

107TH CONGRESS  
1ST SESSION

# S. 1053

To reauthorize and amend the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990, and for other purposes.

---

## IN THE SENATE OF THE UNITED STATES

JUNE 14, 2001

Mr. HARKIN (for himself, Mr. AKAKA, Mr. BINGAMAN, Mr. MURKOWSKI, Mr. REID, Mr. DOMENICI, Mr. KYL, Mr. BAYH, Mr. INOUE, Mr. LIEBERMAN, and Mr. JEFFORDS) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

## A BILL

To reauthorize and amend the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990, 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 2001”.

### 6   **SEC. 2. PURPOSES.**

7       Section 102(b) of the Spark M. Matsunaga Hydrogen  
8   Research, Development, and Demonstration Act of 1990

1 (42 U.S.C. 12401(b)) is amended by striking paragraphs  
2 (2) and (3) and inserting the following:

3 “(2) to direct the Secretary to develop a pro-  
4 gram of technology assessment, information trans-  
5 fer, and education in which Federal agencies, mem-  
6 bers of the transportation, energy, and other indus-  
7 tries, and other entities may participate;

8 “(3) to develop methods of hydrogen production  
9 that minimize production of greenhouse gases, in-  
10 cluding developing—

11 “(A) efficient production from non-renew-  
12 able resources; and

13 “(B) cost-effective production from renew-  
14 able resources such as biomass, wind, and solar  
15 energy; and

16 “(4) to foster the use of hydrogen as a major  
17 energy source, including developing the use of hydro-  
18 gen in—

19 “(A) isolated villages, islands, and commu-  
20 nities in which other energy sources are not  
21 available or are very expensive; and

22 “(B) foreign economic development, to  
23 avoid environmental damage from increased fos-  
24 sil fuel use.”.

1 **SEC. 3. REPORT TO CONGRESS.**

2 Section 103 of the Spark M. Matsunaga Hydrogen  
3 Research, Development, and Demonstration Act of 1990  
4 (42 U.S.C. 12402) is amended—

5 (1) in subsection (a), by striking “January 1,  
6 1999,” and inserting “1 year after the date of enact-  
7 ment of the Hydrogen Future Act of 2001, and each  
8 year thereafter,”;

9 (2) in subsection (b), by striking paragraphs  
10 (1) and (2) and inserting the following:

11 “(1) an analysis of hydrogen-related activities  
12 throughout the United States Government to iden-  
13 tify productive areas for increased intragovernmental  
14 collaboration;

15 “(2) recommendations of the Hydrogen Tech-  
16 nical Advisory Panel established by section 108 for  
17 any improvements in the program that are needed,  
18 including recommendations for additional legislation;  
19 and

20 “(3) to the extent practicable, an analysis of  
21 State and local hydrogen-related activities.”; and

22 (3) by adding at the end the following:

23 “(c) COORDINATION PLAN.—The report under sub-  
24 section (a) shall be based on a comprehensive coordination  
25 plan for hydrogen energy prepared by the Secretary in  
26 consultation with other Federal agencies.”.

1 **SEC. 4. HYDROGEN RESEARCH AND DEVELOPMENT.**

2 Section 104 of the Spark M. Matsunaga Hydrogen  
3 Research, Development, and Demonstration Act of 1990  
4 (42 U.S.C. 12403) is amended—

5 (1) in subsection (b)(1), by striking “market-  
6 place;” and inserting “marketplace, including foreign  
7 markets, particularly where an energy infrastructure  
8 is not well developed;”;

9 (2) in subsection (e), by striking “this chapter”  
10 and inserting “this Act”;

11 (3) by striking subsection (g) and inserting the  
12 following:

13 “(g) COSTSHARING.—

14 “(1) INABILITY TO FUND ENTIRE COST.—The  
15 Secretary shall not consider a proposal submitted by  
16 a person from industry unless the proposal contains  
17 a certification that—

18 “(A) reasonable efforts to obtain non-Fed-  
19 eral funding in the amount necessary to pay  
20 100 percent of the cost of the project have been  
21 made; and

22 “(B) non-Federal funding in that amount  
23 could not reasonably be obtained.

