

113TH CONGRESS  
1ST SESSION

# S. 1600

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

OCTOBER 29, 2013

Ms. MURKOWSKI (for herself, Mr. WYDEN, Mr. UDALL of Colorado, Mr. HELLER, Mr. ENZI, Mrs. HAGAN, Mr. THUNE, Mr. COONS, Mr. HOEVEN, Ms. LANDRIEU, Mr. COATS, Mr. BEGICH, Mr. RISCH, Ms. KLOBUCHAR, Mr. BLUNT, Mr. FRANKEN, and Mr. CRAPO) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

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

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 2013”.

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. Study.  
 Sec. 105. Agency review and reports.  
 Sec. 106. Recycling, efficiency, and supply.  
 Sec. 107. Alternatives.  
 Sec. 108. Analysis and forecasting.  
 Sec. 109. Education and workforce.  
 Sec. 110. International cooperation.

#### TITLE II—MINERAL-SPECIFIC ACTIONS

Sec. 201. Administration.  
 Sec. 202. Cobalt.  
 Sec. 203. Lead.  
 Sec. 204. Lithium.  
 Sec. 205. Thorium.  
 Sec. 206. Nontraditional sources for rare earth elements.

#### TITLE III—MISCELLANEOUS

Sec. 301. Repeal; authorization offset.  
 Sec. 302. Administration.  
 Sec. 303. Authorization of appropriations.

### 3 **SEC. 2. DEFINITIONS.**

4 In this Act:

5 (1) CRITICAL MINERAL.—

6 (A) IN GENERAL.—The term “critical min-  
 7 eral” means any mineral or element designated  
 8 as critical pursuant to section 101.

9 (B) EXCLUSIONS.—The term “critical  
 10 mineral” does not include—

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

1 (ii) water, ice, or snow.

2 (2) CRITICAL MINERAL MANUFACTURING.—The  
3 term “critical mineral manufacturing” means—

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

8 (B) the fabrication, assembly, or produc-  
9 tion, within the United States, of equipment,  
10 components, or other goods with energy tech-  
11 nology-, defense-, agriculture-, consumer elec-  
12 tronics-, or health care-related applications; or

13 (C) any other value-added, manufacturing-  
14 related use of critical minerals undertaken with-  
15 in the United States.

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

20 (4) MILITARY EQUIPMENT.—The term “mili-  
21 tary equipment” means equipment used directly by  
22 the Armed Forces to carry out military operations.

23 (5) RARE EARTH ELEMENT.—

24 (A) IN GENERAL.—The term “rare earth  
25 element” means the chemical elements in the

1 periodic table from lanthanum (atomic number  
2 57) up to and including lutetium (atomic num-  
3 ber 71).

4 (B) INCLUSIONS.—The term “rare earth  
5 element” includes the similar chemical elements  
6 yttrium (atomic number 39) and scandium  
7 (atomic number 21).

8 (6) SECRETARY.—

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

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

13 (7) STATE.—The term “State” means—

14 (A) a State;

15 (B) the District of Columbia;

16 (C) the Commonwealth of Puerto Rico;

17 (D) Guam;

18 (E) American Samoa;

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

21 (G) the United States Virgin Islands.

1       **TITLE I—DESIGNATIONS AND**  
2                                   **POLICIES**

3       **SEC. 101. DESIGNATIONS.**

4           (a) **DRAFT METHODOLOGY.**—Not later than 90 days  
5 after the date of enactment of this Act, the Secretary shall  
6 publish in the Federal Register for public comment a draft  
7 methodology for determining which minerals qualify as  
8 critical minerals based on an assessment of whether the  
9 minerals are—

10                   (1) subject to potential supply restrictions (in-  
11 cluding restrictions associated with foreign political  
12 risk, abrupt demand growth, military conflict, and  
13 anti-competitive or protectionist behaviors); and

14                   (2) important in use (including energy technol-  
15 ogy-, defense-, agriculture-, consumer electronics-,  
16 and health care-related applications).

17           (b) **AVAILABILITY OF DATA.**—If available data is in-  
18 sufficient to provide a quantitative basis for the method-  
19 ology developed under this section, qualitative evidence  
20 may be used to the extent necessary.

