

108TH CONGRESS
1ST SESSION

H. R. 1774

To provide for the establishment at the Department of Energy of a program for hydrogen fuel cell vehicles and infrastructure, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 11, 2003

Mr. BOEHLERT introduced the following bill; which was referred to the Committee on Science, and in addition to the Committee on Energy and Commerce, 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

A BILL

To provide for the establishment at the Department of Energy of a program for hydrogen fuel cell vehicles and infrastructure, 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 “FreedomCAR and Hy-
5 drogen Fuel Act of 2003” or “Freedom Act”.

6 **SEC. 2. FINDINGS, PURPOSE, AND DEFINITIONS.**

7 (a) FINDINGS.—Congress finds that—

1 (1) the United States is currently dependent on
2 foreign sources for a majority of its petroleum sup-
3 ply;

4 (2) the Nation's dependence on foreign petro-
5 leum is expected to increase in the decades ahead;

6 (3) it is in the national interest to reduce de-
7 pendence on imported petroleum by accelerating
8 Federal efforts to partner with the private sector by
9 deploying hydrogen fuel cell vehicles and the refuel-
10 ing infrastructure to support those vehicles;

11 (4) it is in the national interest to develop a
12 light duty vehicle fleet that substantially reduces de-
13 pendence on foreign petroleum, assists the Nation in
14 meeting its requirements under the Clean Air Act
15 and reduces greenhouse gas emissions in a manner
16 that maintains the freedom of consumers to pur-
17 chase the kinds of vehicles they wish to drive and
18 the freedom to refuel those vehicles safely,
19 affordably, and conveniently;

20 (5) hydrogen fuel cell vehicles and supporting
21 infrastructure have the potential to accelerate the
22 parallel advancement of fuel cells for stationary
23 power that will enhance the resiliency, reliability,
24 and environmental performance of the Nation's elec-
25 tricity infrastructure;

1 (6) ancillary benefits for the Nation, including
2 the acceleration of fuel cell technology for consumer
3 electronics and portable power, are likely to result
4 from the advancement of hydrogen fuel cell vehicles
5 and supporting infrastructure;

6 (7) there is a need for deployment of bridging
7 technologies including gasoline electric and diesel
8 electric hybrid drive systems, advanced combustion
9 engines including clean diesel, electric battery, and
10 power electronics, and alternative fuels and other
11 technology that can contribute to reducing petroleum
12 demand and decreasing air emissions;

13 (8) low-cost hydrogen production, storage, and
14 delivery facilities are essential to the success of the
15 FreedomCAR Vehicle Programs; and

16 (9) work should be performed in a manner that
17 is cognizant of consumer acceptance, passenger safe-
18 ty, and marketplace success.

19 (b) PURPOSE.—The purpose of this Act is to reduce
20 significantly the Nation’s dependence on imported petro-
21 leum, enhance the production and conservation of energy,
22 and reduce air emissions through support of the following
23 Department of Energy actions:

24 (1) Programs and activities leading to—

1 (A) a commitment by automakers and hy-
2 drogen energy and energy infrastructure pro-
3 viders no later than year 2015 to offer safe, af-
4 fordable, and technically viable hydrogen fuel
5 cell vehicles and refueling infrastructure in the
6 mass consumer market; and

7 (B) a commitment by the automakers and
8 hydrogen energy and energy infrastructure pro-
9 viders to the deployment of hydrogen fuel cell
10 vehicles and affordable and convenient refueling
11 infrastructure no later than year 2020.

12 (2) A program to establish international codes,
13 standards, and safety protocols for the use and man-
14 ufacture of domestic and foreign products.

15 (3) Interagency, intergovernmental, and inter-
16 national programs and activities for education, infor-
17 mation exchange, and cooperation.

18 (c) DEFINITIONS.—In this Act:

19 (1) The term “Advisory Committee” means the
20 Hydrogen Technical and Fuel Cell Advisory Com-
21 mittee established under section 5028 of this Act.

22 (2) The term “Department” means the Depart-
23 ment of Energy.

24 (3) The term “FreedomCAR” is the acronym
25 for a Department initiative in automotive research

1 and development entitled “Freedom Cooperative
2 Automotive Research”.