24 “(2) NON-FEDERAL SHARE.—

25 “(A) IN GENERAL.—The Secretary shall  
26 require a commitment from non-Federal

1 sources of at least 25 percent of the cost of the  
2 project.

3 “(B) REDUCTION OR ELIMINATION.—The  
4 Secretary may reduce or eliminate the cost-  
5 sharing requirement under subparagraph (A)  
6 for the proposed research and development  
7 project, including for technical analyses, eco-  
8 nomic analyses, outreach activities, and edu-  
9 cational programs, if the Secretary determines  
10 that reduction or elimination is necessary to  
11 achieve the objectives of this Act.

12 (4) in subsection (i), by striking “this chapter”  
13 and inserting “this Act”.

14 **SEC. 5. DEMONSTRATIONS.**

15 Section 105 of the Spark M. Matsunaga Hydrogen  
16 Research, Development, and Demonstration Act of 1990  
17 (42 U.S.C. 12404) is amended by striking subsection (c)  
18 and inserting the following:

19 “(c) NON-FEDERAL SHARE.—

20 “(1) IN GENERAL.—Except as provided in para-  
21 graph (2), the Secretary shall require a commitment  
22 from non-Federal sources of at least 50 percent of  
23 the costs directly relating to a demonstration project  
24 under this section.

1           “(2) REDUCTION.—The Secretary may reduce  
 2           the non-Federal requirement under paragraph (1) if  
 3           the Secretary determines that the reduction is ap-  
 4           propriate considering the technological risks involved  
 5           in the project and is necessary to meet the objectives  
 6           of this Act.”.

7 **SEC. 6. TECHNOLOGY TRANSFER.**

8           Section 106 of the Spark M. Matsunaga Hydrogen  
 9           Research, Development, and Demonstration Act of 1990  
 10          (42 U.S.C. 12405) is amended—

11                  (1) in subsection (a)—

12                          (A) in the first sentence—

13                                  (i) by striking “The Secretary shall  
 14                                  conduct a program designed to accelerate  
 15                                  wider application” and inserting the fol-  
 16                                  lowing:

17                          “(1) IN GENERAL.—The Secretary shall con-  
 18                          duct a program designed to—

19                                  “(A) accelerate wider application”; and

20                                  (ii) by striking “private sector” and  
 21                                  inserting “private sector; and

22                                  “(B) accelerate wider application of hydro-  
 23                                  gen technologies in foreign countries to increase  
 24                                  the global market for the technologies and fos-

1           ter global economic development without harm-  
2           ful environmental effects.”; and

3           (B) in the second sentence, by striking  
4           “The Secretary” and inserting the following:

5           “(2) ADVICE AND ASSISTANCE.—The Sec-  
6       retary”; and

7           (2) in subsection (b)—

8           (A) in paragraph (2), by redesignating  
9           subparagraphs (A) through (D) as clauses (i)  
10          through (iv), respectively, and indenting appro-  
11          priately;

12          (B) by redesignating paragraphs (1) and  
13          (2) as subparagraphs (A) and (B), respectively,  
14          and indenting appropriately;

15          (C) by striking “The Secretary, in” and in-  
16          serting the following:

17          “(1) IN GENERAL.—The Secretary, in”;

18          (D) by striking “The information” and in-  
19          serting the following:

20          “(2) ACTIVITIES.—The information”; and

21          (E) in paragraph (1) (as designated by  
22          subparagraph (C))—

23               (i) in subparagraph (A) (as redesign-  
24               ated by subparagraph (B)), by striking

“an inventory” and inserting “an update of the inventory”; and

(ii) in subparagraph (B) (as redesignated by subparagraph (B)), by striking “develop” and all that follows through “to improve” and inserting “develop with the National Aeronautics and Space Administration, the Department of Energy, other Federal agencies as appropriate, and industry, an information exchange program to improve”.

