

# Union Calendar No. 553

110TH CONGRESS  
2D SESSION

# H. R. 6323

[Report No. 110-855]

To establish a research, development, demonstration, and commercial application program to promote research of appropriate technologies for heavy duty plug-in hybrid vehicles, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

JUNE 19, 2008

Mr. SENSENBRENNER (for himself, Mrs. BIGGERT, Mr. MARIO DIAZ-BALART of Florida, Mr. EHLERS, and Mr. SMITH of Texas) introduced the following bill; which was referred to the Committee on Science and Technology

SEPTEMBER 16, 2008

Additional sponsors: Mr. REICHERT and Mr. MILLER of North Carolina

SEPTEMBER 16, 2008

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in *italic*]

[For text of introduced bill, see copy of bill as introduced on June 19, 2008]

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## A BILL

To establish a research, development, demonstration, and commercial application program to promote research of appropriate technologies for heavy duty plug-in hybrid vehicles, 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 “Heavy Duty Hybrid*  
5 *Vehicle Research, Development, and Demonstration Act of*  
6 *2008”.*

7 **SEC. 2. ADVANCED HEAVY DUTY HYBRID VEHICLE TECH-**  
8                    **NOLOGY RESEARCH, DEVELOPMENT, DEM-**  
9                    **ONSTRATION, AND COMMERCIAL APPLICA-**  
10                   **TION PROGRAM.**

11        *(a) ESTABLISHMENT.—The Secretary shall establish a*  
12 *competitive research, development, demonstration, and com-*  
13 *mercial application program (referred to in this Act as the*  
14 *“program”) to provide grants to applicants to carry out*  
15 *projects to advance research and development and to dem-*  
16 *onstrate technologies for advanced heavy duty hybrid vehi-*  
17 *cles.*

18        *(b) APPLICATIONS.—*

19                    *(1) IN GENERAL.—The Secretary shall issue re-*  
20 *quirements for applying for grants under the pro-*  
21 *gram.*

22                    *(2) SELECTION CRITERIA.—The Secretary shall*  
23 *establish selection criteria for awarding grants under*  
24 *the program. In evaluating applications, the Sec-*  
25 *retary shall—*

1           (A) consider the ability of applicants to suc-  
2           cessfully complete both phases described in sub-  
3           section (c); and

4           (B) give priority to applicants who are best  
5           able to—

6                   (i) fill existing research gaps and  
7                   achieve the greatest advances beyond the  
8                   state of current technology; and

9                   (ii) achieve the greatest reduction in  
10                  fuel consumption and emissions.

11           (3) *PARTNERS.*—An applicant for a grant under  
12           this section may carry out a project in partnership  
13           with other entities.

14           (4) *SCHEDULE.*—

15                   (A) *APPLICATION REQUEST.*—Not later than  
16                   180 days after the date of the enactment of this  
17                   Act, the Secretary shall publish in the Federal  
18                   Register, and elsewhere as appropriate, a request  
19                   for applications to undertake projects under the  
20                   program. Applications shall be due not later  
21                   than 90 days after the date of such publication.

22                   (B) *APPLICATION SELECTION.*—Not later  
23                   than 90 days after the date on which applica-  
24                   tions for grants under the program are due, the  
25                   Secretary shall select, through a competitive

1           *process, all applicants to be awarded a grant*  
2           *under the program.*

3           (5) *NUMBER OF GRANTS.*—*The Secretary shall*  
4           *determine the number of grants to be awarded under*  
5           *the program based on the technical merits of the ap-*  
6           *plications received. The number of grants awarded*  
7           *under the program shall not be less than 3 or more*  
8           *than 7, and at least half of the grants awarded shall*  
9           *be for plug-in hybrid technology.*

10          (6) *AWARD AMOUNTS.*—*The Secretary shall*  
11          *award not more than \$3,000,000 to each recipient per*  
12          *year for each of the 3 years of the project.*