3 (4) The term “fuel cell” means a device that di-
4 rectly converts the chemical energy of a fuel and an
5 oxidant into electricity by an electrochemical process
6 taking place at separate electrodes in the device.

7 (5) The term “infrastructure” means the equip-
8 ment, systems, or facilities used to produce, dis-
9 tribute, deliver, or store hydrogen and other ad-
10 vanced clean fuels.

11 (6) The term “light duty vehicle” means a car
12 or truck, classified by the Department of Transpor-
13 tation as a Class I or IIA vehicle.

14 (7) The term “Secretary” means the Secretary
15 of Energy.

16 **SEC. 3. PLAN; REPORT.**

17 (a) PLAN.—The Secretary, in consultation with other
18 appropriate Federal agencies, shall prepare a comprehen-
19 sive interagency coordination plan for activities under this
20 Act. This plan may be provided as part of the President’s
21 annual budget submission to Congress.

22 (b) REPORT.—Not later than one year after the date
23 of enactment of this Act, and biennially thereafter, the
24 Secretary shall transmit to the Congress a report on the
25 status of programs and activities under this Act. This re-

1 port may be provided as part of the President’s annual
2 budget submission to Congress. This report may include,
3 in addition to any views and recommendations of the Sec-
4 retary—

5 (1) an assessment of the effectiveness of the
6 programs and activities under this Act and the ex-
7 tent to which the purposes in section 2(b) have been
8 met; and

9 (2) the potential for interagency, intergovern-
10 mental, international, or private sector collaboration
11 opportunities and activities under this Act.

12 **SEC. 4. PUBLIC-PRIVATE PARTNERSHIP.**

13 (a) PROGRAM.—In partnership with the private sec-
14 tor, the Secretary shall conduct a program designed to fa-
15 cilitate the production and conservation of energy and the
16 deployment of energy infrastructure, including all of the
17 following:

- 18 (1) Hydrogen energy.
19 (2) Fuel cells.
20 (3) Advanced vehicle technologies.
21 (4) Clean fuels in addition to hydrogen.
22 (5) Codes, standards, and safety protocols.

23 (b) PROGRAM GOALS.—

24 (1) AUTOMAKERS.—For automakers the goals
25 of the program are—

1 (A) to enable a commitment by auto-
2 makers no later than year 2015 to offer safe,
3 affordable, and technically viable hydrogen fuel
4 cell vehicles into commerce; and

5 (B) to enable production, delivery, and ac-
6 ceptance by consumers of model year 2020 hy-
7 drogen fuel cell and other vehicles that will
8 have—

9 (i) a range of at least three hundred
10 miles;

11 (ii) improved performance and ease of
12 driving;

13 (iii) met all light duty safety regula-
14 tions created under section 30111 of title
15 49, United States Code; and

16 (iv) when compared to light duty vehi-
17 cles in model year 2003—

18 (I) a fuel economy that is two
19 and one half times the equivalent fuel
20 economy of these vehicles as regulated
21 under the Motor Vehicle Information
22 and Cost Savings Act, or about 70
23 miles per gallon, and

1 (II) near zero emissions of air
2 pollutants regulated under the Clean
3 Air Act.

4 (2) HYDROGEN ENERGY AND ENERGY INFRA-
5 STRUCTURE.—For hydrogen energy and energy in-
6 frastructure the goals of the program include, but
7 are not limited to, a commitment not later than
8 2015 that will enable the deployment by 2020 of in-
9 frastructure to provide—

10 (A) safe and convenient refueling;

11 (B) activities leading to widespread avail-
12 ability of hydrogen from domestic energy
13 sources through—

14 (i) production, including consideration
15 of cost-effective production from domestic
16 energy sources;

17 (ii) delivery, including transmission by
18 pipeline and other distribution methods for
19 hydrogen; and

20 (iii) storage, including storage in sur-
21 face transportation vehicles;

22 (C) hydrogen for fuel cells, internal com-
23 bustion engines, and other energy conversion
24 devices for portable, stationary, and transpor-
25 tation applications; and

1 (D) other technologies consistent with the
2 Department's plan.