21           (c) **FINAL METHODOLOGY.**—After reviewing public  
22 comments on the draft methodology under subsection (a)  
23 and updating the draft methodology as appropriate, not  
24 later than 270 days after the date of enactment of this  
25 Act, the Secretary shall publish in the Federal Register

1 a description of the final methodology for determining  
2 which minerals qualify as critical minerals.

3 (d) DESIGNATIONS.—

4 (1) IN GENERAL.—For purposes of carrying out  
5 this title, the Secretary shall maintain a list of min-  
6 erals and elements designated as critical, pursuant  
7 to the methodology under subsection (c), which shall  
8 not exceed 20 minerals and elements at any given  
9 time.

10 (2) INITIAL LIST.—Subject to paragraph (1),  
11 not later than 1 year after the date of enactment of  
12 this Act, the Secretary shall publish in the Federal  
13 Register an initial list of minerals designated as crit-  
14 ical pursuant to the final methodology under sub-  
15 section (c) for the purpose of carrying out this title.

16 (e) SUBSEQUENT REVIEW.—

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

21 (2) REVISIONS.—Subject to subsection (d)(1),  
22 the Secretary may—

23 (A) revise the methodology described in  
24 this section;

1 (B) determine that minerals previously de-  
2 termined to be critical minerals are no longer  
3 critical minerals; and

4 (C) designate additional minerals as crit-  
5 ical minerals.

6 (f) NOTICE.—On finalization of the methodology  
7 under subsection (c), the list under subsection (d), or any  
8 revision to the methodology or list under subsection (e),  
9 the Secretary shall submit to Congress written notice of  
10 the action.

11 **SEC. 102. POLICY.**

12 (a) IN GENERAL.—Section 3 of the National Mate-  
13 rials and Minerals Policy, Research and Development Act  
14 of 1980 (30 U.S.C. 1602) is amended in the second sen-  
15 tence—

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

18 “(3) establish an analytical and forecasting ca-  
19 pability for identifying critical mineral demand, sup-  
20 ply, and other market dynamics relevant to policy  
21 formulation to allow informed actions to be taken to  
22 avoid supply shortages, mitigate price volatility, and  
23 prepare for demand growth and other market  
24 shifts;”;

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

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

5           (4) by adding at the end the following:

6           “(8) encourage Federal agencies to facilitate  
7 the availability, development, and environmentally  
8 responsible production of domestic resources to meet  
9 national critical material or mineral needs;

10          “(9) avoid duplication of effort, prevent unne-  
11 cessary paperwork, and minimize unnecessary delays  
12 in the administration of applicable laws (including  
13 regulations) and the issuance of permits and author-  
14 izations necessary to explore for, develop, and  
15 produce critical minerals and to construct critical  
16 mineral manufacturing facilities in accordance with  
17 applicable environmental and land management  
18 laws;

19          “(10) strengthen educational and research ca-  
20 pabilities and workforce training;

21          “(11) bolster international cooperation through  
22 technology transfer, information sharing, and other  
23 means;

24          “(12) promote the efficient production, use, and  
25 recycling of critical minerals;

1           “(13) develop alternatives to critical minerals;  
2           and

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

6           (b) CONFORMING AMENDMENT.—Section 2(b) of the  
7 National Materials and Minerals Policy, Research and De-  
8 velopment Act of 1980 (30 U.S.C. 1601(b)) is amended  
9 by striking “(b) As used in this Act, the term” and insert-  
10 ing the following:

11           “(b) DEFINITIONS.—In this Act:

12           “(1) CRITICAL MINERAL.—The term ‘critical  
13           mineral’ means any mineral designated as a critical  
14           mineral pursuant to section 101 of the Critical Min-  
15           erals Policy Act of 2013.

16           “(2) MATERIALS.—The term”.

