

111<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 4866

To reestablish a competitive domestic rare earths minerals production industry; a domestic rare earth processing, refining, purification, and metals production industry; a domestic rare earth metals alloying industry; and a domestic rare earth based magnet production industry and supply chain in the United States.

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## IN THE HOUSE OF REPRESENTATIVES

MARCH 17, 2010

Mr. COFFMAN of Colorado introduced the following bill; which was referred to the Committee on Armed Services, and in addition to the Committees on Ways and Means and Financial Services, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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## A BILL

To reestablish a competitive domestic rare earths minerals production industry; a domestic rare earth processing, refining, purification, and metals production industry; a domestic rare earth metals alloying industry; and a domestic rare earth based magnet production industry and supply chain in the United States.

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

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Rare Earths Supply-  
3 Chain Technology and Resources Transformation Act of  
4 2010” or the “RESTART Act”.

5 **SEC. 2. FINDINGS.**

6 Congress finds that:

7 (1) Many modern defense technologies such as  
8 radar and sonar systems, precision-guided weapons,  
9 cruise missiles, and lasers cannot be built, as de-  
10 signed and specified, without the use of rare earth  
11 elements (“REEs”) and materials produced from  
12 them.

13 (2) Significant quantities of REE are used in  
14 the production of renewable energy technologies, in-  
15 cluding advanced automotive propulsion batteries,  
16 electric motors, high-efficiency light bulbs, solar pan-  
17 els, and wind turbines. These technologies are used  
18 to advance the United States energy policy of reduc-  
19 ing dependence on foreign oil and decreasing green-  
20 house gas emissions through expansion of renewable  
21 sources of energy.

22 (3) Though the United States owns at least 15  
23 percent of the world’s REEs reserves, it now de-  
24 pends nearly 100 percent upon imports for rare  
25 earth elements, oxides, and alloys because there are  
26 virtually no active REE producers in the United

1 States. More than 97 percent of all REEs for world  
2 consumption are produced in China.

3 (4) China’s ability—and willingness—to export  
4 REEs is eroding due to its growing domestic de-  
5 mand, its enforcement of environmental law on cur-  
6 rent producers, and its mandate to consolidate the  
7 industry by decreasing its number of mining per-  
8 mits. The Chinese Ministry of Industry and Infor-  
9 mation Technology draft rare earths plan for 2009  
10 to 2015 proposes an immediate ban on the export of  
11 dysprosium, terbium, thulium, lutetium and yttrium,  
12 the “heavy” REE and a restriction on the exports  
13 of all the other, light, rare earth metals to a level  
14 well below that of Japan’s 2008 demand alone.

15 (5) Furthermore, the United States has no ac-  
16 tive heavy group rare earth production capabilities  
17 or refining capabilities for heavy rare earth ele-  
18 ments. Thus, should the United States begin to mine  
19 its heavy rare earth oxides, it would still be depend-  
20 ent on overseas refineries for further elemental and  
21 alloy processing. Nor does the United States cur-  
22 rently maintain a “strategic reserve” of rare earth  
23 compounds, metals or alloys.

24 (6) REEs should qualify as materials either  
25 strategic or critical to national security. The United

1 States Government should take measures to reintro-  
2 duce a globally competitive domestic strategic mate-  
3 rials industry that is self-sufficient in the United  
4 States domestic market with multiple sources of  
5 mining, processing, alloying and manufacturing.

6 (7) This self-sufficiency requires an uninter-  
7 rupted supply of strategic materials critical to na-  
8 tional security and innovative commercial product  
9 development, including rare earth materials, to sup-  
10 port the defense supply chain.

11 (8) The United States currently cannot reclaim  
12 valuable rare earth resources and permanent  
13 magnets from scrapped military or consumer prod-  
14 ucts, industrial materials or equipment, which allows  
15 entities in overseas nations to identify and recover  
16 such materials for resale to United States manufac-  
17 turers at considerable cost.

18 (9) There is an urgent need to identify the cur-  
19 rent global market situation regarding rare earth  
20 materials, the strategic value placed on them by for-  
21 eign nations including China, and the Department of  
22 Defense's and domestic manufacturing industry's  
23 supply-chain vulnerability related to rare earths and  
24 end items containing rare earths such as neodymium

1 iron boron and other specialty magnets, and rare  
2 earth “doped” lasers.

3 (10) It is the policy of the United States to  
4 take any and all actions necessary to ensure the re-  
5 introduction of a competitive domestic rare earth  
6 supply chain, to include the reintroduction of the ca-  
7 pacity to conduct mining, refining/processing, alloy-  
8 ing and manufacturing operations using domestic  
9 suppliers to provide a secure source of rare earth  
10 materials as a vital component of national security  
11 and economic policy.

