

112TH CONGRESS  
1ST SESSION

# H. R. 618

To develop a rare earth materials program, to amend the National Materials and Minerals Policy, Research and Development Act of 1980, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 10, 2011

Mr. BOSWELL introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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## A BILL

To develop a rare earth materials program, to amend the National Materials and Minerals Policy, Research and Development Act of 1980, 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 “Rare Earths and Critical Materials Revitalization Act of  
6 2011”.

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

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

## TITLE I—RARE EARTH MATERIALS

Sec. 101. Rare earth materials program.

Sec. 102. Rare earth materials loan guarantee program.

TITLE II—NATIONAL MATERIALS AND MINERALS POLICY,  
RESEARCH, AND DEVELOPMENT

Sec. 201. Amendments to National Materials and Minerals Policy, Research  
and Development Act of 1980.

Sec. 202. Repeal.

**1 SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) APPROPRIATE CONGRESSIONAL COMMIT-  
4 TEES.—The term “appropriate Congressional com-  
5 mittees” means the Committee on Science and Tech-  
6 nology of the House of Representatives and the  
7 Committee on Commerce, Science, and Transpor-  
8 tation and the Committee on Energy and Natural  
9 Resources of the Senate.

10 (2) DEPARTMENT.—The term “Department”  
11 means the Department of Energy.

12 (3) RARE EARTH MATERIALS.—The term “rare  
13 earth materials” means any of the following chem-  
14 ical elements in any of their physical forms or chem-  
15 ical combinations:

16 (A) Scandium.

17 (B) Yttrium.

18 (C) Lanthanum.

19 (D) Cerium.

20 (E) Praseodymium.

1 (F) Neodymium.

2 (G) Promethium.

3 (H) Samarium.

4 (I) Europium.

5 (J) Gadolinium.

6 (K) Terbium.

7 (L) Dysprosium.

8 (M) Holmium.

9 (N) Erbium.

10 (O) Thulium.

11 (P) Ytterbium.

12 (Q) Lutetium.

13 (4) SECRETARY.—The term “Secretary” means  
14 the Secretary of Energy.

15 **TITLE I—RARE EARTH**  
16 **MATERIALS**

17 **SEC. 101. RARE EARTH MATERIALS PROGRAM.**

18 (a) ESTABLISHMENT OF PROGRAM.—

19 (1) IN GENERAL.—There is established in the  
20 Department a program of research, development,  
21 demonstration, and commercial application to assure  
22 the long-term, secure, and sustainable supply of rare  
23 earth materials sufficient to satisfy the national se-  
24 curity, economic well-being, and industrial produc-  
25 tion needs of the United States.

1           (2) PROGRAM ACTIVITIES.—The program shall  
2 support activities to—

3           (A) better characterize and quantify virgin  
4 stocks of rare earth materials using theoretical  
5 geochemical research;

6           (B) explore, discover, and recover rare  
7 earth materials using advanced science and  
8 technology;

9           (C) improve methods for the extraction,  
10 processing, use, recovery, and recycling of rare  
11 earth materials;

12           (D) improve the understanding of the per-  
13 formance, processing, and adaptability in engi-  
14 neering designs of rare earth materials;

15           (E) identify and test alternative materials  
16 that can be substituted for rare earth materials  
17 in particular applications;

18           (F) engineer and test applications that—

19               (i) use recycled rare earth materials;

20               (ii) use alternative materials; or

21               (iii) seek to minimize rare earth mate-  
22 rials content;

23           (G) collect, catalogue, archive, and dissemi-  
24 nate information on rare earth materials, in-  
25 cluding scientific and technical data generated

1 by the research and development activities sup-  
2 ported under this section, and assist scientists  
3 and engineers in making the fullest possible use  
4 of the data holdings; and

5 (H) facilitate information sharing and col-  
6 laboration among program participants and  
7 stakeholders.

8 (3) IMPROVED PROCESSES AND TECH-  
9 NOLOGIES.—To the maximum extent practicable, the  
10 Secretary shall support new or significantly im-  
11 proved processes and technologies as compared to  
12 those currently in use in the rare earth materials in-  
13 dustry.

14 (4) EXPANDING PARTICIPATION.—The Sec-  
15 retary shall encourage—

16 (A) multidisciplinary collaborations among  
17 program participants; and

18 (B) extensive opportunities for students at  
19 institutions of higher education, including insti-  
20 tutions listed under section 371(a) of the High-  
21 er Education Act of 1965 (20 U.S.C.  
22 1067q(a)).