13          (c) *PROGRAM REQUIREMENTS; TWO PHASES.*—*Each*  
14          *grant recipient shall be required to complete two phases:*

15               (1) *PHASE ONE.*—

16                   (A) *IN GENERAL.*—*In phase one, the recipi-*  
17                   *ent shall research and demonstrate advanced hy-*  
18                   *brid technology by producing or retrofitting one*  
19                   *or more advanced heavy duty hybrid vehicles.*

20                   (B) *REPORT.*—*Not later than 60 days after*  
21                   *the completion of phase one, the recipient shall*  
22                   *submit to the Secretary a report containing data*  
23                   *and analysis of—*

24                               (i) *the performance of each vehicle in*  
25                               *carrying out the testing procedures devel-*

1            *oped by the Secretary under subparagraph*  
2            *(E);*

3            *(ii) the performance during such test-*  
4            *ing of each vehicle's components, including*  
5            *the battery, energy management system,*  
6            *charging system, and power controls;*

7            *(iii) the projected cost of each vehicle,*  
8            *including acquisition, operating, and main-*  
9            *tenance costs; and*

10           *(iv) the emissions levels of each vehicle,*  
11           *including greenhouse gas levels.*

12           *(C) TERMINATION.—The Secretary may ter-*  
13           *minate the grant program with respect to the*  
14           *project of a recipient at the conclusion of phase*  
15           *one if the Secretary determines that the recipient*  
16           *cannot successfully complete the requirements of*  
17           *phase two.*

18           *(D) TIMING.—Phase one begins upon re-*  
19           *ceipt of a grant under the program and has a*  
20           *duration of one year.*

21           *(E) TESTING PROCEDURES.—The Secretary*  
22           *shall develop standard testing procedures to be*  
23           *used by recipients in testing each vehicle. Such*  
24           *procedures shall include testing a vehicle's per-*  
25           *formance under typical operating conditions.*

1           (2) *PHASE TWO.*—

2                   (A) *IN GENERAL.*—*In phase two, the recipi-*  
3                   *ent shall demonstrate advanced manufacturing*  
4                   *processes and technologies by producing or retro-*  
5                   *fitting 50 advanced heavy duty hybrid vehicles.*

6                   (B) *REPORT.*—*Not later than 60 days after*  
7                   *the completion of phase two, the recipient shall*  
8                   *submit to the Secretary a report containing—*

9                           (i) *an analysis of the technological*  
10                           *challenges encountered by the recipient in*  
11                           *the development of the vehicles;*

12                           (ii) *an analysis of the technological*  
13                           *challenges involved in mass producing the*  
14                           *vehicles; and*

15                           (iii) *the manufacturing cost of each ve-*  
16                           *hicle, the estimated sale price of each vehi-*  
17                           *cle, and the cost of a comparable non-hybrid*  
18                           *vehicle.*

19                   (C) *TIMING.*—*Phase two begins at the con-*  
20                   *clusion of phase one and has a duration of two*  
21                   *years.*

22                   (d) *RESEARCH ON VEHICLE USAGE AND ALTERNATIVE*  
23                   *DRIVE TRAINS.*—*The Secretary shall conduct research into*  
24                   *alternative power train designs for use in advanced heavy*  
25                   *duty hybrid vehicles. Such research shall compare the esti-*

1 mated cost, including operating and maintenance costs,  
2 emissions reductions, and fuel savings of each design with  
3 similar non-hybrid power train designs under the condi-  
4 tions in which these vehicles are typically used, including,  
5 for each vehicle type—

- 6 (1) number of miles driven;
- 7 (2) time spent with the engine at idle;
- 8 (3) horsepower requirements;
- 9 (4) length of time the maximum or near max-  
10 imum power output of the vehicle is needed; and
- 11 (5) any other factors that the Secretary considers  
12 appropriate.