17 **SEC. 103. RESOURCE ASSESSMENT.**

18           (a) IN GENERAL.—Not later than 4 years after the  
19 date of enactment of this Act, in consultation with applica-  
20 ble State (including geological surveys), local, academic,  
21 industry, and other entities, the Secretary shall complete,  
22 using established resource assessment methodologies and  
23 authorities of the United States Geological Survey, a com-  
24 prehensive national assessment of each critical mineral  
25 that—

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

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

10          (3) provides a quantitative and qualitative as-  
11          sessment of undiscovered critical mineral resources  
12          throughout the United States on land available for  
13          mineral production, including probability estimates  
14          of tonnage and grade, using all available public and  
15          private information and datasets, including explo-  
16          ration histories; and

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

20          (b) SUPPLEMENTARY INFORMATION.—In carrying  
21          out this section, the Secretary (acting through the Direc-  
22          tor of the United States Geological Survey) may carry out,  
23          consistent with applicable law, surveys necessary or appro-  
24          priate to supplement existing information and datasets

1 available for determining the existence of critical minerals  
2 in the United States.

3 (c) TECHNICAL ASSISTANCE.—At the request of the  
4 Governor of a State or the head of an Indian tribe, the  
5 Secretary may provide technical assistance to State gov-  
6 ernments and Indian tribes conducting critical mineral re-  
7 source assessments on non-Federal land.

8 (d) PRIORITIZATION.—

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

14 (2) REPORTING.—During the period beginning  
15 not later than 1 year after the date of enactment of  
16 this Act and ending on date of the completion of all  
17 of the assessments required under this section, the  
18 Secretary shall submit to Congress on an annual  
19 basis an interim report that—

20 (A) identifies the sequence and schedule  
21 for completion of the assessments if the Sec-  
22 retary sequences the assessments; or

23 (B) describes the progress of the assess-  
24 ments if the Secretary does not sequence the  
25 assessments.

1 (e) UPDATES.—The Secretary may periodically up-  
2 date the assessment conducted under this section based  
3 on—

4 (1) the generation of new information or  
5 datasets by the Federal Government; or

6 (2) the receipt of new information or datasets  
7 from critical mineral producers, State geological sur-  
8 veys, academic institutions, trade associations, or  
9 other entities or individuals.

10 **SEC. 104. STUDY.**

11 The Secretary shall enter into an arrangement with  
12 the National Academy of Sciences (referred to in this sec-  
13 tion as the “Academy”) under which the Academy shall  
14 provide an update of the 1999 report of the Academy enti-  
15 tled “Hardrock Mining on Federal Lands”, prepared pur-  
16 suant to section 120 of the Department of the Interior  
17 and Related Agencies Appropriations Act, 1999 (Public  
18 Law 105–277; 112 Stat. 2681–257), including an exam-  
19 ination of—

20 (1) regulatory changes implemented since 1999  
21 and the extent to which the changes address rec-  
22 ommendations made in the report;

23 (2) additional steps that can be taken—

24 (A) to improve the quality and timeliness  
25 of final decisions on applications, operating

1 plans, leases, licenses, permits, and other use  
2 authorizations for hardrock mining activities on  
3 Federal land;

4 (B) to prevent unnecessary or undue deg-  
5 radation of Federal land; and

6 (C) to improve inspection and enforcement  
7 of hardrock mine and related sites on Federal  
8 land; and

9 (3) the number and location of abandoned  
10 hardrock mines.

11 **SEC. 105. AGENCY REVIEW AND REPORTS.**

12 (a) PERFORMANCE IMPROVEMENTS.—To improve  
13 the quality and timeliness of decisions, the Secretary (act-  
14 ing through the Director of the Bureau of Land Manage-  
15 ment) and the Secretary of Agriculture (acting through  
16 the Chief of the Forest Service) (referred to in this section  
17 as the “Secretaries”) shall, to the maximum extent prac-  
18 ticable, with respect to critical mineral production on Fed-  
19 eral land—

20 (1) ensure that Federal permitting and review  
21 processes inform decisionmakers and affected com-  
22 munities about the potential positive and negative  
23 impacts of proposed mining activities;

24 (2) ensure that mining activities are carried out  
25 in a manner that is consistent with protecting the

1 public health, welfare, safety, national security, and  
2 environment of the United States; and

3 (3) execute Federal permitting and review proc-  
4 esses, consistent with available resources, with max-  
5 imum efficiency and effectiveness, while ensuring the  
6 health, safety, and security of communities and the  
7 environment and supporting vital economic growth,  
8 by—