3 (3) FUEL CELLS.—The program for fuel cells
4 and their portable, stationary, and transportation
5 applications may include, but is not limited to—

6 (A) a safe, economical, and environ-
7 mentally sound hydrogen fuel cell;

8 (B) a fuel cell for light duty and other ve-
9 hicles; and

10 (C) other technologies consistent with the
11 Department's plan.

12 (4) ADVANCED VEHICLE TECHNOLOGIES.—The
13 program for advanced vehicle technologies may in-
14 clude, but is not limited to—

15 (A) advanced combustion;

16 (B) materials;

17 (C) energy storage;

18 (D) control systems; and

19 (E) other technologies consistent with the
20 Department's plan.

21 (5) CODES, STANDARDS, AND SAFETY PROTO-
22 COLS.—(A) The Department's program for codes,
23 standards, and safety protocols shall strive towards
24 establishment of international codes, standards, and

1 safety protocols for the use and manufacture of do-
2 mestic and foreign products.

3 (B) The Secretary may represent the United
4 States interests with respect to activities and pro-
5 grams under this subsection, collaborating with the
6 Secretary of Transportation, and in consultation
7 with other appropriate governments and nongovern-
8 mental organizations including the following:

9 (i) Other Federal, State, regional, and
10 local governments and their representatives.

11 (ii) Industry and its representatives, in-
12 cluding members of the energy and transpor-
13 tation industries.

14 (iii) Foreign governments and their rep-
15 resentatives including international organiza-
16 tions.

17 (c) FEDERAL FUNDING.—(1) The Secretary shall
18 carry out the programs and activities under this section
19 consistent with the generally applicable Federal laws and
20 regulations governing awards of financial assistance, con-
21 tracts, or other agreements, and may include funding to
22 nationally recognized university-based research centers.

23 (2) The Secretary shall endeavor to avoid duplication
24 or displacement of other research and development pro-
25 grams and activities.

1 (d) COST SHARING.—(1) The Secretary shall require
2 a commitment from non-Federal sources of at least 20
3 percent of the cost of proposed programs under this sec-
4 tion.

5 (2) The Secretary may reduce or eliminate the cost
6 sharing requirement under paragraph (1)—

7 (A) if the Secretary determines that the activity
8 is of a basic or fundamental nature which is vital to
9 the success of the program and unlikely to occur in
10 a timely manner without reduction or elimination of
11 the cost-sharing requirement; or

12 (B) for technical analyses, outreach programs,
13 and other activities including educational programs
14 under section 7 of this Act that the Secretary does
15 not expect to result in a marketable product.

16 **SEC. 5. DEPLOYMENT.**

17 (a) DEPLOYMENT PROGRAM.—In partnership with
18 the private sector, the Secretary shall conduct a program
19 to facilitate the deployment of—

- 20 (1) hydrogen energy and energy infrastructure;
21 (2) fuel cells;
22 (3) advanced vehicle technologies;
23 (4) clean fuels in addition to hydrogen; and
24 (5) codes, standards, and safety protocols.

1 (b) PROGRAM GOALS.—(1) For automakers, the
2 goals of the program are—

3 (A) to enable a decision by automakers no later
4 than year 2015 to offer safe, affordable, and tech-
5 nically viable hydrogen fuel cell vehicles into com-
6 merce; and

7 (B) to enable production and delivery to, and
8 acceptance by, consumers of model year 2020 hydro-
9 gen fuel cell and other vehicles that will have—

10 (i) a range of at least 300 miles;

11 (ii) improved performance and ease of driv-
12 ing;

13 (iii) met all light duty safety regulations
14 created under section 30111 of title 49, United
15 States Code; and

16 (iv) when compared to light duty vehicles
17 in model year 2003—

18 (I) a fuel economy that is two and one
19 half times the equivalent fuel economy of
20 these vehicles under the Motor Vehicle In-
21 formation and Cost Savings Act, or about
22 70 miles per gallon; and

23 (II) near zero emissions of air pollut-
24 ants regulated under the Clean Air Act.

