

104TH CONGRESS
2D SESSION

H. R. 4138

To authorize the hydrogen research, development, and demonstration programs of the Department of Energy, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 24, 1996

Mr. WALKER (for himself and Mr. BROWN of California) introduced the following bill; which was referred to the Committee on Science

A BILL

To authorize the hydrogen research, development, and demonstration programs of the Department of Energy, 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 “Hydrogen Future Act
5 of 1996”.

6 **SEC. 2. DEFINITIONS.**

7 For purposes of titles II and III—

8 (1) the term “Department” means the Depart-
9 ment of Energy; and

1 (2) the term “Secretary” means the Secretary
2 of Energy.

3 **TITLE I—HYDROGEN**

4 **SEC. 101. PURPOSES AND DEFINITIONS.**

5 (a) Section 102(b)(1) of Public Law 101–566 (42
6 U.S.C. 12401(b)(1)) is amended to read as follows:

7 “(1) to direct the Secretary of Energy to conduct a
8 research, development, and demonstration program lead-
9 ing to the production, storage, transport, and use of hy-
10 drogen for industrial, residential, transportation, and util-
11 ity applications;”.

12 (b) Section 102(c) of Public Law 101–566 (42 U.S.C.
13 12401(c)) is amended—

14 (1) in subsection (1) by striking “; and” and in-
15 serting “;”;

16 (2) by redesignating subsection (2) as sub-
17 section (3); and

18 (3) by inserting before subsection (3) (as redes-
19 ignated) the following new subsection:

20 “(2) ‘Department’ means the Department of Energy;
21 and”.

22 **SEC. 102. REPORTS TO CONGRESS.**

23 (a) Section 103 of Public Law 101–566 (42 U.S.C.
24 12402) is amended to read as follows:

1 **“§ 103. Report to Congress**

2 “(a) Not later than January 1, 1999, the Secretary
3 shall transmit to Congress a detailed report on the status
4 and progress of the programs authorized under this Act.

5 “(b) A report under subsection (a) shall include, in
6 addition to any views and recommendations of the Sec-
7 retary—

8 “(1) an analysis of the effectiveness of the pro-
9 grams authorized under this chapter, to be prepared
10 and submitted to the Secretary by the Hydrogen
11 Technical Advisory Panel established under section
12 108 of this Act; and

13 “(2) recommendations of the Hydrogen Tech-
14 nical Advisory Panel for any improvements in the
15 program that are needed, including recommenda-
16 tions for additional legislation.”.

17 (b) Section 108(d) of Public Law 101–566 (42
18 U.S.C. 12407(d)) is amended—

19 (1) by adding “and” at the end of paragraph
20 (1);

21 (2) by striking “; and” at the end of paragraph
22 (2) and inserting a period; and

23 (3) by striking paragraph (3).

24 **SEC. 103. HYDROGEN RESEARCH AND DEVELOPMENT.**

25 (a) Section 104 of Public Law 101–566 (42 U.S.C.
26 12403) is amended to read as follows:

1 **“§ 104. Hydrogen research and development**

2 “(a) The Secretary shall conduct a hydrogen research
3 and development program relating to production, storage,
4 transportation, and use of hydrogen, with the goal of ena-
5 bling the private sector to demonstrate the technical fea-
6 sibility of using hydrogen for industrial, residential, trans-
7 portation, and utility applications.

8 “(b) In conducting the program authorized by this
9 section, the Secretary shall—

10 “(1) give particular attention to developing an
11 understanding and resolution of critical technical is-
12 sues preventing the introduction of hydrogen into
13 the marketplace;

14 “(2) initiate or accelerate existing research in
15 critical technical issues that will contribute to the
16 development of more economic hydrogen production
17 and use, including, but not limited to, critical tech-
18 nical issues with respect to production (giving prior-
19 ity to those production techniques that use renew-
20 able energy resources as their primary source of en-
21 ergy for hydrogen production), liquefaction, trans-
22 mission, distribution, storage, and use (including use
23 of hydrogen in surface transportation); and

24 “(3) survey private sector hydrogen activities
25 and take steps to ensure that research and develop-
26 ment activities under this section do not displace or

1 compete with the privately funded hydrogen research
2 and development activities of United States industry.

