

109TH CONGRESS  
2D SESSION

# S. 2796

To authorize the Secretary of Energy to establish monetary prizes for achievements in overcoming scientific and technical barriers associated with hydrogen energy.

---

## IN THE SENATE OF THE UNITED STATES

MAY 12, 2006

Mr. GRAHAM (for himself and Mr. DORGAN) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

## A BILL

To authorize the Secretary of Energy to establish monetary prizes for achievements in overcoming scientific and technical barriers associated with hydrogen energy.

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 “H-Prize Act of 2006”.

5       **SEC. 2. DEFINITIONS.**

6       In this Act:

7               (1) ADMINISTERING ENTITY.—The term “ad-  
8       ministering entity” means the entity with which the

1 Secretary enters into an agreement under section  
2 3(c).

3 (2) DEPARTMENT.—The term “Department”  
4 means the Department of Energy.

5 (3) SECRETARY.—The term “Secretary” means  
6 the Secretary of Energy.

7 **SEC. 3. PRIZE AUTHORITY.**

8 (a) IN GENERAL.—The Secretary shall carry out a  
9 program to competitively award cash prizes only in con-  
10 formity with this Act to advance the research, develop-  
11 ment, demonstration, and commercial application of hy-  
12 drogen energy technologies.

13 (b) ADVERTISING AND SOLICITATION OF COMPETI-  
14 TIONS.—

15 (1) ADVERTISING.—The Secretary shall widely  
16 advertise prize competitions to encourage broad par-  
17 ticipation, including participation by—

18 (A) individuals;

19 (B) institutions of higher education, in-  
20 cluding historically Black colleges and univer-  
21 sities and other institutions serving minorities;  
22 and

23 (C) large and small businesses, including  
24 businesses owned or controlled by socially and  
25 economically disadvantaged persons.

1           (2) ANNOUNCEMENT THROUGH FEDERAL REG-  
2       ISTER NOTICE.—

3           (A) IN GENERAL.—The Secretary shall an-  
4       nounce each prize competition by publishing a  
5       notice in the Federal Register.

6           (B) REQUIREMENTS.—The notice shall in-  
7       clude a description of—

8                   (i) the subject of the competition;

9                   (ii) the duration of the competition;

10                  (iii) the eligibility requirements for  
11       participation in the competition;

12                  (iv) the process for participants to  
13       register for the competition;

14                  (v) the amount of the prize; and

15                  (vi) the criteria for awarding the  
16       prize.

17       (c) ADMINISTERING THE COMPETITIONS.—

18           (1) IN GENERAL.—The Secretary shall enter  
19       into an agreement with a private, nonprofit entity to  
20       administer the prize competitions, subject to this  
21       Act.

22           (2) DUTIES.—The duties of the administering  
23       entity under the agreement shall include—

24                   (A) advertising prize competitions and the  
25       results of the prize competitions;

1 (B) raising funds from private entities and  
2 individuals to pay for administrative costs and  
3 contribute to cash prizes;

4 (C) working with the Secretary to develop  
5 the criteria for selecting winners in prize com-  
6 petitions, based on goals provided by the Sec-  
7 retary;

8 (D) determining, in consultation with the  
9 Secretary, the appropriate amount for each  
10 prize to be awarded;

11 (E) selecting judges in accordance with  
12 section 4(d), using criteria developed in con-  
13 sultation with the Secretary; and

14 (F) preventing the unauthorized use or  
15 disclosure of the intellectual property, trade se-  
16 crets, and confidential business information of  
17 registered participants.

18 (d) FUNDING SOURCES.—

19 (1) IN GENERAL.—Cash prizes under this Act  
20 shall consist of funds appropriated under section 8  
21 and any funds provided by the administering entity  
22 for the cash prizes (including funds raised pursuant  
23 to subsection (c)(2)(B)).

1           (2) OTHER FEDERAL AGENCIES.—The Sec-  
2       retary may accept funds from other Federal agencies  
3       for the cash prizes.