9 (A) setting and adhering to timelines and  
10 schedules for completion of reviews and for in-  
11 spection and enforcement activities;

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

14 (C) encouraging early collaboration among  
15 agencies, project sponsors, and affected stake-  
16 holders to incorporate and address their inter-  
17 ests and minimize delays;

18 (D) providing for transparency and ac-  
19 countability by using cost-effective information  
20 technology to collect and disseminate informa-  
21 tion about individual projects and agency per-  
22 formance;

23 (E) achieving early and active consultation  
24 with State, local, and tribal governments to  
25 avoid conflicts or duplication of effort, resolve

1 concerns, and allow for concurrent rather than  
2 sequential reviews;

3 (F) providing demonstrable improvements  
4 in the performance of Federal permitting and  
5 review processes, including lower costs, more  
6 timely decisions, and a healthier and cleaner en-  
7 vironment;

8 (G) expanding and institutionalizing per-  
9 mitting and review process improvements that  
10 have proven effective;

11 (H) developing mechanisms to better com-  
12 municate priorities and resolve disputes among  
13 agencies at the national and regional levels; and

14 (I) developing other practices, such as pre-  
15 application procedures.

16 (b) REVIEW AND REPORT.—Not later than 180 days  
17 after the date of receipt of the report of the study under  
18 section 104, the Secretaries shall submit to Congress a  
19 report that—

20 (1) describes the recommendations from the  
21 study under section 104 that the Secretaries have  
22 existing legal authority for and intend to implement,  
23 including estimated timelines for the implementa-  
24 tion;

1           (2) identifies additional measures (including  
2 regulatory and legislative proposals, as appropriate)  
3 that would—

4           (A) increase the effectiveness and oper-  
5 ational efficiency of agency management of per-  
6 mitting activities for the exploration and devel-  
7 opment of domestic critical minerals; and

8           (B) improve the effectiveness of environ-  
9 mental analysis and inspection and enforcement  
10 activities relating to critical mineral-related ac-  
11 tivities on Federal land;

12           (3) identifies options (including cost recovery  
13 paid by applicants) for ensuring adequate staffing  
14 (including training programs) of Federal entities re-  
15 sponsible for—

16           (A) the consideration of applications, oper-  
17 ating plans, leases, licenses, permits, and other  
18 use authorizations for critical mineral-related  
19 activities on Federal land; and

20           (B) environmental analysis and inspection  
21 and enforcement activities with respect to the  
22 critical mineral-related activities;

23           (4) in coordination with the heads of other ap-  
24 propriate Federal agencies, assesses whether Federal  
25 laws (including regulations and tax provisions) or

1 policies are adversely affecting or are enhancing the  
2 global competitiveness of, or investment in, the do-  
3 mestic critical minerals industry, including the crit-  
4 ical minerals manufacturing industry;

5 (5) quantifies the amount of time typically re-  
6 quired to complete each step associated with the de-  
7 velopment and processing of applications, operating  
8 plans, leases, licenses, permits, and other use au-  
9 thorizations for critical mineral-related activities on  
10 Federal land; and

11 (6) describes actions taken pursuant to sub-  
12 section (a).

13 (c) ANNUAL REPORTS.—Beginning with the first  
14 budget submission by the President under section 1105  
15 of title 31, United States Code, after submission to Con-  
16 gress of the report under subsection (b), and for the next  
17 10 annual budget submissions thereafter, the Secretaries  
18 shall submit to Congress a report on—

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

22 (2) achievement of, or progress towards, the  
23 target levels of performance developed under sub-  
24 section (d);

25 (3) actions taken under subsection (a); and

1 (4) the quantity, type, and estimated value (by  
2 mineral type) of—

3 (A) critical minerals produced on Federal  
4 land; and

5 (B) all hardrock minerals produced on  
6 Federal land.

7 (d) METRICS OF AGENCY PERFORMANCE.—

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

17 (A) the timeliness of decisions, taking into  
18 consideration the evaluation described in sub-  
19 section (b)(5);

20 (B) cost savings; and

21 (C) improved health and environmental  
22 performance.