3 “(c) The Secretary is authorized to evaluate any rea-
4 sonable new or improved technology, including basic re-
5 search on highly innovative energy technologies, that could
6 lead or contribute to the development of economic hydro-
7 gen production, storage, and utilization.

8 “(d) The Secretary is authorized to evaluate any rea-
9 sonable new or improved technology that could lead or
10 contribute to, or demonstrate the use of, advanced renew-
11 able energy systems or hybrid systems for use in isolated
12 communities that currently import diesel fuel as the pri-
13 mary fuel for electric power production.

14 “(e) The Secretary is authorized to arrange for tests
15 and demonstrations and to disseminate to researchers and
16 developers information, data, and other materials nec-
17 essary to support the research and development activities
18 authorized under this section and other efforts authorized
19 under this chapter, consistent with section 106 of this Act.

20 “(f) The Secretary shall carry out the research and
21 development activities authorized under this section only
22 through the funding of research and development propos-
23 als submitted by interested persons according to such pro-
24 cedures as the Secretary may require and evaluated on
25 a competitive basis using peer review. Such funding shall

1 be in the form of a grant agreement, procurement con-
2 tract, or cooperative agreement (as those terms are used
3 in chapter 63 of title 31, United States Code).

4 “(g) The Secretary shall not consider a proposal sub-
5 mitted by a person from industry unless the proposal con-
6 tains a certification that reasonable efforts to obtain non-
7 Federal funding for the entire cost of the project have
8 been made, and that such non-Federal funding could not
9 be reasonably obtained. As appropriate, the Secretary
10 shall require a commitment from non-Federal sources of
11 at least 50 percent of the cost of the development portion
12 of such proposal.

13 “(h) The Secretary shall not carry out any activities
14 under this section that unnecessarily duplicate activities
15 carried out elsewhere by the Federal Government or indus-
16 try.

17 “(i) The Secretary shall establish, after consultation
18 with other Federal agencies, terms and conditions under
19 the Federal funding will be provided under this chapter
20 that are consistent with the Agreement on Subsidies and
21 Countervailing Measures referred to in section 101(d)(12)
22 of the Uruguay Round Agreement Act (19 U.S.C.
23 3511(d)(12)).”.

1 (b)(1) Section 2026(a) of the Energy Policy Act of
2 1992 (42 U.S.C. 13436(a)) is amended by striking “, in
3 accordance with sections 3001 and 3002 of this Act,”.

4 (2) Effective October 1, 1998, section 2026 of the
5 Energy Policy Act of 1992 (42 U.S.C. 13436) is repealed.

6 **SEC. 104. DEMONSTRATIONS.**

7 Section 105 of Public Law 101–566 (42 U.S.C.
8 12404) is amended by adding at the end the following new
9 subsection:

10 “(c) The Secretary shall require a commitment from
11 non-Federal sources of at least 50 percent of the cost of
12 any demonstration conducted under this section.”.

13 **SEC. 105. TECHNOLOGY TRANSFER.**

14 Section 106(b) of Public Law 101–566 (42 U.S.C.
15 12405(b)) is amended by adding at the end of the sub-
16 section the following:

17 “The Secretary shall also foster the exchange of generic,
18 nonproprietary information and technology, developed
19 pursuant to this chapter, among industry, academia, and
20 the Federal Government, to help the United States econ-
21 omy attain the economic benefits of this information and
22 technology.”.

23 **SEC. 106. AUTHORIZATION OF APPROPRIATIONS.**

24 Section 109 of Public Law 101–566 (42 U.S.C.
25 12408) is amended—

1 (1) by striking “to other Acts” and inserting
 2 “under other Acts”;

3 (2) by striking “and” from the end of para-
 4 graph (2);

5 (3) by striking the period from the end of para-
 6 graph (3) and inserting “;”; and

7 (4) by adding at the end of the section the fol-
 8 lowing:

9 “(4) \$14,500,000 for fiscal year 1996;

10 “(5) \$20,000,000 for fiscal year 1997;

11 “(6) \$25,000,000 for fiscal year 1998;

12 “(7) \$30,000,000 for fiscal year 1999;

13 “(8) \$35,000,000 for fiscal year 2000; and

14 “(9) \$40,000,000 for fiscal year 2001.”.