4           (3) NO SPECIAL CONSIDERATION.—The Sec-  
5       retary may not give any special consideration to any  
6       private sector entity or individual in return for a do-  
7       nation to the administering entity.

8       (e) ANNOUNCEMENT OF PRIZES.—

9           (1) IN GENERAL.—The Secretary may not issue  
10      a notice required by subsection (b)(2) until all the  
11      funds needed to pay out the announced amount of  
12      the prize have been appropriated or committed in  
13      writing by the administering entity.

14          (2) INCREASE IN AMOUNT OF PRIZE.—The Sec-  
15      retary may increase the amount of a prize after an  
16      initial announcement is made under subsection  
17      (b)(2) if—

18            (A) notice of the increase is provided in  
19      the same manner as the initial notice of the  
20      prize; and

21            (B) the funds needed to pay out the an-  
22      nounced amount of the increase have been ap-  
23      propriated or committed in writing by the ad-  
24      ministering entity.

1 **SEC. 4. PRIZE CATEGORIES.**

2 (a) CATEGORIES.—The Secretary shall establish  
3 prizes for—

4 (1) advancements in components or systems re-  
5 lated to—

6 (A) hydrogen production;

7 (B) hydrogen storage;

8 (C) hydrogen distribution; and

9 (D) hydrogen utilization;

10 (2) prototypes of hydrogen-powered vehicles or  
11 other hydrogen-based products that best meet or ex-  
12 ceed objective performance criteria, such as comple-  
13 tion of a race over a certain distance or terrain or  
14 generation of energy at certain levels of efficiency;  
15 and

16 (3) transformational changes in technologies for  
17 the distribution or production of hydrogen that meet  
18 or exceed far-reaching objective criteria that—

19 (A) shall include minimal carbon emis-  
20 sions; and

21 (B) may include cost criteria designed to  
22 facilitate the eventual market success of a win-  
23 ning technology.

24 (b) AWARDS.—

25 (1) ADVANCEMENTS.—

(A) IN GENERAL.—To the extent permitted under section 3(e), the prizes authorized under subsection (a)(1) shall be awarded biennially to the most significant advance made in each of the 4 subcategories described in subparagraphs (A) through (D) of subsection (a)(1) since the submission deadline of the previous prize competition in the same category under subsection (a)(1) or the date of enactment of this Act, whichever is later, unless no such advance is significant enough to merit an award.

(B) MAXIMUM AMOUNT FOR SINGLE PRIZE.—No single prize described in subparagraph (A) may exceed \$1,000,000.

(C) INSUFFICIENT TOTAL FUNDS.—If less than \$4,000,000 is available for a prize competition under subsection (a)(1), the Secretary may—

(i) omit 1 or more subcategories;

(ii) reduce the amount of the prizes;

or

(iii) not hold a prize competition.

(2) PROTOTYPES.—

1 (A) IN GENERAL.—To the extent per-  
 2 mitted under section 3(e), prizes authorized  
 3 under subsection (a)(2) shall be awarded bien-  
 4 nially in alternate years from the prizes author-  
 5 ized under subsection (a)(1).

6 (B) TOTAL NUMBER OF PRIZES.—The Sec-  
 7 retary may award no more than 1 prize under  
 8 subsection (a)(1) in each 2-year period.

9 (C) MAXIMUM AMOUNT FOR SINGLE  
 10 PRIZE.—No single prize under this paragraph  
 11 may exceed \$4,000,000.

12 (D) INSUFFICIENT QUALIFIED ENTRIES.—  
 13 If no registered participant meets the objective  
 14 performance criteria established pursuant to  
 15 subsection (c) for a competition under this  
 16 paragraph, the Secretary shall not award a  
 17 prize.

18 (3) TRANSFORMATIONAL TECHNOLOGIES.—

19 (A) IN GENERAL.—To the extent per-  
 20 mitted under section 3(e), the Secretary shall  
 21 announce 1 prize competition authorized under  
 22 subsection (a)(3) as soon as practicable after  
 23 the date of enactment of this Act.