23 (2) INCORPORATION IN ANNUAL PERFORMANCE  
24 PLANS.—The Secretaries shall use the target levels  
25 of performance under paragraph (1) as performance

1 goals in the appropriate agency performance plans  
2 under section 1115 of title 31, United States Code.

3 (e) JUDICIAL REVIEW.—

4 (1) IN GENERAL.—Nothing in this section af-  
5 fects the judicial review of an agency action under  
6 any provision of law.

7 (2) CONSTRUCTION.—This section—

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

10 (B) does not create any right or benefit,  
11 substantive or procedural, enforceable at law or  
12 equity by a party against the United States (in-  
13 cluding an agency, instrumentality, officer, or  
14 employee) or any other person.

15 (f) ADMINISTRATION.—Nothing in this section re-  
16 lieves the Secretary of the Interior or the Secretary of Ag-  
17 riculture of any obligation or duty under any other appli-  
18 cable law (including regulations).

19 **SEC. 106. RECYCLING, EFFICIENCY, AND SUPPLY.**

20 (a) ESTABLISHMENT.—The Secretary of Energy  
21 shall conduct a program of research and development to  
22 promote the efficient production, use, and recycling of crit-  
23 ical minerals throughout the supply chain.

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

- 1 (1) Federal agencies and National Laboratories;
- 2 (2) critical mineral producers;
- 3 (3) critical mineral processors;
- 4 (4) critical mineral manufacturers;
- 5 (5) trade associations;
- 6 (6) academic institutions;
- 7 (7) small businesses; and
- 8 (8) other relevant entities or individuals.

9 (c) ACTIVITIES.—Under the program, the Secretary  
10 of Energy shall carry out activities that include the identi-  
11 fication and development of—

12 (1) advanced critical mineral extraction, pro-  
13 duction, separation, alloying, or processing tech-  
14 nologies that decrease the energy consumption, envi-  
15 ronmental impact, and costs of those activities, in-  
16 cluding—

17 (A) efficient water and wastewater man-  
18 agement strategies;

19 (B) technologies and management strate-  
20 gies to control the environmental impacts of  
21 radionuclides in ore tailings; and

22 (C) technologies for separation and proc-  
23 essing;

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

4           (3) technologies, process improvements, or de-  
5           sign optimizations that facilitate the recycling of  
6           critical minerals, and options for improving the rates  
7           of collection of products and scrap containing critical  
8           minerals from post-consumer, industrial, or other  
9           waste streams;

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

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

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

21          **SEC. 107. ALTERNATIVES.**

22          (a) ESTABLISHMENT.—The Secretary of Energy  
23          shall conduct a program of research, development, dem-  
24          onstration, and commercial application to promote the de-  
25          velopment of alternatives to critical minerals.

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

3 (1) Federal agencies (including National Lab-  
4 oratories);

5 (2) critical mineral producers;

6 (3) critical mineral manufacturers;

7 (4) trade associations;

8 (5) academic institutions;

9 (6) small businesses; and

10 (7) other relevant entities or individuals.

11 (c) ACTIVITIES.—To lessen the need for critical min-  
12 erals, the program under this section shall carry out activi-  
13 ties that include the identification and development of—

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

18 (2) alternative energy technologies or alter-  
19 native designs of existing energy technologies, par-  
20 ticularly those that use minerals in abundance in the  
21 United States and are not subject to potential sup-  
22 ply restrictions.

23 (d) REPORT.—Not later than 3 years after the date  
24 of enactment of this Act, the Secretary of Energy shall

1 submit to Congress a report summarizing the activities,  
2 findings, and progress of the program under this section.