12 **SEC. 3. REQUIREMENT TO ESTABLISH EXECUTIVE AGENTS**  
13 **FOR RARE EARTH RELATED MATTERS.**

14 No later than 30 days after the enactment of this  
15 Act—

16 (1) the Secretaries of Commerce, Defense, En-  
17 ergy, Interior, and State shall appoint an Executive  
18 Agent, at the Assistant Secretary level of each af-  
19 fected agency, to serve as a representative on an  
20 interagency working group for the purposes of rees-  
21 tablishing a competitive domestic rare earth supply  
22 chain; and

23 (2) the United States Trade Representative and  
24 the Office of Science and Technology Policy shall ap-

1 point representation to the interagency working  
2 group in paragraph (1) above.

3 **SEC. 4. REQUIREMENT TO ESTABLISH A BASELINE FOR**  
4 **RARE EARTH MATERIAL SUPPLY-CHAIN VUL-**  
5 **NERABILITY.**

6 No later than 180 days after the enactment of this  
7 Act, the Secretaries of Commerce, Defense, Energy, Inte-  
8 rior, and State shall undertake an assessment of the rare  
9 earth supply chain and determine which rare earth ele-  
10 ments are critical to national and economic security and  
11 submit the findings of the review to Congress. Such as-  
12 sessment shall be in coordination with the United States  
13 Trade Representative and the Executive Office of the  
14 President's Office of Science and Technology Policy.

15 **SEC. 5. REQUIREMENT TO ESTABLISH A NATIONAL STOCK-**  
16 **PILE FOR RARE EARTH MATERIALS.**

17 (a) In accordance with 50 U.S.C. 98 et seq., the Sec-  
18 retary of Defense shall commence the procurement of rare  
19 earth materials designated as "critical" in section 4 of this  
20 Act and place such rare earth materials in the national  
21 stockpile within one year after enactment of this Act.

22 (b) The Defense Logistics Agency, Defense National  
23 Stockpile Center, shall serve as Administrator of the rare  
24 earth stockpile and shall issue an annual report to Con-

1 gress describing which rare earth materials shall be added  
2 to or subtracted from the stockpile.

3 (c) In accordance with section 98h–6 of title 50,  
4 United States Code, the Administrator shall purchase, or  
5 make a commitment to purchase, rare earth materials or  
6 for the processing or refining of rare earth materials, to  
7 support national defense and the economic needs of the  
8 United States.

9 (d) Notwithstanding any other provision of law, for  
10 a period of five years after the date of enactment of this  
11 Act, the Administrator shall be authorized to purchase  
12 necessary rare earth materials from the People’s Republic  
13 of China, if required to meet national security and eco-  
14 nomic needs of the United States.

15 (e) Upon the joint determination of the Secretaries  
16 of Commerce, Defense, Energy, Interior, and State, in co-  
17 ordination with the United States Trade Representative  
18 and the Executive Office of the President’s Office of  
19 Science and Technology Policy, that rare earth materials  
20 are no longer critical to supporting national defense or the  
21 economic well-being of the United States, the requirement  
22 to stockpile rare earth materials shall terminate by issuing  
23 a report of such determination to Congress. Such report  
24 shall be submitted to Congress no earlier than April 1,  
25 2015.

1 **SEC. 6. ESTABLISHMENT OF FAIR MARKET CONDITIONS**  
2 **FOR THE REESTABLISHMENT OF A DOMESTIC**  
3 **RARE EARTH SUPPLY CHAIN.**

4 (a) Not later than 30 days after the enactment of  
5 the Act, the United States Trade Representative shall ini-  
6 tiate a comprehensive review of international trade prac-  
7 tices in the rare earth materials market. Such review shall  
8 include actions by foreign producers of rare earth ele-  
9 ments, rare earth metals, rare earth alloys and compo-  
10 nents used in the defense or energy markets containing  
11 rare earth elements, as it relates to dumping, export  
12 quotas and other relevant mechanisms used to manipulate  
13 the rare earth market.

14 (b) Upon completion of the review, the United States  
15 Trade Representative shall—

16 (1) initiate an action before the World Trade  
17 Organization; or

18 (2) issue a report to Congress describing the re-  
19 sults of the comprehensive review and why it was de-  
20 termined that international markets are free from  
21 market manipulation such as dumping or export  
22 quotas.

23 **SEC. 7. CONSIDERATION OF LOAN GUARANTEES FOR RARE**  
24 **EARTH SUPPLY-CHAIN DEVELOPMENT.**

25 Not later than 90 days after the enactment of the  
26 Act—



1           (1) the Secretaries of Commerce, Interior, and  
2 State shall issue a report to industry describing  
3 mechanisms for obtaining current and future year  
4 government loan guarantees to reestablish a domes-  
5 tic rare earth supply chain;

6           (2) the Secretary of Defense shall issue guid-  
7 ance for the rare earth industry related to obtaining  
8 loan guarantees under 50 U.S.C. 98 and any other  
9 available mechanism for obtaining loan guarantees  
10 to support the reestablishment of mining, refining,  
11 alloying and manufacturing operations in the United  
12 States that will support the domestic defense supply  
13 chain; and

14          (3) the Secretary of Energy shall issue guidance  
15 for the rare earth industry related to obtaining loan  
16 guarantees under the American Recovery and Rein-  
17 vestment Act of 2009, Energy Efficiency and Re-  
18 newable Energy sponsored programs and any other  
19 available mechanism for obtaining loan guarantees  
20 to support the reestablishment of mining, refining,  
21 alloying and manufacturing operations in the United  
22 States that will support the domestic supply chain.