23 (5) CONSISTENCY.—The program shall be con-  
24 sistent with the policies and programs in the Na-

1 tional Materials and Minerals Policy, Research and  
2 Development Act of 1980 (30 U.S.C. 1601 et seq.).

3 (6) INTERNATIONAL COLLABORATION.—In car-  
4 rying out the program, the Secretary may collabo-  
5 rate, to the extent practicable, on activities of mu-  
6 tual interest with the relevant agencies of foreign  
7 countries with interests relating to rare earth mate-  
8 rials.

9 (b) PLAN.—

10 (1) IN GENERAL.—Within 180 days after the  
11 date of enactment of this Act and biennially there-  
12 after, the Secretary shall prepare and submit to the  
13 appropriate Congressional committees a plan to  
14 carry out the program established under subsection  
15 (a).

16 (2) SPECIFIC REQUIREMENTS.—The plan shall  
17 include a description of—

18 (A) the research and development activities  
19 to be carried out by the program during the  
20 subsequent 2 years;

21 (B) the expected contributions of the pro-  
22 gram to the creation of innovative methods and  
23 technologies for the efficient and sustainable  
24 provision of rare earth materials to the domes-  
25 tic economy;

1 (C) the criteria to be used to evaluate ap-  
2 plications for loan guarantees under section  
3 1706 of the Energy Policy Act of 2005;

4 (D) any projects receiving loan guarantee  
5 support under such section and the status of  
6 such projects;

7 (E) how the program is promoting the  
8 broadest possible participation by academic, in-  
9 dustrial, and other contributors; and

10 (F) actions taken or proposed that reflect  
11 recommendations from the assessment con-  
12 ducted under subsection (c) or the Secretary's  
13 rationale for not taking action pursuant to any  
14 recommendation from such assessment for  
15 plans submitted following the completion of the  
16 assessment under such subsection.

17 (3) CONSULTATION.—In preparing each plan  
18 under paragraph (1), the Secretary shall consult  
19 with appropriate representatives of industry, institu-  
20 tions of higher education, Department of Energy na-  
21 tional laboratories, professional and technical soci-  
22 eties, and other entities, as determined by the Sec-  
23 retary.

24 (c) ASSESSMENT.—

1           (1) IN GENERAL.—After the program has been  
2           in operation for 4 years, the Secretary shall offer to  
3           enter into a contract with the National Academy of  
4           Sciences under which the National Academy shall  
5           conduct an assessment of the program under sub-  
6           section (a).

7           (2) INCLUSIONS.—The assessment shall include  
8           the recommendation of the National Academy of  
9           Sciences that the program should be—

10                   (A) continued, accompanied by a descrip-  
11                   tion of any improvements needed in the pro-  
12                   gram; or

13                   (B) terminated, accompanied by a descrip-  
14                   tion of the lessons learned from the execution of  
15                   the program.

16           (3) AVAILABILITY.—The assessment shall be  
17           made available to Congress and the public upon  
18           completion.

19 **SEC. 102. RARE EARTH MATERIALS LOAN GUARANTEE PRO-**  
20 **GRAM.**

21           (a) AMENDMENT.—Title XVII of the Energy Policy  
22           Act of 2005 (42 U.S.C. 16511 et seq.) is amended by add-  
23           ing at the end the following new section:



1 **“SEC. 1706. TEMPORARY PROGRAM FOR RARE EARTH MA-**  
2 **TERIALS REVITALIZATION.**

3 “(a) IN GENERAL.—As part of the program estab-  
4 lished in section 101 of the Rare Earths and Critical Ma-  
5 terials Revitalization Act of 2011, the Secretary is author-  
6 ized, only to the extent provided in advance in a subse-  
7 quent appropriations act, to make guarantees under this  
8 title for the commercial application of new or significantly  
9 improved technologies (compared to technologies currently  
10 in use in the United States at the time the guarantee is  
11 issued) for the following categories of projects:

12 “(1) The separation and recovery of rare earth  
13 materials from ores or other sources.

14 “(2) The preparation of rare earth materials in  
15 oxide, metal, alloy, or other forms needed for na-  
16 tional security, economic well-being, or industrial  
17 production purposes.

18 “(3) The application of rare earth materials in  
19 the production of improved—

20 “(A) magnets;

21 “(B) batteries;

22 “(C) refrigeration systems;

23 “(D) optical systems;

24 “(E) electronics; and

25 “(F) catalysis.