**SEC. 7. TECHNICAL PANEL REVIEW.**

(a) IN GENERAL.—Section 108 of the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 (42 U.S.C. 12407) is amended—

(1) in subsection (b)—

(A) by striking “(b) MEMBERSHIP.—The technical panel shall be appointed” and inserting the following:

“(b) MEMBERSHIP.—

“(1) IN GENERAL.—The technical panel shall be comprised of not fewer than 9 nor more than 15 members appointed”;

(B) by striking the second sentence and inserting the following:



1 “(2) TERMS.—

2 “(A) IN GENERAL.—The term of a mem-  
3 ber of the technical panel shall be not more  
4 than 3 years.

5 “(B) STAGGERED TERMS.—The Secretary  
6 may appoint members of the technical panel in  
7 a manner that allows the terms of the members  
8 serving at any time to expire at spaced intervals  
9 so as to ensure continuity in the functioning of  
10 the technical panel.

11 “(C) REAPPOINTMENT.—A member of the  
12 technical panel whose term expires may be re-  
13 appointed.”; and

14 (C) by striking “The technical panel shall  
15 have a chairman,” and inserting the following:

16 “(3) CHAIRPERSON.—The technical panel shall  
17 have a chairperson,”; and

18 (2) in subsection (d)—

19 (A) in the matter preceding paragraph (1),  
20 by striking “the following items”;

21 (B) in paragraph (1), by striking “and” at  
22 the end;

23 (C) in paragraph (2), by striking the pe-  
24 riod at the end and inserting “; and”; and

25 (D) by adding at the end the following:

1 “(3) the plan developed by the interagency task  
2 force under section 202(b) of the Hydrogen Future  
3 Act of 1996.”.

4 (b) NEW APPOINTMENTS.—Not later than 180 days  
5 after the date of enactment of this Act, the Secretary—

6 (1) shall review the membership composition of  
7 the Hydrogen Technical Advisory Panel; and

8 (2) may appoint new members consistent with  
9 the amendments made by subsection (a).

10 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

11 Section 109 of the Spark M. Matsunaga Hydrogen  
12 Research, Development, and Demonstration Act of 1990  
13 (42 U.S.C. 12408) is amended—

14 (1) in paragraph (8), by striking “and”;

15 (2) in paragraph (9), by striking the period and  
16 inserting a semicolon; and

17 (3) by adding at the end the following:

18 “(10) \$60,000,000 for fiscal year 2002;

19 “(11) \$65,000,000 for fiscal year 2003;

20 “(12) \$70,000,000 for fiscal year 2004;

21 “(13) \$75,000,000 for fiscal year 2005; and

22 “(14) \$80,000,000 for fiscal year 2006.”.

23 **SEC. 9. FUEL CELLS.**

24 (a) INTEGRATION OF FUEL CELLS WITH HYDROGEN  
25 PRODUCTION SYSTEMS.—Section 201 of the Hydrogen

1 Future Act of 1996 (42 U.S.C. 12403 note; Public Law  
2 104–271) is amended—

3 (1) in subsection (a)—

4 (A) by striking “(a) Not later than 180  
5 days after the date of enactment of this section,  
6 and subject” and inserting “(a) IN GENERAL.—  
7 Subject”; and

8 (B) by striking “with—” and all that fol-  
9 lows and inserting “into Federal, State, and  
10 local government facilities for stationary and  
11 transportation applications.”;

12 (2) in subsection (b), by striking “gas is” and  
13 inserting “basis”;

14 (3) in subsection (c)(2), by striking “systems  
15 described in subsections (a)(1) and (a)(2)” and in-  
16 serting “projects proposed”; and

17 (4) by striking subsection (d) and inserting the  
18 following:

19 “(d) NON-FEDERAL SHARE.—

20 “(1) IN GENERAL.—Except as provided in para-  
21 graph (2), the Secretary shall require a commitment  
22 from non-Federal sources of at least 50 percent of  
23 the costs directly relating to a demonstration project  
24 under this section.

