

111TH CONGRESS  
2D SESSION

# S. 3570

To improve hydropower, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JULY 13, 2010

Ms. MURKOWSKI (for herself, Mrs. MURRAY, Ms. CANTWELL, and Mr. CRAPO)  
introduced the following bill; which was read twice and referred to the  
Committee on Energy and Natural Resources

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## A BILL

To improve hydropower, 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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the  
5 “Hydropower Improvement Act of 2010”.

6 (b) TABLE OF CONTENTS.—The table of contents of  
7 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Findings.
- Sec. 3. Definitions.
- Sec. 4. Sense of Congress on the use of hydropower renewable resources.
- Sec. 5. Grants for improvements for increased hydropower production.
- Sec. 6. Plan for research, development, and demonstration to increase hydro-  
power capacity.
- Sec. 7. Notice of inquiry for minimal impact hydropower projects.
- Sec. 8. FERC authority to extend preliminary permit terms.

- Sec. 9. Streamlining review process for conduit hydropower projects.
- Sec. 10. Non-Federal hydropower development at Bureau of Reclamation projects.
- Sec. 11. Pumped storage study.
- Sec. 12. National Renewable Energy Deployment Program.
- Sec. 13. Hydroelectric power worker training.
- Sec. 14. Report on memorandum of understanding on hydropower.
- Sec. 15. Nonapplication to Federal Power Marketing Administrations.
- Sec. 16. Budgetary effects.

## 1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) hydropower is the largest source of clean,  
4 renewable electricity in the United States;

5 (2) as of the date of enactment of this Act, hy-  
6 dropower resources, including pumped storage facili-  
7 ties, provide—

8 (A) 7 percent of the electricity generated  
9 in the United States, avoiding 225,000,000  
10 metric tons of carbon emissions each year; and

11 (B) approximately 96,000 megawatts of  
12 electric capacity in the United States;

13 (3) only 3 percent of the 80,000 dams in the  
14 United States generate electricity so there is sub-  
15 stantial potential for adding hydropower generation  
16 to nonpower dams;

17 (4) in every State, a tremendous untapped  
18 growth potential exists in hydropower resources, in-  
19 cluding—

20 (A) efficiency improvements and capacity  
21 additions;

- 1 (B) adding generation to nonpower dams;
- 2 (C) conduit hydropower;
- 3 (D) conventional hydropower;
- 4 (E) pumped storage facilities; and
- 5 (F) new marine and hydrokinetic re-
- 6 sources; and

7 (5) improvements in increased hydropower pro-  
 8 duction in the United States have the potential—

9 (A) to create hundreds of thousands of  
 10 new green jobs during the next 15 years;

11 (B) to increase the clean energy generation  
 12 of the United States; and

13 (C) to provide ancillary benefits that in-  
 14 clude grid reliability, energy storage, and inte-  
 15 gration services for variable renewable re-  
 16 sources.

17 **SEC. 3. DEFINITIONS.**

18 In this Act:

19 (1) CONDUIT.—The term “conduit” means any  
 20 tunnel, canal, pipeline, aqueduct, flume, ditch, or  
 21 similar manmade water conveyance that is operated  
 22 for the distribution of water for agricultural, munic-  
 23 ipal, or industrial consumption and not primarily for  
 24 the generation of electricity.

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

3   **SEC. 4. SENSE OF CONGRESS ON THE USE OF HYDRO-**  
4                   **POWER RENEWABLE RESOURCES.**

5       It is the sense of Congress that the United States  
6   should increase substantially the capacity and generation  
7   of clean, renewable hydropower resources which will im-  
8   prove environmental quality in the United States and sup-  
9   port hundreds of thousands of green energy jobs.

