

110TH CONGRESS  
1ST SESSION

# S. 696

To establish an Advanced Research Projects Administration-Energy to initiate high risk, innovative energy research to improve the energy security of the United States, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

FEBRUARY 27, 2007

Mr. BAUCUS 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 establish an Advanced Research Projects Administration-Energy to initiate high risk, innovative energy research to improve the energy security of 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.**

4       This Act may be cited as the “Energy Research Act  
5       of 2007”.

1 **SEC. 2. ADVANCED RESEARCH PROJECTS ADMINISTRA-**  
2 **TION-ENERGY.**

3 (a) ESTABLISHMENT.—There is established the Ad-  
4 vanced Research Projects Administration-Energy (re-  
5 ferred to in this section as “ARPA-E”).

6 (b) GOALS.—The goals of ARPA-E are to reduce the  
7 quantity of energy the United States imports from foreign  
8 sources and to improve the competitiveness of the United  
9 States economy by—

10 (1) promoting revolutionary changes in the crit-  
11 ical technologies that would promote energy competi-  
12 tiveness;

13 (2) turning cutting-edge science and engineer-  
14 ing into technologies for energy and environmental  
15 application; and

16 (3) accelerating innovation in energy and the  
17 environment for both traditional and alternative en-  
18 ergy sources and in energy efficiency mechanisms  
19 to—

20 (A) reduce energy use;

21 (B) decrease the reliance of the United  
22 States on foreign energy sources; and

23 (C) improve energy competitiveness.

24 (c) DIRECTOR.—

1           (1) IN GENERAL.—ARPA-E shall be headed by  
 2           a Director (referred to in this section as the “Direc-  
 3           tor”) appointed by the President.

4           (2) POSITIONS AT LEVEL V.—Section 5316 of  
 5           title 5, United States Code, is amended by adding  
 6           at the end the following:

7           “Director, Advanced Research Projects Admin-  
 8           istration-Energy.”.

9           (d) DUTIES.—

10          (1) IN GENERAL.—In carrying out this section,  
 11          the Director shall award competitive grants, cooper-  
 12          ative agreements, or contracts to institutions of  
 13          higher education, companies, or consortia of such  
 14          entities (which may include federally funded re-  
 15          search and development centers) to achieve the goal  
 16          described in subsection (b) through acceleration of—

17                 (A) energy-related research;

18                 (B) development of resultant techniques,  
 19                 processes, and technologies, and related testing  
 20                 and evaluation; and

21                 (C) demonstration and commercial applica-  
 22                 tion of the most promising technologies and re-  
 23                 search applications.

24          (2) SMALL-BUSINESS CONCERNS.—The Direc-  
 25          tor shall carry out programs established under this

1 section, to the maximum extent practicable, in a  
2 manner that is similar to the Small Business Inno-  
3 vation Research Program established under section  
4 9 of the Small Business Act (15 U.S.C. 638) to en-  
5 sure that small-business concerns are fully able to  
6 participate in the programs.

7 (e) PERSONNEL.—

8 (1) PROGRAM MANAGERS.—

9 (A) APPOINTMENT.—The Director shall  
10 appoint employees to serve as program man-  
11 agers for each of the programs that are estab-  
12 lished to carry out the duties of ARPA-E under  
13 this section.

14 (B) DUTIES.—Program managers shall be  
15 responsible for—

16 (i) establishing research and develop-  
17 ment goals for the program, as well as  
18 publicizing goals of the program to the  
19 public and private sectors;

20 (ii) soliciting applications for specific  
21 areas of particular promise, especially  
22 areas for which the private sector cannot  
23 or will not provide funding;

24 (iii) selecting research projects for  
25 support under the program from among

1 applications submitted to ARPA–E, based  
2 on—

3 (I) the scientific and technical  
4 merit of the proposed projects;

5 (II) the demonstrated capabilities  
6 of the applicants to successfully carry  
7 out the proposed research project; and

8 (III) such other criteria as are  
9 established by the Director; and

10 (iv) monitoring the progress of  
11 projects supported under the program.