13 (e) *REPORT TO THE CONGRESS.*—Not later than 60  
14 days after the Secretary receives the reports from grant re-  
15 cipients under subsection (c)(2)(B), the Secretary shall sub-  
16 mit to the Congress a report containing—

- 17 (1) an identification of the grant recipients and  
18 a description of the projects to be funded;
- 19 (2) an identification of all applicants who sub-  
20 mitted applications for the program;
- 21 (3) all data contained in reports submitted by  
22 grant recipients under subsection (c);
- 23 (4) a description of the vehicles produced or ret-  
24 rofitted by recipients in phase one and phase two of

1        *the project, including an analysis of the fuel efficiency*  
2        *of such vehicles; and*

3                *(5) the results of the research carried out under*  
4        *subsections (d) and (h).*

5        *(f) COORDINATION AND NONDUPLICATION.—To the*  
6        *maximum extent practicable, the Secretary shall coordi-*  
7        *nate, and not duplicate, activities under this Act with other*  
8        *programs and laboratories of the Department of Energy*  
9        *and other Federal research programs.*

10        *(g) COST SHARING.—Section 988 of the Energy Policy*  
11        *Act of 2005 (42 U.S.C. 16352) shall apply to the program*  
12        *established pursuant to this section.*

13        *(h) ELECTRICAL GRID RESEARCH PILOT PROGRAM.—*  
14        *The Secretary shall establish a pilot program through the*  
15        *National Laboratories and Technology Centers of the De-*  
16        *partment of Energy to research and test the effects on the*  
17        *domestic electric power grid of the widespread use of plug-*  
18        *in hybrid vehicles, including plug-in hybrid vehicles that*  
19        *are advanced heavy duty hybrid vehicles.*

20        *(i) DEFINITIONS.—For purposes of this section:*

21                *(1) ADVANCED HEAVY DUTY HYBRID VEHICLE.—*  
22        *The term “advanced heavy duty hybrid vehicle”*  
23        *means a vehicle with a gross weight between 14,000*  
24        *pounds and 33,000 pounds that is fueled, in part, by*  
25        *a rechargeable energy storage system.*

1           (2) *GREENHOUSE GAS.*—*The term “greenhouse*  
2 *gas” means—*

3                   (A) *carbon dioxide;*

4                   (B) *methane;*

5                   (C) *nitrous oxide;*

6                   (D) *hydrofluorocarbons;*

7                   (E) *perfluorocarbons; or*

8                   (F) *sulfur hexafluoride.*

9           (3) *PLUG-IN HYBRID.*—*The term “plug-in hy-*  
10 *brid” means a vehicle fueled, in part, by electrical*  
11 *power that can be recharged by connecting the vehicle*  
12 *to an electric power source.*

13           (4) *RETROFIT.*—*The term “retrofit” means the*  
14 *process of creating an advanced heavy duty hybrid*  
15 *vehicle by converting an existing, fuel-powered vehicle.*

16           (5) *SECRETARY.*—*The term “Secretary” means*  
17 *the Secretary of Energy.*

18           (j) *AUTHORIZATION OF APPROPRIATIONS.*—

19                   (1) *There are authorized to be appropriated to*  
20 *the Secretary \$16,000,000 for each of fiscal years*  
21 *2009 through 2011 to carry out this section.*

22                   (2) *Of the funds authorized under paragraph (1),*  
23 *not more than \$1,000,000 per fiscal year may be used*  
24 *for—*

1                   (A) carrying out the studies required under  
2                   subsection (d);

3                   (B) carrying out the pilot program required  
4                   under subsection (h); and

5                   (C) the administration of the program.

6 **SEC. 3. EXPANDING RESEARCH IN HYBRID TECHNOLOGY**  
7 **FOR LARGE VEHICLES.**

8                   Subsection (g)(1) of the United States Energy Storage  
9                   Competitiveness Act of 2007 (enacted as section 641(g)(1)  
10                  of the Energy Independence and Security Act of 2007 (42  
11                  U.S.C. 17231(g)(1))) is amended by inserting “vehicles with  
12                  a gross weight over 16,000 pounds,” before “stationary ap-  
13                  plications”.



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