10   **SEC. 5. GRANTS FOR IMPROVEMENTS FOR INCREASED HY-**  
11                   **DROPOWER PRODUCTION.**

12       (a) IN GENERAL.—As soon as practicable after the  
13   date of enactment of this Act, the Secretary shall establish  
14   in the Department of Energy a program under which the  
15   Secretary shall make competitive grants to eligible entities  
16   that—

17           (1) make efficiency improvements or capacity  
18       additions at an existing hydroelectric power gener-  
19       ating facility;

20           (2) add hydropower generation to a nonpower  
21       dam;

22           (3) develop pumped storage facilities;

23           (4) address aging infrastructure at existing hy-  
24       droelectric power generating facilities; and

1           (5) develop hydroelectric generation within ex-  
2       isting conduits.

3       (b) ADMINISTRATION.—

4           (1) IN GENERAL.—The Secretary shall establish  
5       terms and conditions, including eligibility, for the re-  
6       ceipt of grants under this section.

7           (2) INCLUSIONS.—In carrying out this section,  
8       the Secretary shall ensure that powerhouses and  
9       projects that require new dam infrastructure are in-  
10      cluded among the eligible entities that may receive  
11      grants under this section.

12       (c) COST SHARING.—The Secretary shall carry out  
13      the program under this section in compliance with sections  
14      988 and 989 of the Energy Policy Act of 2005 (42 U.S.C.  
15      16352, 16353).

16       (d) FUNDING.—From amounts made available under  
17      section 625(e) of the Energy Independence and Security  
18      Act of 2007 (42 U.S.C. 17204(e)), the Secretary may use  
19      to carry out this section \$50,000,000 for each of fiscal  
20      years 2011 through 2015, of which not more than 20 per-  
21      cent of the amount made available for a fiscal year may  
22      be used to carry out an individual project.

1 **SEC. 6. PLAN FOR RESEARCH, DEVELOPMENT, AND DEM-**  
2 **ONSTRATION TO INCREASE HYDROPOWER**  
3 **CAPACITY.**

4 (a) IN GENERAL.—Not later than 270 days after the  
5 date of enactment of this Act, the Secretary shall estab-  
6 lish, and submit to the Committee on Energy and Natural  
7 Resources of the Senate and the Committee on Energy  
8 and Commerce of the House of Representatives, a plan—

9 (1) to facilitate through technology research,  
10 development, and demonstration the increased use of  
11 hydropower renewable resources in accordance with  
12 section 4; and

13 (2) to coordinate research and development on  
14 advanced hydropower technologies.

15 (b) ADMINISTRATION.—The Secretary shall—

16 (1) implement the plan established under this  
17 section as soon as practicable after the date of en-  
18 actment of this Act; and

19 (2) review and update the plan on an annual  
20 basis.

21 (c) COST SHARING.—The Secretary shall carry out  
22 the program under this section in compliance with sections  
23 988 and 989 of the Energy Policy Act of 2005 (42 U.S.C.  
24 16352, 16353).

25 (d) COORDINATION.—The Secretary shall coordinate,  
26 to the maximum extent practicable, activities under this

1 section with other programs of the Department of Energy  
2 and other Federal research programs.

3 (e) FUNDING.—From amounts made available under  
4 section 401(a) of the American Clean Energy Leadership  
5 Act of 2009, the Secretary may use to carry out this sec-  
6 tion \$50,000,000 for each of fiscal years 2011 through  
7 2015.

8 **SEC. 7. NOTICE OF INQUIRY FOR MINIMAL IMPACT HYDRO-**  
9 **POWER PROJECTS.**

10 (a) DEFINITIONS.—In this section:

11 (1) COMMISSION.—The term “Commission”  
12 means the Federal Energy Regulatory Commission.

13 (2) MINIMAL IMPACT HYDROPOWER  
14 PROJECT.—The term “minimal impact hydropower  
15 project” means—

16 (A) the addition of hydropower generation  
17 to an existing nonpower dam if the addition of  
18 the project will not cause any significant envi-  
19 ronmental impact; or

20 (B) closed-loop hydropower storage that  
21 does not require any change in an existing di-  
22 version or impoundment of a river, and other-  
23 wise will not cause any significant environ-  
24 mental impacts under applicable law.