1           “(2) REDUCTION.—The Secretary may reduce  
 2           the non-Federal requirement under paragraph (1) if  
 3           the Secretary determines that the reduction is ap-  
 4           propriate considering the technological risks involved  
 5           in the project and is necessary to meet the objectives  
 6           of this Act.”.

7           (b) COOPERATIVE AND COST-SHARING AGREE-  
 8           MENTS; INTEGRATION OF TECHNICAL INFORMATION.—  
 9           Title II of the Hydrogen Future Act of 1996 (42 U.S.C.  
 10          12403 note; Public Law 104–271) is amended—

11           (1) by redesignating section 202 as section 205;  
 12          and

13           (2) by inserting after section 201 the following:

14          **“SEC. 202. INTERAGENCY TASK FORCE.**

15           “(a) ESTABLISHMENT.—Not later than 120 days  
 16          after the date of enactment of this section, the Secretary  
 17          shall establish an interagency task force led by a Deputy  
 18          Assistant Secretary of the Department of Energy and  
 19          comprised of representatives of—

20           “(1) the Office of Science and Technology Pol-  
 21          icy;

22           “(2) the Department of Transportation;

23           “(3) the Department of Defense;

1           “(4) the Department of Commerce (including  
2           the National Institute for Standards and Tech-  
3           nology);

4           “(5) the Environmental Protection Agency;

5           “(6) the National Aeronautics and Space Ad-  
6           ministration; and

7           “(7) other agencies as appropriate.

8           “(b) DUTIES.—

9           “(1) IN GENERAL.—The task force shall de-  
10          velop a plan for carrying out this title.

11          “(2) FOCUS OF PLAN.—The plan shall focus on  
12          development and demonstration of integrated sys-  
13          tems and components for—

14               “(A) hydrogen production, storage, and  
15               use in Federal, State, and local government  
16               buildings and vehicles;

17               “(B) hydrogen-based infrastructure for  
18               buses and other fleet transportation systems  
19               that include zero-emission vehicles; and

20               “(C) hydrogen-based distributed power  
21               generation, including the generation of com-  
22               bined heat, power, and hydrogen.

1 **“SEC. 203. COOPERATIVE AND COST-SHARING AGREE-**  
2 **MENTS.**

3 “The Secretary shall enter into cooperative and cost-  
4 sharing agreements with Federal, State, and local agencies  
5 for participation by the agencies in demonstrations at fa-  
6 cilities administered by the agencies, with the aim of inte-  
7 grating high efficiency hydrogen systems using fuel cells  
8 into the facilities to provide immediate benefits and pro-  
9 mote a smooth transition to hydrogen as an energy source.

10 **“SEC. 204. INTEGRATION AND DISSEMINATION OF TECH-**  
11 **NICAL INFORMATION.**

12 “The Secretary shall—

13 “(1) integrate all the technical information that  
14 becomes available as a result of development and  
15 demonstration projects under this title;

16 “(2) make the information available to all Fed-  
17 eral and State agencies for dissemination to all in-  
18 terested persons; and

19 “(3) foster the exchange of generic, nonpropri-  
20 etary information and technology developed under  
21 this title among industry, academia, and Federal,  
22 State, and local governments, to help the United  
23 States economy attain the economic benefits of the  
24 information and technology.”.

25 (c) AUTHORIZATION OF APPROPRIATIONS.—Section  
26 205 of the Hydrogen Future Act of 1996 (42 U.S.C.

1 12403 note; Public Law 104–271) (as redesignated by  
2 subsection (b)) is amended by striking “section” and all  
3 that follows and inserting the following: “title—

4           “(1) \$20,000,000 for fiscal year 2002;

5           “(2) \$25,000,000 for fiscal year 2003;

6           “(3) \$30,000,000 for fiscal year 2004;

7           “(4) \$35,000,000 for fiscal year 2005; and

8           “(5) \$40,000,000 for fiscal year 2006.”.

○