3 **SEC. 108. ANALYSIS AND FORECASTING.**

4 (a) CAPABILITIES.—In order to evaluate existing crit-  
5 ical mineral policies and inform future actions that may  
6 be taken to avoid supply shortages, mitigate price vola-  
7 tility, and prepare for demand growth and other market  
8 shifts, the Secretary, in consultation with academic insti-  
9 tutions, the Energy Information Administration, and oth-  
10 ers in order to maximize the application of existing com-  
11 petencies related to developing and maintaining computer-  
12 models and similar analytical tools, shall conduct and pub-  
13 lish the results of an annual report that includes—

14 (1) as part of the annually published Mineral  
15 Commodity Summaries from the United States Geo-  
16 logical Survey, a comprehensive review of critical  
17 mineral production, consumption, and recycling pat-  
18 terns, including—

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

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

1 (C) market price data for each critical  
2 mineral;

3 (D) an assessment of—

4 (i) critical mineral requirements to  
5 meet the national security, energy, eco-  
6 nomic, industrial, technological, and other  
7 needs of the United States during the pre-  
8 ceding year;

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

12 (iii) the implications of any supply  
13 shortages, restrictions, or disruptions dur-  
14 ing the preceding year;

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

17 (F) the market penetration during the pre-  
18 ceding year of alternatives to each critical min-  
19 eral;

20 (G) a discussion of applicable international  
21 trends associated with the discovery, produc-  
22 tion, consumption, use, costs of production,  
23 prices, and recycling of each critical mineral as  
24 well as the development of alternatives to crit-  
25 ical minerals; and

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

4 (2) a comprehensive forecast, entitled the “An-  
5 nual Critical Minerals Outlook”, of projected critical  
6 mineral production, consumption, and recycling pat-  
7 terns, including—

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

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

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

17 (D) an assessment of—

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

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

1 (iii) the projected implications of po-  
2 tential supply shortages, restrictions, or  
3 disruptions;

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

7 (F) the market penetration of alternatives  
8 to each critical mineral projected to take place  
9 over the subsequent 1-year, 5-year, and 10-year  
10 periods;

11 (G) a discussion of reasonably foreseeable  
12 international trends associated with the dis-  
13 covery, production, consumption, use, costs of  
14 production, prices, and recycling of each critical  
15 mineral as well as the development of alter-  
16 natives to critical minerals; and

17 (H) such other projections relating to each  
18 critical mineral as the Secretary determines to  
19 be necessary to achieve the purposes of this sec-  
20 tion.

21 (b) PROPRIETARY INFORMATION.—In preparing a re-  
22 port described in subsection (a), the Secretary shall en-  
23 sure, consistent with section 5(f) of the National Materials  
24 and Minerals Policy, Research and Development Act of  
25 1980 (30 U.S.C. 1604(f)), that—

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

7           (2) no person discloses any information or data  
8 collected for the report unless the information or  
9 data has been transformed into a statistical or ag-  
10 gregate form that does not allow the identification of  
11 the person who supplied particular information; and

12           (3) procedures are established to require the  
13 withholding of any information or data collected for  
14 the report if the Secretary determines that with-  
15 holding is necessary to protect proprietary informa-  
16 tion, including any trade secrets or other confiden-  
17 tial information.

18 **SEC. 109. EDUCATION AND WORKFORCE.**

19           (a) **WORKFORCE ASSESSMENT.**—Not later than 1  
20 year and 300 days after the date of enactment of this Act,  
21 the Secretary of Labor (in consultation with the Secretary  
22 of the Interior, the Director of the National Science Foun-  
23 dation, and employers in the critical minerals sector) shall  
24 submit to Congress an assessment of the domestic avail-  
25 ability of technically trained personnel necessary for crit-

1 ical mineral assessment, production, manufacturing, recy-  
2 cling, analysis, forecasting, education, and research, in-  
3 cluding an analysis of—

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

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

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

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

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

15 (6) the sufficiency of personnel within relevant  
16 areas of the Federal Government for achieving the  
17 policies described in section 3 of the National Mate-  
18 rials and Minerals Policy, Research and Develop-  
19 ment Act of 1980 (30 U.S.C. 1602); and

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

23 (b) CURRICULUM STUDY.—

24 (1) IN GENERAL.—The Secretary and the Sec-  
25 retary of Labor shall jointly enter into an arrange-

1       ment with the National Academy of Sciences and the  
2       National Academy of Engineering under which the  
3       Academies shall coordinate with the National  
4       Science Foundation on conducting a study—

5               (A) to design an interdisciplinary program  
6               on critical minerals that will support the critical  
7               mineral supply chain and improve the ability of  
8               the United States to increase domestic, critical  
9               mineral exploration, development, and manufac-  
10              turing;