1 (b) NOTICE OF INQUIRY.—Not later than 180 days  
 2 after the date of enactment of this section, the Commis-  
 3 sion shall issue a notice of inquiry for the licensing of pro-  
 4 posed minimal impact hydropower projects that take not  
 5 more than 2 years from the beginning of the prefil-  
 6 ing process to the issuance of a license by the Com-  
 7 mission.

8 (c) REPORT.—Not later than 180 days after the com-  
 9 pletion of the notice of inquiry under subsection (b), the  
 10 Commission shall submit to the Committee on Energy and  
 11 Natural Resources of the Senate and the Committee on  
 12 Energy and Commerce of the House of Representatives  
 13 a report that describes the results of the notice of inquiry.

14 **SEC. 8. FERC AUTHORITY TO EXTEND PRELIMINARY PER-**  
 15 **MIT TERMS.**

16 Section 5 of the Federal Power Act (16 U.S.C. 798)  
 17 is amended—

18 (1) by designating the first, second, and third  
 19 sentences as subsections (a), (c), and (d), respec-  
 20 tively; and

21 (2) by inserting after subsection (a) (as so des-  
 22 ignated) the following:

23 “(b) EXTENSION.—The Commission may extend the  
 24 term of a preliminary permit once for not more than 2  
 25 additional years if the Commission finds that the per-



1 mittee has carried out activities under the permit in good  
 2 faith and with reasonable diligence.”.

3 **SEC. 9. STREAMLINING REVIEW PROCESS FOR CONDUIT**  
 4 **HYDROPOWER PROJECTS.**

5 (a) IN GENERAL.—Section 30 of the Federal Power  
 6 Act (16 U.S.C. 823a) is amended—

7 (1) in subsection (a), by striking paragraphs  
 8 (1) and (2) and inserting the following:

9 “(1) is located on non-Federal lands or Federal  
 10 lands; and

11 “(2) uses for the generation only the hydro-  
 12 electric potential of a conduit.”; and

13 (2) by adding at the end the following:

14 “(f) SAVINGS CLAUSE.—This section shall not apply  
 15 to any reclamation projects under which hydroelectric  
 16 power development has been reserved—

17 “(1) under Federal law or by regulation or  
 18 order, exclusively for development under Federal rec-  
 19 lamation law; or

20 “(2) for non-Federal development under rec-  
 21 lamation law.

22 “(g) DEFINITION OF CONDUIT.—In this section, the  
 23 term ‘conduit’ means any tunnel, canal, pipeline, aque-  
 24 duct, flume, ditch, or similar manmade water conveyance  
 25 that is operated for the distribution of water for agricul-

1 tural, municipal, or industrial consumption and not pri-  
2 marily for the generation of electricity.”.

3 (b) MEMORANDUM OF UNDERSTANDING ON CON-  
4 DUIT HYDROPOWER PROJECTS.—Not later than 180 days  
5 after the date of enactment of this Act, the Federal En-  
6 ergy Regulatory Commission shall enter into a memo-  
7 randum of understanding with relevant Federal agencies  
8 that have conditioning authority under section 30(c)(1) of  
9 the Federal Power Act (16 U.S.C. 823a(c)(1))—

10 (1) to establish a coordinated and streamlined  
11 approach to any environmental impact statement or  
12 similar analysis required under the National Envi-  
13 ronmental Policy Act of 1969 (42 U.S.C. 4321 et  
14 seq.) relating to the consideration of conduit hydro-  
15 power projects; and

16 (2) to develop and carry out an expedited ap-  
17 proval process for conduit hydropower projects.