24 (B) AMOUNT OF PRIZE.—A prize offered  
 25 under this paragraph shall—



1 (i) be in an amount not less than  
2 \$10,000,000;

3 (ii) be paid to the winner in a lump  
4 sum; and

5 (iii) include an additional amount paid  
6 to the winner as a match for each dollar  
7 of non-Federal funding raised by the win-  
8 ner for the hydrogen technology beginning  
9 on the date the winner was named.

10 (C) MATCHING.—

11 (i) IN GENERAL.—The match de-  
12 scribed in subparagraph (B)(iii) shall be  
13 provided until the earlier of—

14 (I) the date that is 3 years after  
15 the date the prize winner is named; or

16 (II) the date on which the full  
17 amount of the prize has been paid  
18 out.

19 (ii) ELECTION.—A prize winner may  
20 elect to have the match amount paid to an-  
21 other entity that is continuing the develop-  
22 ment of the winning technology.

23 (iii) RULES.—The Secretary shall an-  
24 nounce the rules for receiving the match in  
25 the notice required by section 3(b)(2).

1 (D) REQUIREMENTS.—The Secretary shall  
2 award a prize under this paragraph only when  
3 a registered participant has met the objective  
4 criteria established for the prize pursuant to  
5 subsection (c) and announced pursuant to sec-  
6 tion 3(b)(2).

7 (E) TOTAL AMOUNT OF FUNDS.—

8 (i) FEDERAL FUNDS.—Not more than  
9 \$10,000,000 in Federal funds may be used  
10 for the prize award under this paragraph.

11 (ii) MATCHING FUNDS.—As a condi-  
12 tion of entering into an agreement under  
13 section 3(c), the administering entity shall  
14 seek to raise \$40,000,000 in non-Federal  
15 funds toward the matching award under  
16 this paragraph.

17 (c) CRITERIA.—In establishing the criteria required  
18 by this Act, the Secretary shall consult with—

19 (1) the Hydrogen Technical and Fuel Cell Advi-  
20 sory Committee of the Department;

21 (2) other Federal agencies, including the Na-  
22 tional Science Foundation; and

23 (3) private organizations, including professional  
24 societies, industry associations, the National Acad-

1 emy of Sciences, and the National Academy of Engi-  
2 neering.

3 (d) JUDGES.—

4 (1) IN GENERAL.—For each prize competition,  
5 the Secretary shall assemble a panel of qualified  
6 judges to select the 1 or more winners on the basis  
7 of the criteria established under subsection (c).

8 (2) INCLUSIONS.—Judges for each prize com-  
9 petition shall include individuals from outside the  
10 Department, including from the private sector.

11 (3) PROHIBITIONS.—A judge may not—

12 (A) have personal or financial interests in,  
13 or be an employee, officer, director, or agent of,  
14 any entity that is a registered participant in the  
15 prize competition for which the judge will serve  
16 as a judge; or

17 (B) have a familial or financial relationship  
18 with an individual who is a registered partici-  
19 pant in the prize competition for which the  
20 judge will serve as a judge.

21 **SEC. 5. ELIGIBILITY.**

22 To be eligible to win a prize under this Act, an indi-  
23 vidual or entity—

1           (1) shall have complied with all the require-  
2           ments in accordance with the Federal Register no-  
3           tice required under section 3(b)(2);

4           (2) in the case of a private entity, shall be in-  
5           corporated in and maintain a primary place of busi-  
6           ness in the United States;

7           (3) in the case of an individual (whether par-  
8           ticipating singly or in a group), shall be a citizen of,  
9           or an alien lawfully admitted for permanent resi-  
10          dence in, the United States; and

11          (4) shall not be a Federal entity, a Federal em-  
12          ployee acting within the scope of employment, or an  
13          employee of a national laboratory acting within the  
14          scope of employment.

15 **SEC. 6. INTELLECTUAL PROPERTY.**

16          (a) IN GENERAL.—Subject to subsection (b), the  
17          Federal Government shall not, by virtue of offering or  
18          awarding a prize under this Act, be entitled to any intellec-  
19          tual property rights derived as a consequence of, or direct  
20          relation to, the participation by a registered participant  
21          in a competition authorized by this Act.