1 **SEC. 8. DEFENSE PRODUCTION ACT PRIORITY FOR RARE**  
2 **EARTH SUPPLY-CHAIN DEVELOPMENT.**

3 (a) It is the sense of Congress that the urgent need  
4 to reintroduce a domestic rare earth supply chain war-  
5 rants a prioritization of such Defense Production Act  
6 projects. The United States faces a shortage of key mate-  
7 rials that form the backbone of both the defense and en-  
8 ergy supply chains.

9 (b) Not later than 180 days after the enactment of  
10 this Act, the Secretary of Defense shall issue a report de-  
11 scribing past, current and future Defense Production Act  
12 projects to address the domestic rare earth supply chain.  
13 If no rare earth supply-chain Defense Production Act  
14 projects are in process or planned, the report shall justify  
15 the lack of action to support establishment of domestic  
16 rare earth supply-chain initiatives, particularly those to es-  
17 tablish domestic manufacturing capability in critical seg-  
18 ments of the rare earth market.

19 **SEC. 9. RESEARCH AND DEVELOPMENT TO SUPPORT THE**  
20 **DOMESTIC RARE EARTH SUPPLY CHAIN.**

21 It is the sense of Congress that, in order to reestab-  
22 lish the United States as the preeminent supplier of rare  
23 earth materials, components and associated technologies,  
24 there is a pressing need to support innovation, training  
25 and workforce development of the rare earth supply chain.  
26 Therefore, base budget funding should be provided by the

1 Secretaries of Commerce, Defense, Energy, and Interior  
2 to fund academic institutions, Government laboratories,  
3 corporate research and development, not-for-profit re-  
4 search and development, and industry associations.

5 **SEC. 10. RESTRICTIONS.**

6 (a) **LIMITATION ON DIVESTMENT OF FACILITIES**  
7 **CREATED.**—No recipient of United States Government  
8 appropriated funds, for the purposes of supporting the re-  
9 establishment of a domestic rare earth supply chain, may  
10 divest resources funded, in whole or in part, to any for-  
11 eign-owned or controlled entity without the concurrence of  
12 the Secretaries of Energy, Commerce, and Defense.

13 (b) **ENHANCING NATIONAL SECURITY.**—Any recipi-  
14 ent of United States Government appropriated funds ob-  
15 tained in connection with the reestablishment of a domes-  
16 tic rare earth supply chain shall be subject to the restric-  
17 tions of 10 U.S.C. 2538. In order to ensure the availability  
18 of rare earth materials for Department of Defense needs,  
19 this obligation extends to all materials sold by such recipi-  
20 ents in the commercial marketplace.

21 **SEC. 11. DEFINITIONS.**

22 In this Act:

23 (1) **RARE EARTH.**—The term “rare earth”  
24 means the chemical elements, all metals, beginning  
25 with lanthanum, atomic number 57, and including

1 all of the natural chemical elements in the periodic  
2 table following lanthanum up to and including lute-  
3 tium, element number 71. The definition shall fur-  
4 ther include the elements yttrium and scandium,  
5 which are usually found with the rare earth elements  
6 in nature.

7 (2) REFINE.—The reestablishment of a domes-  
8 tic rare earth element refinery capabilities within the  
9 United States whereby rare earths, once extracted  
10 from rock, are separated and purified to commercial  
11 grades of oxides or other salts such as oxalates or  
12 chlorides.

13 (3) PROCESS.—The support of heavy rare earth  
14 processing and production facilities capable of con-  
15 verting rare earth oxides into usable rare earth met-  
16 als and specialty alloys and powders for domestic  
17 magnet and other manufacturing within the United  
18 States.

19 (4) PRODUCE.—The advancement of domestic  
20 manufacturing efforts of U.S. magnet producers and  
21 other domestic innovation industries that rely on  
22 rare earth materials.

23 (5) RECYCLE.—The establishment of an initia-  
24 tive to recycle and strip used consumer products,  
25 and used or obsolete declassified military products,

1 of rare earth elements and strategic magnets within  
2 the United States for eventual reuse by domestic  
3 manufacturers.

4 (6) STOCKPILE.—The creation and mainte-  
5 nance of a “strategic reserve” of rare earth oxides,  
6 and storable forms of rare earth elements, and alloys  
7 for national defense purposes.

8 (7) ALLOY AND ALLOYING.—An alloy is a par-  
9 tial or complete solid solution of one or more ele-  
10 ments in a metallic matrix. Alloying is the process  
11 of melting of metals to create the metallic matrix.

12 (8) SINTERING.—Sintering is a method for  
13 making objects from powder, by heating the material  
14 in a sintering furnace below its melting point (solid  
15 state sintering) until its particles adhere to each  
16 other.

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