

108TH CONGRESS
1ST SESSION

H. R. 1395

To provide for the establishment of research, development, demonstration, and commercial application programs for fuel cell and hydrogen production, delivery, and storage technologies for transportation and stationary applications.

IN THE HOUSE OF REPRESENTATIVES

MARCH 20, 2003

Mr. LARSON of Connecticut introduced the following bill; which was referred to the Committee on Science

A BILL

To provide for the establishment of research, development, demonstration, and commercial application programs for fuel cell and hydrogen production, delivery, and storage technologies for transportation and stationary applications.

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. CORE FUEL CELL TECHNOLOGY RESEARCH**

4 **AND DEVELOPMENT FOR TRANSPORTATION**

5 **AND STATIONARY POWER GENERATION.**

6 (a) IN GENERAL.—The Secretary shall establish a re-
7 search, development, demonstration, and commercial ap-

1 plication program for fuel cell technologies for transpor-
2 tation and stationary applications with the following goals:

3 (1) Reducing the production cost of hydrogen
4 or gasoline fueled vehicle fuel cell power systems (in-
5 cluding hydrogen storage costs) to \$45 per kilowatt
6 in 2010 at production levels of 500,000 units per
7 year.

8 (2) Increasing the electrical efficiency of nat-
9 ural gas or propane fueled stationary fuel cell sys-
10 tems to 40 percent in 2010.

11 (3) Validating solutions to the performance and
12 vehicle interface issues of hydrogen fuel cell vehicles
13 to demonstrate an increase in durability in a vehicle
14 fleet of such fuel cells to 2000 hours by 2008.

15 (b) ELEMENTS OF PROGRAM.—The program author-
16 ized under this section shall include elements that focus
17 on achieving low cost, high-efficiency, fuel flexible, mod-
18 ular fuel cell power systems, improved manufacturing pro-
19 duction and processes, high-temperature membranes, cost
20 effective fuel processing for natural gas, fuel cell stack and
21 system reliability and durability, and freeze/cold start ca-
22 pability.

23 (c) AUTHORIZATION OF APPROPRIATIONS.—There
24 are authorized to be appropriated to the Secretary for car-
25 rying out this section—

- 1 (1) \$78,000,000 for fiscal year 2004;
- 2 (2) \$80,000,000 for fiscal year 2005;
- 3 (3) \$100,000,000 for fiscal year 2006;
- 4 (4) \$110,000,000 for fiscal year 2007; and
- 5 (5) \$122,000,000 for fiscal year 2008.

6 **SEC. 2. HYDROGEN TECHNOLOGY.**

7 (a) IN GENERAL.—The Secretary shall establish a re-
8 search, development, demonstration, and commercial ap-
9 plication program for hydrogen technologies with the fol-
10 lowing goals:

11 (1) Developing and demonstrating distributed
12 hydrogen generation technology that will reduce the
13 cost (before taxes) of producing hydrogen from nat-
14 ural gas, when produced in large quantities, to \$1.50
15 per gallon of gasoline equivalent at fueling stations
16 in 2010.

17 (2) Developing and demonstrating hydrogen
18 production from renewable energy resources at a
19 cost of \$2.60 per kilogram in 2008, using biomass-
20 based production.

21 (3) Developing and validating a hydrogen stor-
22 age technology with—

23 (A) specific energy of 2.0 kilowatt hours
24 per kilogram (6 weight percent capacity), and

1 energy density of 1.5 kilowatt hours per liter by
2 2010; and

3 (B) specific energy of 3.0 kilowatt hours
4 per kilogram (9 weight percent capacity), and
5 energy density of 2.7 kilowatt hours per liter by
6 2015.

7 (4) Validating a projected cost of \$3.00 per gal-
8 lon gasoline equivalent at fueling stations, using in-
9 frastructure and vehicle interface technologies, by
10 2008.

11 (b) ACTIVITIES.—In carrying out this section, the
12 Secretary shall—

13 (1) draft technical specifications for an inter-
14 national agreement on a global technology regulation
15 for hydrogen fuel cell vehicles and infrastructure;

16 (2) educate key target audiences, including stu-
17 dents and teachers, local and State government rep-
18 resentatives, and large scale end users, on the con-
19 cept of a hydrogen economy and how it may affect
20 them;

21 (3) initiate tests of prototype hydrogen-from-
22 gas production technologies and award projects for
23 hydrogen production and capture of associated car-
24 bon dioxide;

1 (4) initiate a hydrogen-from-coal initiative and
2 identify appropriate institutions to establish the fea-
3 sibility of emerging alternate coal-based hydrogen
4 technologies, investigate advanced separation tech-
5 nologies, and utilize a combination of experimental
6 and advanced computational methods to determine
7 optimal reaction chemistries for producing hydrogen-
8 from-coal-derived fuels; and

9 (5) initiate a nuclear hydrogen initiative to de-
10 velop and demonstrate the feasibility of nuclear en-
11 ergy for the large-scale, emission-free production of
12 hydrogen.

13 (c) AUTHORIZATION OF APPROPRIATIONS.—There
14 are authorized to be appropriated to the Secretary for car-
15 rying out this section—

16 (1) \$104,000,000 for fiscal year 2004;

17 (2) \$120,000,000 for fiscal year 2005;

18 (3) \$140,000,000 for fiscal year 2006;

19 (4) \$160,000,000 for fiscal year 2007; and

20 (5) \$186,000,000 for fiscal year 2008.

21 **SEC. 3. MERIT REVIEW OF PROPOSALS.**

22 Awards of funds authorized under this Act shall be
23 made only after an impartial review of the scientific and
24 technical merit of the proposals for such awards has been
25 carried out by or for the Department of Energy.

1 **SEC. 4. DEFINITION.**

2 For purposes of this Act, the term “Secretary”

3 means the Secretary of Energy.

○