1 (2) For hydrogen energy and energy infrastructure
2 the goals of the program include, but are not limited to,
3 a commitment not later than 2015 that will enable the
4 deployment by 2020 of infrastructure to provide—

5 (A) safe, convenient, and affordable refueling;

6 (B) widespread availability of hydrogen from
7 domestic energy sources through—

8 (i) production, including consideration of
9 cost-effective production from domestic energy
10 sources;

11 (ii) delivery, including transmission by
12 pipeline and other distribution methods, for hy-
13 drogen in its gaseous, liquid, and solid states;
14 and

15 (iii) storage, including storage in surface
16 transportation vehicles;

17 (C) hydrogen for fuel cells, internal combustion
18 engines, and other energy conversion devices for
19 portable, stationary, and transportation applications;
20 and

21 (D) other technologies consistent with the De-
22 partment's plan.

23 (c) FUEL CELLS.—The program for fuel cells and
24 their portable, stationary, and transportation applications
25 may include but is not limited to—

1 (1) a safe, economical, and environmentally
2 sound hydrogen fuel cell;

3 (2) a fuel cell for light duty and other vehicles;
4 and

5 (3) other technologies consistent with the De-
6 partment's plan.

7 (d) ADVANCED VEHICLE TECHNOLOGIES.—The pro-
8 gram for advanced vehicle technologies may include, but
9 is not limited to—

10 (1) advanced combustion;

11 (2) materials;

12 (3) energy storage;

13 (4) control systems; and

14 (5) other technologies consistent with the De-
15 partment's plan.

16 (e) FEDERAL FUNDING.—The Secretary shall carry
17 out the program and activities under this section con-
18 sistent with laws and regulations governing awards of fi-
19 nancial assistance, contracts or other agreements, and
20 may include funding to nationally recognized university-
21 based research centers. The Secretary shall endeavor to
22 avoid duplication or displacement of other programs.

23 (f) COST SHARING.—

24 (1) IN GENERAL.—The Secretary shall require
25 a commitment from non-Federal sources of at least

1 50 percent of the costs directly relating to a dem-
2 onstration under this section.

3 (2) REDUCTION.—The Secretary may reduce
4 the non-Federal requirement under paragraph (1) if
5 the Secretary determines that—

6 (A) the reduction is appropriate consid-
7 ering the technological risks involved; and

8 (B) the terms and conditions are con-
9 sistent with the Agreement on Subsidies and
10 Countervailing Measures.

11 (3) COOPERATIVE AGREEMENTS WITH GOVERN-
12 MENTS.—The Secretary may enter into cooperative
13 and cost sharing agreements with Federal, State, or
14 local governments to deploy vehicles, vehicle systems,
15 and refueling infrastructure using hydrogen, fuel
16 cells, or other advanced technologies in government
17 facilities or fleet transportation systems.

18 **SEC. 6. ASSESSMENT AND TRANSFER.**

19 (a) PROGRAM.—The Secretary may conduct a pro-
20 gram to transfer technology to the private sector under
21 this Act.

22 (b) DISCLOSURE.—The Secretary may protect from
23 disclosure, for up to 5 years after the information was de-
24 veloped, any information developed pursuant to a cost
25 shared transaction, or subagreement thereunder, entered

1 into under this Act to advance the goals of the programs,
2 which developed information is of a character that it would
3 be protected from disclosure under section 552(b)(4) of
4 title 5, United States Code, if this developed information
5 had been obtained from a person other than a Federal
6 agency.

7 **SEC. 7. INTERAGENCY TASK FORCE.**

8 (a) ESTABLISHMENT.—Not later than 120 days after
9 the date of enactment of this Act, the President shall es-
10 tablish an interagency task force chaired by the Secretary
11 or his designee with representatives from each of the fol-
12 lowing:

13 (1) The Office of Science and Technology Pol-
14 icy within the Executive Office of the President.

15 (2) The Department of Transportation.

16 (3) The Department of Defense.

17 (4) The Department of Commerce (including
18 the National Institute of Standards and Tech-
19 nology).

20 (5) The Environmental Protection Agency.

21 (6) The National Aeronautics and Space Ad-
22 ministration.

23 (7) Other Federal agencies as the Secretary de-
24 termines appropriate.

