (a), the Secretary shall cooperate with appro-
24 priate—

25 (1) trade associations;

26 (2) equipment manufacturers;

- 1 (3) National Laboratories;
- 2 (4) institutions of higher education; and
- 3 (5) other applicable entities.

4 (c) REPORT.—Not later than 2 years after the date
5 of enactment of this Act, the Secretary shall submit to
6 the applicable committees a report summarizing the find-
7 ings of the study.

8 **SEC. 211. UPDATED RESOURCE INFORMATION.**

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

13 (b) CONSULTATION.—In updating resource informa-
14 tion under this section, the Secretary of the Interior shall
15 consult with—

- 16 (1) the heads of appropriate State geological
17 surveys;
- 18 (2) mineral producers;
- 19 (3) mineral processors;
- 20 (4) trade associations;
- 21 (5) academic institutions; and
- 22 (6) such other entities or individuals as the Sec-
23 retary of the Interior considers appropriate.

24 (c) LIMITATION.—

1 (1) IN GENERAL.—Resource information up-
2 dates carried out pursuant to this section shall be
3 limited to collection of existing information.

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

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

12 **TITLE III—MISCELLANEOUS**

13 **SEC. 301. OFFSETS.**

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

15 (1) The National Materials and Minerals Pol-
16 icy, Research and Development Act of 1980 (30
17 U.S.C. 1601 et seq.), other than subsections (e) and
18 (f) of section 5 of that Act (30 U.S.C. 1604).

19 (2) The National Critical Materials Act of 1984
20 (30 U.S.C. 1801 et seq.).

21 (b) CONFORMING AMENDMENT.—Section 3(d) of the
22 National Superconductivity and Competitiveness Act of
23 1988 (15 U.S.C. 5202(d)) is amended in the first sentence
24 by striking “, with the assistance of the National Critical

1 Materials Council as specified in the National Critical Ma-
2 terials Act of 1984 (30 U.S.C. 1801 et seq.),”.

3 **SEC. 302. ADMINISTRATION.**

4 Nothing in this Act or an amendment made by this
5 Act modifies any requirement or authority provided by the
6 matter under the heading “GEOLOGICAL SURVEY” of
7 the first section of the Act of March 3, 1879 (43 U.S.C.
8 31(a)).

9 **SEC. 303. AUTHORIZATION OF APPROPRIATIONS.**

10 There is authorized to be appropriated to carry out
11 this Act and the amendments made by this Act
12 \$106,000,000, of which—

13 (1) \$1,000,000 shall be used to carry out sec-
14 tion 101, to remain available until expended;

15 (2) \$20,000,000 shall be used to carry out sec-
16 tion 103, to remain available until expended;

17 (3) \$5,000,000 shall be used to carry out sec-
18 tion 104, to remain available until expended;

19 (4) \$1,500,000 for each of fiscal years 2011
20 through 2016 shall be used to carry out section 106
21 and the amendment made by that section, to remain
22 available until expended;

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

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

3 (6) \$5,000,000 for each of fiscal years 2011
4 through 2016 shall be used to carry out section 108,
5 to remain available until expended;

6 (7) \$1,500,000 for each of fiscal years 2011
7 through 2016 shall be used to carry out section 109,
8 to remain available until expended;

9 (8) \$1,000,000 for each of fiscal years 2011
10 through 2014 shall be used to carry out sections
11 202, 204, 205, 206, and 210 and the amendments
12 made by those sections; and

13 (9) \$4,000,000 shall be used to carry out sec-
14 tion 211, to remain available until expended.

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