11             (B) to address undergraduate and grad-  
12             uate education, especially to assist in the devel-  
13             opment of graduate level programs of research  
14             and instruction that lead to advanced degrees  
15             with an emphasis on the critical mineral supply  
16             chain or other positions that will increase do-  
17             mestic, critical mineral exploration, develop-  
18             ment, and manufacturing;

19             (C) to develop guidelines for proposals  
20             from institutions of higher education with sub-  
21             stantial capabilities in the required disciplines  
22             to improve the critical mineral supply chain and  
23             advance the capacity of the United States to in-  
24             crease domestic, critical mineral exploration, de-  
25             velopment, and manufacturing; and

1           (D) to outline criteria for evaluating per-  
2           formance and recommendations for the amount  
3           of funding that will be necessary to establish  
4           and carry out the grant program described in  
5           subsection (c).

6           (2) REPORT.—Not later than 2 years after the  
7           date of enactment of this Act, the Secretary shall  
8           submit to Congress a description of the results of  
9           the study required under paragraph (1).

10          (c) GRANT PROGRAM.—

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

16           (A) startup costs for newly designated fac-  
17           ulty positions in integrated critical mineral edu-  
18           cation, research, innovation, training, and work-  
19           force development programs consistent with  
20           subsection (b);

21           (B) internships, scholarships, and fellow-  
22           ships for students enrolled in programs related  
23           to critical minerals; and

1           (C) equipment necessary for integrated  
2           critical mineral innovation, training, and work-  
3           force development programs.

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

8   **SEC. 110. INTERNATIONAL COOPERATION.**

9           (a) ESTABLISHMENT.—The Secretary of State, in co-  
10          ordination with the Secretary and the Secretary of En-  
11          ergy, shall carry out a program to promote international  
12          cooperation on critical mineral supply chain issues with  
13          allies of the United States.

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

16                (1) to increase the global, responsible produc-  
17                tion of critical minerals, if a determination is made  
18                by the Secretary of State that there is no viable pro-  
19                duction capacity for the critical minerals within the  
20                United States;

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

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



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

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

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

7           (1) a fundamental category, including labora-  
8           tory and literature research; and

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

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

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

16          (2) the findings of the programs; and

17          (3) future research efforts planned.

18 **SEC. 203. LEAD.**

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

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

1           (2) produce technologies that represent an envi-  
2           ronmental improvement compared to conventional  
3           production processes; or

4           (3) produce technologies that attain a higher ef-  
5           ficiency level compared to conventional production  
6           processes.

7           (b) COORDINATION.—In carrying out the programs  
8           under subsection (a), the Secretary shall coordinate with  
9           other entities to promote the development of environ-  
10          mentally responsible lead manufacturing, including—

11           (1) other Federal agencies;

12           (2) States with affected interests;

13           (3) manufacturers;

14           (4) energy technology manufacturers, including  
15          producers of batteries and other energy storage tech-  
16          nologies; and

17           (5) any others considered appropriate by the  
18          Secretary.

19   **SEC. 204. LITHIUM.**

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

1 **“SEC. 657. GRANTS FOR LITHIUM PRODUCTION RESEARCH**  
2 **AND DEVELOPMENT.**

3 “(a) **DEFINITION OF ELIGIBLE ENTITY.**—In this sec-  
4 tion, the term ‘eligible entity’ means—

5 “(1) a private partnership or other entity that  
6 is—

7 “(A) organized in accordance with Federal  
8 law; and

9 “(B) engaged in lithium production for use  
10 in advanced battery technologies;

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

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

15 “(b) **GRANTS.**—The Secretary shall provide grants to  
16 eligible entities for research, development, demonstration,  
17 and commercial application of domestic industrial proc-  
18 esses that are designed to enhance domestic lithium pro-  
19 duction for use in advanced battery technologies, as deter-  
20 mined by the Secretary.

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

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

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

4 **SEC. 205. THORIUM.**

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

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

14                 (2) considers technologies and applications for  
15                 any thorium byproducts of critical mineral produc-  
16                 tion or processing.