22          (b) NEGOTIATION OF LICENSES PERMITTED.—This  
23          section does not prevent the Federal Government from ne-  
24          gotiating a license for the use of intellectual property de-  
25          veloped for a prize competition under this Act.

1 **SEC. 7. LIABILITY.**

2 (a) **WAIVER OF LIABILITY.**—

3 (1) **IN GENERAL.**—As a condition of partici-  
4 tion in a competition under this Act, the Secretary  
5 may require registered participants to waive claims  
6 against the Federal Government and the admin-  
7 istering entity (except claims for willful misconduct)  
8 for any injury, death, damage, or loss of property,  
9 revenue, or profits arising from the participation of  
10 the registered participants in a competition under  
11 this Act.

12 (2) **NOTICE REQUIRED.**—The Secretary shall  
13 provide notice of any waiver required under this sub-  
14 section in the notice required by section 3(b)(2).

15 (3) **PROHIBITION.**—The Secretary may not re-  
16 quire a registered participant to waive claims  
17 against the administering entity arising out of the  
18 unauthorized use or disclosure by the administering  
19 entity of the intellectual property, trade secrets, or  
20 confidential business information of the registered  
21 participant.

22 (b) **LIABILITY INSURANCE.**—

23 (1) **REQUIREMENTS.**—As a condition of partici-  
24 pation in a competition under this Act, a registered  
25 participant shall be required to obtain liability insur-  
26 ance or demonstrate financial responsibility, in

1 amounts determined by the Secretary, for claims  
2 by—

3 (A) a third party for death, bodily injury,  
4 or property damage or loss resulting from an  
5 activity carried out in connection with participa-  
6 tion in a competition under this Act; and

7 (B) the Federal Government for damage or  
8 loss to Government property resulting from  
9 such an activity.

10 (2) FEDERAL GOVERNMENT INSURED.—

11 (A) IN GENERAL.—The Federal Govern-  
12 ment shall be named as an additional insured  
13 under the insurance policy of a registered par-  
14 ticipant required under paragraph (1)(A).

15 (B) MANDATORY INDEMNIFICATION.—As a  
16 condition of participation in a competition  
17 under this Act, a registered participant shall be  
18 required to agree to indemnify the Federal Gov-  
19 ernment against third party claims for damages  
20 arising from or related to competition activities.

21 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

22 (a) AUTHORIZATION OF APPROPRIATIONS.—

23 (1) AWARDS.—There are authorized to be ap-  
24 propriated to the Secretary to carry out this Act for  
25 the period of fiscal years 2007 through 2016—

1 (A) \$20,000,000 for awards described in  
2 section 4(a)(1);

3 (B) \$20,000,000 for awards described in  
4 section 4(a)(2); and

5 (C) \$10,000,000 for the award described  
6 in section 4(a)(3).

7 (2) ADMINISTRATION.—In addition to the  
8 amounts authorized in paragraph (1), there are au-  
9 thorized to be appropriated to the Secretary for the  
10 administrative costs of carrying out this Act  
11 \$2,000,000 for each of fiscal years 2007 through  
12 2016.

13 (b) CARRYOVER OF FUNDS.—

14 (1) IN GENERAL.—Funds appropriated for  
15 prize awards under this Act—

16 (A) shall remain available until expended;  
17 and

18 (B) may be transferred, reprogrammed, or  
19 expended for other purposes only after the expi-  
20 ration of 10 fiscal years after the fiscal year for  
21 which the funds were originally appropriated.

22 (2) RELATION TO OTHER LAW.—No provision  
23 in this Act permits obligation or payment of funds  
24 in violation of section 1341 of title 31, United States

1 Code (commonly known as the “Anti-Deficiency  
2 Act”).

3 **SEC. 9. MAINTENANCE OF EFFORT.**

4 The Secretary shall ensure that funds provided under  
5 this Act will be used only to supplement, and not to sup-  
6 plant, Federal research and development programs.

7 **SEC. 10. SUNSET.**

8 The authority provided by this Act shall terminate  
9 on September 30, 2017.

○