

104<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 4138

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## AN ACT

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

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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”.

1 **SEC. 2. DEFINITIONS.**

2 For purposes of titles II and III—

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

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

7 **TITLE I—HYDROGEN**

8 **SEC. 101. PURPOSES AND DEFINITIONS.**

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

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

16 (b) Section 102(c) of Public Law 101–566 (42 U.S.C.  
17 12401(c)) is amended—

18 (1) in subsection (1) by striking “; and” insert-  
19 ing “;”;

20 (2) by redesignating subsection (2) as sub-  
21 section (3); and

22 (3) by inserting before subsection (3) (as redes-  
23 ignated) the following new subsection:

24 “(2) ‘Department’ means the Department of Energy;  
25 and”.

1 **SEC. 102. REPORTS TO CONGRESS.**

2 (a) Section 103 of Public Law 101–566 (42 U.S.C.  
3 12402) is amended to read as follows:

4 **“§ 103. Report to Congress**

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

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

11 “(1) an analysis of the effectiveness of the pro-  
12 grams authorized under this chapter, to be prepared  
13 and submitted to the Secretary by the Hydrogen  
14 Technical Advisory Panel established under section  
15 108 of this Act; and

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

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

22 (1) by adding “and” at the end of paragraph  
23 (1);

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

26 (3) by striking paragraph (3).

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

2 (a) Section 104 of Public Law 101–566 (42 U.S.C.  
3 12403) is amended to read as follows:

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

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

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

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

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

1           “(3) survey private sector hydrogen activities  
2           and take steps to ensure that research and develop-  
3           ment activities under this section do not displace or  
4           compete with the privately funded hydrogen research  
5           and development activities of United States industry.

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

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

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

23          “(f) The Secretary shall carry out the research and  
24          development activities authorized under this section only  
25          through the funding of research and development propos-

1 als submitted by interested persons according to such pro-  
2 cedures as the Secretary may require and evaluate on a  
3 competitive basis using peer review. Such funding shall be  
4 in the form of a grant agreement, procurement contract,  
5 or cooperative agreement (as those terms are used in  
6 chapter 63 of title 31, United States Code).

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

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

20       “(i) The Secretary shall establish, after consultation  
21 with other Federal agencies, terms and conditions under  
22 which Federal funding will be provided under this chapter  
23 that are consistent with the Agreement on Subsidies and  
24 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 (b)(1) Section 2026(a) of the Energy Policy Act of  
4 1992 (42 U.S.C. 13436(a)) is amended by striking “, in  
5 accordance with sections 3001 and 3002 of this Act,”.

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

8 **SEC. 104. DEMONSTRATIONS.**

9 Section 105 of Public Law 101–566 (42 U.S.C.  
10 12404) is amended by adding at the end the following new  
11 subsection:

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

15 **SEC. 105. TECHNOLOGY TRANSFER.**

16 Section 106(b) of Public Law 101–566 (42 U.S.C.  
17 12405(b)) is amended by adding to the end of the sub-  
18 section the following:

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

1 **SEC. 106. AUTHORIZATION OF APPROPRIATIONS.**

2 Section 109 of Public Law 101–566 (42 U.S.C.  
3 12408) is amended—

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

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

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

10 (4) by adding at the end of the section the fol-  
11 lowing:

12 “(4) \$14,500,000 for fiscal year 1996;

13 “(5) \$20,000,000 for fiscal year 1997;

14 “(6) \$25,000,000 for fiscal year 1998;

15 “(7) \$30,000,000 for fiscal year 1999;

16 “(8) \$35,000,000 for fiscal year 2000; and

17 “(9) \$40,000,000 for fiscal year 2001.”.

18 **TITLE II—FUEL CELLS**

19 **SEC. 201. INTEGRATION OF FUEL CELLS WITH HYDROGEN**  
20 **PRODUCTION SYSTEMS.**

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

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

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

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

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

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

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

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

23          (e) The Secretary shall establish, after consultation  
24          with other Federal agencies, terms and conditions under  
25          which Federal funding will be provided under this title

1 that are consistent with the Agreement on Subsidies and  
2 Countervailing Measures referred to in section 101(d)(12)  
3 of the Uruguay Round Agreement Act (19 U.S.C.  
4 3511(d)(12)).

5 **SEC. 202. AUTHORIZATION OF APPROPRIATIONS.**

6 There are authorized to be appropriated, for activities  
7 under this section, a total of \$50,000,000 for fiscal years  
8 1997 and 1998, to remain available until September 30,  
9 1999.

10 **TITLE III—DOE SCIENTIFIC AND**  
11 **TECHNICAL PROGRAM QUALITY**

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

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

22 (b) The Department may pay, to the extent author-  
23 ized for certain other Federal employees by section 5723  
24 of title 5, United States Code, travel expenses for any indi-  
25 vidual appointed for a limited term or on a temporary

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

Passed the House of Representatives September 26,  
1996.

Attest:

*Clerk.*