17           (b) COOPERATION.—In conducting the study under  
18           subsection (a), the Secretary shall cooperate with appro-  
19           priate—

20                 (1) trade associations;

21                 (2) equipment manufacturers;

22                 (3) National Laboratories;

23                 (4) institutions of higher education; and

24                 (5) other applicable entities.

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

4 **SEC. 206. NONTRADITIONAL SOURCES FOR RARE EARTH**  
5 **ELEMENTS.**

6 (a) IN GENERAL.—The Secretary shall conduct a  
7 program to identify, research, and develop rare earth ele-  
8 ments from nontraditional sources that—

9 (1) identifies and assesses the technological fea-  
10 sibility of extracting rare earth elements from non-  
11 traditional sources;

12 (2) develops advanced rare earth element proc-  
13 essing technologies to increase the economic viability  
14 and improve the environmental impact of recovering  
15 rare earth elements from identified nontraditional  
16 sources; and

17 (3) provides technical assistance to industrial  
18 partners to develop and demonstrate rare earth ele-  
19 ment recovery from identified nontraditional sources.

20 (b) REPORT.—Not later than 2 years after the date  
21 of enactment of this Act the Secretary shall submit to  
22 Congress a report summarizing the activities, findings,  
23 and progress of the program.

1       **TITLE III—MISCELLANEOUS**

2       **SEC. 301. REPEAL; AUTHORIZATION OFFSET.**

3       (a) REPEAL.—

4               (1) IN GENERAL.—The National Critical Mate-  
5       rials Act of 1984 (30 U.S.C. 1801 et seq.) is re-  
6       pealed.

7               (2) CONFORMING AMENDMENT.—Section 3(d)  
8       of the National Superconductivity and Competitive-  
9       ness Act of 1988 (15 U.S.C. 5202(d)) is amended  
10      in the first sentence by striking “, with the assist-  
11      ance of the National Critical Materials Council as  
12      specified in the National Critical Materials Act of  
13      1984 (30 U.S.C. 1801 et seq.),”.

14      (b) AUTHORIZATION OFFSET.—Section 207(c) of the  
15      Energy Independence and Security Act of 2007 (42  
16      U.S.C. 17022(c)) is amended by inserting before the pe-  
17      riod at the end the following: “, except that the amount  
18      authorized to be appropriated to carry out this section not  
19      appropriated as of the date of enactment of the Critical  
20      Minerals Policy Act of 2013 shall be reduced by  
21      \$60,000,000”.

22      **SEC. 302. ADMINISTRATION.**

23      Nothing in this Act or an amendment made by this  
24      Act modifies any requirement or authority provided by the  
25      matter under the heading “GEOLOGICAL SURVEY” of

1 the first section of the Act of March 3, 1879 (43 U.S.C.  
2 31(a)).

3 **SEC. 303. AUTHORIZATION OF APPROPRIATIONS.**

4 There is authorized to be appropriated to carry out  
5 this Act and the amendments made by this Act  
6 \$60,000,000, of which—

7 (1) \$2,000,000 may be used to carry out sec-  
8 tion 101, to remain available until expended;

9 (2) \$20,000,000 may be used to carry out the  
10 amendment made by section 103, to remain avail-  
11 able until expended;

12 (3) \$2,000,000 may be used to carry out sec-  
13 tion 104, to remain available until expended;

14 (4) \$8,000,000 may be used to carry out sec-  
15 tion 105, to remain available until expended;

16 (5) \$1,5000,000 for each of fiscal years 2014  
17 and 2015 may be used to carry out each of sections  
18 106 and 107, to remain available until expended;

19 (6) \$4,000,000 for each of fiscal years 2014  
20 and 2015 may be used to carry out section 108, to  
21 remain available until expended;

22 (7) \$2,000,000 for each of fiscal years 2014  
23 and 2015 may be used to carry out section 109, to  
24 remain available until expended;

1           (8) \$500,000 for each of fiscal years 2014 and  
2           2015 may be used to carry out section 110, to re-  
3           main available until expended;

4           (9) \$1,000,000 for each of fiscal years 2014  
5           and 2015 may be used to carry out each of sections  
6           202, 203, 204, and 206 and the amendments made  
7           by those sections; and

8           (10) \$1,000,000 may be used to carry out sec-  
9           tion 205, to remain available until expended.

○