

112TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

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.

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IN THE SENATE OF THE UNITED STATES

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

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**A BILL**

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

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;

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- 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; and

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.