1           “(4) The application of rare earth materials in  
2           other uses, as determined by the Secretary.

3           “(b) TIMELINESS.—The Secretary shall seek to mini-  
4           mize delay in approving loan guarantee applications, con-  
5           sistent with appropriate protection of taxpayer interests.

6           “(c) COOPERATION.—To the maximum extent prac-  
7           ticable, the Secretary shall cooperate with appropriate pri-  
8           vate sector participants to achieve a complete rare earth  
9           materials production capability in the United States with-  
10          in 5 years after the date of enactment of the Rare Earths  
11          and Critical Materials Revitalization Act of 2011.

12          “(d) DOMESTIC SUPPLY CHAIN.—In support of the  
13          objective in subsection (c) to achieve a rare earth materials  
14          production capability in the United States that includes  
15          the complete value chain described in paragraphs (1)  
16          through (4) of subsection (a), the Secretary may not  
17          award a guarantee for a project unless the project’s pro-  
18          ponent provides to the Secretary an assurance that the  
19          loan or guarantee shall be used to support the separation,  
20          recovery, preparation, or manufacturing of rare earth ma-  
21          terials in the United States for customers within the  
22          United States unless insufficient domestic demand for  
23          such materials results in excess capacity.

1 “(e) SUNSET.—The authority to enter into guaran-  
2 tees under this section shall expire on September 30,  
3 2016.”.

4 (b) TABLE OF CONTENTS AMENDMENT.—The table  
5 of contents of the Energy Policy Act of 2005 is amended  
6 by inserting after the item relating to section 1705 the  
7 following new item:

“Sec. 1706. Temporary program for rare earth materials revitalization.”.

8 **TITLE II—NATIONAL MATERIALS**  
9 **AND MINERALS POLICY, RE-**  
10 **SEARCH, AND DEVELOPMENT**

11 **SEC. 201. AMENDMENTS TO NATIONAL MATERIALS AND**  
12 **MINERALS POLICY, RESEARCH AND DEVEL-**  
13 **OPMENT ACT OF 1980.**

14 (a) PROGRAM PLAN.—Section 5 of the National Ma-  
15 terials and Minerals Policy, Research and Development  
16 Act of 1980 (30 U.S.C. 1604) is amended—

17 (1) by striking “date of enactment of this Act”  
18 each place it appears and inserting “date of enact-  
19 ment of the Rare Earths and Critical Materials Re-  
20 vitalization Act of 2011”;

21 (2) in subsection (b), by striking “Federal Co-  
22 ordinating Council for Science, Engineering, and  
23 Technology” and inserting “National Science and  
24 Technology Council,”;

25 (3) in subsection (c)—

1 (A) by striking “the Federal Emergency”  
2 and all that follows through “Agency, and”;

3 (B) by striking “appropriate shall” and in-  
4 serting “appropriate, shall”;

5 (C) by striking paragraph (1);

6 (D) in paragraph (2), by striking “in the  
7 case” and all that follows through “sub-  
8 section,”;

9 (E) by redesignating paragraph (2) as  
10 paragraph (1); and

11 (F) by amending paragraph (3) to read as  
12 follows:

13 “(2) assess the adequacy, accessibility, and sta-  
14 bility of the supply of materials necessary to main-  
15 tain national security, economic well-being, and in-  
16 dustrial production.”;

17 (4) by striking subsections (d) and (e); and

18 (5) by redesignating subsection (f) as sub-  
19 section (d).

20 (b) POLICY.—Section 3 of such Act (30 U.S.C. 1602)  
21 is amended—

22 (1) by striking “The Congress declares that it”  
23 and inserting “It”; and

1           (2) by striking “The Congress further declares  
2           that implementation” and inserting “Implementa-  
3           tion”.

4           (c) IMPLEMENTATION.—Section 4 of such Act (30  
5 U.S.C. 1603) is amended—

6           (1) by striking “For the purpose” and all that  
7           follows through “declares that the” and inserting  
8           “The”; and

9           (2) by striking “departments and agencies,”  
10          and inserting “departments and agencies to imple-  
11          ment the policies set forth in section 3”.

12 **SEC. 202. REPEAL.**

13          Title II of Public Law 98–373 (30 U.S.C. 1801 et  
14 seq.; 98 Stat. 1248), also known as the National Critical  
15 Materials Act of 1984, is repealed.

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