15 **TITLE II—FUEL CELLS**

16 **SEC. 201. INTEGRATION OF FUEL CELLS WITH HYDROGEN** 17 **PRODUCTION SYSTEMS.**

18 (a) Not later than 180 days after the date of enact-
 19 ment of this section, and subject to the availability of ap-
 20 propriations made specifically for this section, the Sec-
 21 retary of Energy shall solicit proposals for projects to
 22 prove the feasibility of integrating fuel cells with—

23 (1) photovoltaic systems for hydrogen produc-
 24 tion; or

1 (2) systems for hydrogen production from solid
2 waste via gasification or steam reforming.

3 (b) Each proposal submitted in response to the solici-
4 tation under this section shall be evaluated on a competi-
5 tive basis using peer review. The Secretary is not required
6 to make an award under this section in the absence of
7 a meritorious proposal.

8 (c) The Secretary shall give preference, in making an
9 award under this section, to proposals that—

10 (1) are submitted jointly from consortia includ-
11 ing academic institutions, industry, State or local
12 governments, and Federal laboratories; and

13 (2) reflect proven experience and capability with
14 technologies relevant to the systems described in
15 subsections (a)(1) and (a)(2).

16 (d) In the case of a proposal involving development
17 or demonstration, the Secretary shall require a commit-
18 ment from non-Federal sources of at least 50 percent of
19 the cost of the development or demonstration portion of
20 the proposal.

21 (e) The Secretary shall establish, after consultation
22 with other Federal agencies, terms and conditions under
23 which Federal funding will be provided under this title
24 that are consistent with the Agreement on Subsidies and
25 Countervailing Measures referred to in section 101(d)(12)

1 of the Uruguay Round Agreement Act (19 U.S.C.
2 3511(d)(12)).

3 **SEC. 202. AUTHORIZATION OF APPROPRIATIONS.**

4 There is authorized to be appropriated, for activities
5 under this section, a total of \$50,000,000 for fiscal years
6 1997 and 1998, to remain available until September 30,
7 1999.

8 **TITLE III—DOE SCIENTIFIC AND**
9 **TECHNICAL PROGRAM QUALITY**

10 **SEC. 301. TEMPORARY APPOINTMENTS FOR SCIENTIFIC**
11 **AND TECHNICAL EXPERTS IN DEPARTMENT**
12 **OF ENERGY RESEARCH AND DEVELOPMENT**
13 **PROGRAMS.**

14 (a) The Secretary, utilizing authority under other ap-
15 plicable law and the authority of this section, may appoint
16 for a limited term, or on a temporary basis, scientists, en-
17 gineers, and other technical and professional personnel on
18 leave of absence from academic, industrial, or research in-
19 stitutions to work for the Department.

20 (b) The Department may pay, to the extent author-
21 ized for certain other Federal employees by section 5723
22 of title 5, United States Code, travel expenses for any indi-
23 vidual appointed for a limited term or on a temporary
24 basis and transportation expenses of his or her immediate
25 family and his or her household goods and personal effects

1 from that individual's residence at the time of selection
2 or assignment to his or her duty station. The Department
3 may pay such travel expenses to the same extent for such
4 an individual's return to the former place of residence
5 from his or her duty station, upon separation from the
6 Federal service followed an agreed period of service. The
7 Department may also pay a per diem allowance at a rate
8 not to exceed the daily amounts prescribed under section
9 5702 of title 5 to such an individual, in lieu of transpor-
10 tation expenses of the immediate family and household
11 goods and personal effects, for the period of his or her
12 employment with the Department. Notwithstanding any
13 other provision of law, the employer's contribution to any
14 retirement, life insurance, or health benefit plan for an
15 individual appointed for a term of one year or less, which
16 could be extended for no more than one additional year,
17 may be made or reimbursed from appropriations available
18 to the Department.

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