18 (c) PUBLIC WORKSHOPS AND PILOT PROJECTS ON  
19 CONDUIT HYDROPOWER PROJECTS.—

20 (1) IN GENERAL.—As soon as practicable after  
21 the date of enactment of this Act, the Commissioner  
22 of Reclamation and the Federal Energy Regulatory  
23 Commission shall conduct 3 public workshops with  
24 relevant stakeholders, including water users and the

1 environmental community, to identify ways in which  
2 the conduit approval process may be modified—

3 (A) to reduce barriers to conduit hydro-  
4 power projects, including barriers created by  
5 project costs or the timeframe for approval and  
6 maintain adequate environmental, health, and  
7 safety protections; and

8 (B) to develop pilot projects in conjunction  
9 with voluntary participants to demonstrate  
10 flexible and innovative ways to reduce barriers  
11 to conduit hydropower while maintaining ade-  
12 quate environmental, health, and safety protec-  
13 tions.

14 (2) REPORT.—Not later than 180 days after  
15 the date of the completion of the workshops under  
16 paragraph (1), the Commissioner of Reclamation  
17 and the Federal Energy Regulatory Commission  
18 shall submit to the appropriate committees of Con-  
19 gress a report that describes any recommendations  
20 for the conduit approval process developed in the  
21 workshops and pilot projects described in paragraph  
22 (1).

23 (3) FUNDING.—From amounts made available  
24 under section 9503(f) of the Omnibus Public Land  
25 Management Act of 2009 (42 U.S.C. 10363(f)), the

1 Secretary may use to carry out pilot projects de-  
2 scribed in paragraph (1)(B) \$5,000,000 for the pe-  
3 riod of fiscal years 2011 through 2015, to remain  
4 available until expended.

5 **SEC. 10. NON-FEDERAL HYDROPOWER DEVELOPMENT AT**  
6 **BUREAU OF RECLAMATION PROJECTS.**

7 (a) STUDY OF NON-FEDERAL HYDROPOWER DEVEL-  
8 OPMENT AT BUREAU OF RECLAMATION PROJECTS.—Not  
9 later than 180 days after the date of enactment of this  
10 section, the Commissioner of Reclamation (in consultation  
11 with the Federal Energy Regulatory Commission, pref-  
12 erence power customers, water users, and other interested  
13 stakeholders) shall—

14 (1) conduct a study of barriers to non-Federal  
15 hydropower development at Bureau of Reclamation  
16 projects; and

17 (2) report to Congress the results of the study.

18 (b) MEMORANDUM OF UNDERSTANDING.—Not later  
19 than 180 days after the date of enactment of this section,  
20 the Commissioner of Reclamation and the Federal Energy  
21 Regulatory Commission shall develop and issue a revised  
22 interagency memorandum of understanding to improve the  
23 coordination and timeliness of the non-Federal develop-  
24 ment of hydropower resources at Bureau of Reclamation  
25 projects.

1 **SEC. 11. PUMPED STORAGE STUDY.**

2 (a) IN GENERAL.—The Secretary, in coordination  
 3 with the Director of the United States Geological Survey,  
 4 shall conduct a study (including identification) of Federal  
 5 land that is well-suited for pumped storage sites and is  
 6 located near existing or potential sites of intermittent re-  
 7 newable resource development, such as wind farms.

8 (b) REPORT.—Not later than 1 year after the date  
 9 of enactment of this Act, the Secretary shall submit to  
 10 the Committee on Energy and Natural Resources of the  
 11 Senate and the Committee on Energy and Commerce of  
 12 the House of Representatives a report that describes the  
 13 results of the study conducted under subsection (a), in-  
 14 cluding any recommendations.

15 **SEC. 12. NATIONAL RENEWABLE ENERGY DEPLOYMENT**  
 16 **PROGRAM.**

17 (a) IN GENERAL.—Section 803 of the Energy Inde-  
 18 pendence and Security Act of 2007 (42 U.S.C. 17282) is  
 19 amended by striking the section heading and inserting  
 20 “**NATIONAL RENEWABLE ENERGY DEPLOYMENT**  
 21 **PROGRAM**”.