12 (2) OTHER PERSONNEL.—

13 (A) IN GENERAL.—Subject to subpara-  
14 graph (B), the Director shall appoint such em-  
15 ployees as are necessary to carry out the duties  
16 of ARPA–E under this section.

17 (B) LIMITATIONS.—The Director shall ap-  
18 point not more than 250 employees to carry out  
19 the duties of ARPA–E under this section, in-  
20 cluding not less than 180 technical staff, of  
21 which—

22 (i) not less than 20 staff shall be sen-  
23 ior technical managers (including program  
24 managers designated under paragraph  
25 (1)); and

1 (ii) not less than 80 staff shall be  
 2 technical program managers.

3 (3) EXPERIMENTAL PERSONNEL AUTHORITY.—

4 In appointing personnel for ARPA-E, the Director  
 5 shall have the hiring and management authorities  
 6 described in section 1101 of the Strom Thurmond  
 7 National Defense Authorization Act for Fiscal Year  
 8 1999 (Public Law 105-261; 5 U.S.C. 3104 note).

9 (4) MAXIMUM DURATION OF EMPLOYMENT.—

10 (A) PROGRAM MANAGERS AND SENIOR  
 11 TECHNICAL MANAGERS.—

12 (i) IN GENERAL.—Subject to clause  
 13 (ii), a program manager and a senior tech-  
 14 nical manager appointed under this sub-  
 15 section shall serve for a term not to exceed  
 16 4 years after the date of appointment.

17 (ii) EXTENSIONS.—The Director may  
 18 extend the term of employment of a pro-  
 19 gram manager or a senior technical man-  
 20 ager appointed under this subsection for  
 21 not more than 4 years through 1 or more  
 22 2-year terms.

23 (B) TECHNICAL PROGRAM MANAGERS.—A  
 24 technical program manager appointed under

1           this subsection shall serve for a term not to ex-  
2           ceed 6 years after the date of appointment.

3           (5) LOCATION.—The office of an officer or em-  
4           ployee of ARPA–E shall not be located in the head-  
5           quarters of the Department of Energy.

6           (f) TRANSACTIONS OTHER THAN CONTRACTS AND  
7           GRANTS.—

8           (1) IN GENERAL.—To carry out projects  
9           through ARPA–E, the Director may enter into  
10          transactions (other than contracts, cooperative  
11          agreements, and grants) to carry out advanced re-  
12          search projects under this section under similar  
13          terms and conditions as the authority is exercised  
14          under section 646(g) of the Department of Energy  
15          Organization Act (42 U.S.C. 7256(g)).

16          (2) PEER REVIEW.—Peer review shall not be  
17          required for 75 percent of the research projects car-  
18          ried out by the Director under this section.

19          (g) PRIZES FOR ADVANCED TECHNOLOGY ACHIEVE-  
20          MENTS.—The Director may carry out a program to award  
21          cash prizes in recognition of outstanding achievements in  
22          basic, advanced, and applied research, technology develop-  
23          ment, and prototype development that have the potential  
24          for application to the performance of the mission of  
25          ARPA–E under similar terms and conditions as the au-

1   thority is exercised under section 1008 of the Energy Pol-  
 2   icy Act of 2005 (42 U.S.C. 16396).

3       (h) COORDINATION OF ACTIVITIES.—The Director—

4           (1) shall ensure that the activities of ARPA-E  
 5       are coordinated with activities of Department of En-  
 6       ergy offices and outside agencies; and

7           (2) may carry out projects jointly with other  
 8       agencies.

9       (i) REPORT.—Not later than September 30, 2008,  
 10   the Director shall submit to Congress a report on the ac-  
 11   tivities of ARPA-E under this section, including a rec-  
 12   ommendation on whether ARPA-E needs an energy re-  
 13   search laboratory.

14       (j) AUTHORIZATION OF APPROPRIATIONS.—There  
 15   are authorized to be appropriated to carry out this sec-  
 16   tion—

17           (1) \$300,000,000 for fiscal year 2008;

18           (2) \$600,000,000 for fiscal year 2009;

19           (3) \$1,100,000,000 for fiscal year 2010;

20           (4) \$1,500,000,000 for fiscal year 2011; and

21           (5) \$2,000,000,000 for fiscal year 2012.

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