25 (b) DUTIES OF THE INTERAGENCY TASK FORCE.—

1 (1) PLANNING.—The task force shall coordinate
2 the implementation of the interagency plan in sec-
3 tion 3(a), and work towards deployment of—

4 (A) a safe, economical, and environ-
5 mentally sound fuel infrastructure, including an
6 infrastructure that supports buses and other
7 fleet transportation;

8 (B) fuel cells in government and other ap-
9 plications, including portable, stationary, and
10 transportation applications; and

11 (C) distributed power generation, including
12 the generation of combined heat, power, and
13 clean fuels including hydrogen.

14 (2) INFORMATION EXCHANGE.—(A) The inter-
15 agency task force shall coordinate interagency pro-
16 grams and activities including the exchange of infor-
17 mation.

18 (B) The heads of all agencies, including those
19 whose agencies are not represented on the inter-
20 agency task force, shall cooperate with and furnish
21 information to the interagency task force, the Advi-
22 sory Committee, and the Department.

23 (C) The information exchange may consist of
24 workshops, publications, conferences, and a database

1 for use by the public and private sectors. The inter-
2 agency task force is expected to—

3 (i) foster the exchange of generic, non-
4 proprietary information and technology among
5 industry, academia, and government;

6 (ii) update the inventory and assessment of
7 hydrogen, fuel cells, and other advanced tech-
8 nologies, including their commercial capability
9 for the economic and environmentally safe pro-
10 duction, distribution, delivery, storage, and use
11 of clean fuels including hydrogen;

12 (iii) integrate technical and other informa-
13 tion made available as a result of the programs
14 and activities under this Act;

15 (iv) promote the marketplace introduction
16 of infrastructure for hydrogen and other clean
17 fuel vehicles; and

18 (v) conduct an education program to pro-
19 vide FreedomCAR and hydrogen fuel informa-
20 tion to potential end-users.

21 **SEC. 8. ADVISORY COMMITTEE.**

22 (a) ESTABLISHMENT.—The Hydrogen Technical and
23 Fuel Cell Advisory Committee is established to advise the
24 Secretary on the programs and activities under this Act.

25 (b) MEMBERSHIP.—

1 (1) MEMBERS.—The Advisory Committee is
2 comprised of not fewer than 12 nor more than 25
3 members. These members shall be appointed by the
4 Secretary to represent domestic industry, academia,
5 professional societies, government agencies, and fi-
6 nancial, environmental, and other appropriate orga-
7 nizations based on the Department’s assessment of
8 the technical and other qualifications of committee
9 members and the needs of the Advisory Committee.

10 (2) TERMS.—The term of a member of the Ad-
11 visory Committee shall not be more than 3 years.
12 The Secretary may appoint members of the Advisory
13 Committee in a manner that allows the terms of the
14 members serving at any time to expire at spaced in-
15 tervals so as to ensure continuity in the functioning
16 of the Advisory Committee. A member of the Advi-
17 sory Committee whose term is expiring may be re-
18 appointed.

19 (3) CHAIRPERSON.—The Advisory Committee
20 shall have a chairperson, who is elected by the mem-
21 bers from among their number.

22 (c) REVIEW.—The Advisory Committee shall review
23 and make recommendations to the Secretary on—

24 (1) the implementation of programs and activi-
25 ties under this Act;

1 (2) the safety, economical, and environmental
 2 consequences of technologies for the production, dis-
 3 tribution, delivery, storage, or use of hydrogen en-
 4 ergy and fuel cells; and

5 (3) the interagency coordination plan under sec-
 6 tion 3(a) of this Act.

7 (d) RESPONSE TO RECOMMENDATIONS.—The Sec-
 8 retary shall consider, but need not adopt, any rec-
 9 ommendations of the Advisory Committee under sub-
 10 section (c).

11 (e) ADVISORY COMMITTEE SUPPORT.—The Sec-
 12 retary shall provide resources necessary in the judgment
 13 of the Secretary for the Advisory Committee to carry out
 14 its responsibilities under this Act.

15 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

16 There are authorized to be appropriated to carry out
 17 the purposes of this Act including programs for light duty
 18 vehicles, in addition to any amounts made available for
 19 these purposes under other Acts—

20 (1) \$273,500,000 for fiscal year 2004;

21 (2) \$325,000,000 for fiscal year 2005;

22 (3) \$375,000,000 for fiscal year 2006;

23 (4) \$400,000,000 for fiscal year 2007; and

24 (5) \$425,000,000 for fiscal year 2008.

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