22 (b) DEFINITIONS.—Section 803(a) of the Energy  
 23 Independence and Security Act of 2007 (42 U.S.C.  
 24 17282(a)) is amended—

25 (1) by striking paragraph (1);

1           (2) by redesignating paragraphs (2) through  
 2           (4) as paragraphs (1) through (3), respectively; and  
 3           (3) in paragraph (3)(B)(iv) (as so redesign-  
 4           nated), by striking “Alaska small”.

5           (c)     RENEWABLE     ENERGY     CONSTRUCTION  
 6 GRANTS.—Section 803(b) of the Energy Independence  
 7 and Security Act of 2007 (42 U.S.C. 17282(b)) is amend-  
 8 ed—

9           (1) in paragraph (1), by inserting “establish a  
 10          national renewable energy construction grants pro-  
 11          gram under which the Secretary shall” after “shall”;  
 12          and

13          (2) by adding at the end the following:

14               “(5) PRIORITY.—In making grants to eligible  
 15          applicants to carry out renewable energy projects  
 16          under this section, the Secretary shall give priority  
 17          to applicants that—

18                       “(A) have power costs that are 125 per-  
 19                       cent or more of average national retail costs; or

20                       “(B) will use the grant to construct renew-  
 21                       able electricity projects to replace fossil fuel  
 22                       projects.”.

23 **SEC. 13. HYDROELECTRIC POWER WORKER TRAINING.**

24          Section 439(b) of the American Clean Energy Lead-  
 25          ership Act of 2009 is amended in the second sentence—

1 (1) in paragraph (6), by striking “and” after  
2 the semicolon at the end;

3 (2) in paragraph (7), by striking the period at  
4 the end and inserting “; and”; and

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

6 “(8) hydroelectric power technology.”.

7 **SEC. 14. REPORT ON MEMORANDUM OF UNDERSTANDING**  
8 **ON HYDROPOWER.**

9 Not later than 18 months after the date of enactment  
10 of this Act, the President shall submit to the Committee  
11 on Energy and Natural Resources of the Senate and the  
12 Committee on Energy and Commerce of the House of  
13 Representatives a report on actions taken by the Depart-  
14 ment of Energy, the Department of the Interior, and the  
15 Corps of Engineers to carry out the memorandum of un-  
16 derstanding on hydropower entered into on March 24,  
17 2010, with particular emphasis on actions taken by the  
18 agencies to work together and investigate ways to effi-  
19 ciently and responsibly facilitate the Federal permitting  
20 process for Federal and non-Federal hydropower projects  
21 at Federal facilities, within existing authority.

22 **SEC. 15. NONAPPLICATION TO FEDERAL POWER MAR-**  
23 **KETING ADMINISTRATIONS.**

24 (a) IN GENERAL.—This Act and the amendments  
25 made by this Act shall not—

1           (1) apply to a hydroelectric project that pro-  
2       vides power marketed by a Federal Power Marketing  
3       Administration; or

4           (2) impact any additions, improvements, or re-  
5       placements of hydroelectric generation at Federal  
6       projects carried out by a Federal Power Marketing  
7       Administration;

8       (b) MODIFICATIONS.—Nothing in this Act limits the  
9       authority under existing law of a Federal Power Mar-  
10      keting Administrator in the event that operations at Fed-  
11      eral projects with hydropower facilities are modified.

12   **SEC. 16. BUDGETARY EFFECTS.**

13       The budgetary effects of this Act, for the purpose of  
14      complying with the Statutory Pay-As-You-Go Act of 2010,  
15      shall be determined by reference to the latest statement  
16      titled “Budgetary Effects of PAYGO Legislation” for this  
17      Act, submitted for printing in the Congressional Record  
18      by the Chairman of the Senate Budget Committee, pro-  
19      vided that such statement has been submitted prior to the  
20      vote on passage.

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