

112TH CONGRESS
1ST SESSION

S. 630

To promote marine and hydrokinetic renewable energy research and development, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 17, 2011

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

A BILL

To promote marine and hydrokinetic renewable energy research and development, 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 “Marine and Hydrokinetic Renewable Energy Promotion
6 Act of 2011”.

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

Sec. 1. Short title; table of contents.

Sec. 2. Marine and hydrokinetic renewable energy research and development program.

Sec. 3. Test facilities.

- Sec. 4. National Marine and Hydrokinetic Renewable Energy Research, Development, and Demonstration Centers.
- Sec. 5. Marine-based energy device verification program.
- Sec. 6. Adaptive management and environmental grant program.
- Sec. 7. Administration.
- Sec. 8. Authorization of appropriations.
- Sec. 9. National Renewable Energy Deployment Program.

1 **SEC. 2. MARINE AND HYDROKINETIC RENEWABLE ENERGY**
 2 **RESEARCH AND DEVELOPMENT PROGRAM.**

3 Section 633(a) of the Energy Independence and Se-
 4 curity Act of 2007 (42 U.S.C. 17212(a)) is amended—

5 (1) in paragraph (13), by striking “; and” and
 6 inserting a semicolon;

7 (2) in paragraph (14), by striking the period at
 8 the end and inserting “; and”; and

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

10 “(15)(A) apply advanced systems engineering
 11 and system integration methods to identify critical
 12 interfaces and develop open standards for marine
 13 and hydrokinetic renewable energy;

14 “(B) transfer the resulting environmental data
 15 to industry stakeholders as public information
 16 through published interface definitions, standards,
 17 and demonstration projects; and

18 “(C) develop incentives for industry to comply
 19 with the standards.”.

1 **SEC. 3. TEST FACILITIES.**

2 Section 633 of the Energy Independence and Security
3 Act of 2007 (42 U.S.C. 17212) is amended by adding at
4 the end the following:

5 “(c) TEST FACILITIES.—

6 “(1) IN GENERAL.—In carrying out this sec-
7 tion, not later than 180 days after the date of enact-
8 ment of this subsection, the Secretary shall award
9 competitive grants to support 3 or more geographi-
10 cally dispersed marine and hydrokinetic renewable
11 energy technology research, development, and dem-
12 onstration test facilities for the demonstration of
13 multiple technologies in actual operating environ-
14 ments.

15 “(2) FACILITIES.—Grants under this subsection
16 may support—

17 “(A) modification of an existing facility
18 (including a Center established under section
19 634); or

20 “(B) construction of a new test facility.

21 “(3) PROGRAM OBJECTIVES.—In awarding
22 grants under this subsection, the Secretary shall
23 provide for the demonstration of—

24 “(A) a variety of technologies at each test
25 facility;

1 “(B) a variety of technologies among all of
2 the test facilities established; and

3 “(C) technologies on a variety of scales.

4 “(4) ACTIVITIES.—Each test facility established
5 under this subsection shall—

6 “(A) provide infrastructure and resources
7 for the evaluation and technical viability testing
8 of marine and hydrokinetic renewable energy
9 technologies; and

10 “(B) conduct and support research, devel-
11 opment, and demonstration activities with re-
12 spect to marine and hydrokinetic renewable en-
13 ergy technologies.

14 “(5) ELIGIBILITY.—To be eligible for a grant
15 under this subsection, an applicant for a grant
16 shall—

17 “(A) be—

18 “(i) a nonprofit institution;

19 “(ii) a State or local government;

20 “(iii) an institution of higher edu-
21 cation;

22 “(iv) a National Laboratory; or

23 “(v) a Center established under sec-
24 tion 634; and

1 “(B) demonstrate to the satisfaction of the
2 Secretary the ability and intention to—

3 “(i) combine expertise from relevant
4 academic fields, including fields relating
5 to—

6 “(I) the environment;

7 “(II) marine sciences;

8 “(III) energy; and

9 “(IV) electrical, mechanical, and
10 civil engineering; and

11 “(ii) partner with other entities that
12 have expertise in advancing marine and
13 hydrokinetic renewable energy tech-
14 nologies.”.

15 **SEC. 4. NATIONAL MARINE AND HYDROKINETIC RENEW-**
16 **ABLE ENERGY RESEARCH, DEVELOPMENT,**
17 **AND DEMONSTRATION CENTERS.**

18 Section 634 of the Energy Independence and Security
19 Act of 2007 (42 U.S.C. 17213) is amended—

20 (1) in the section heading, by inserting “**AND**
21 **HYDROKINETIC**” after “**MARINE**”;

22 (2) in the first sentence of subsection (a), by in-
23 serting “and Hydrokinetic” after “Marine”; and

24 (3) by striking subsection (b) and inserting the
25 following:

1 “(b) PURPOSES.—The Centers—

2 “(1) shall—

3 “(A) advance research, development, dem-
4 onstration, and commercial application of ma-
5 rine and hydrokinetic renewable energy tech-
6 nologies; and

7 “(B) serve as information clearinghouses
8 for the marine and hydrokinetic renewable en-
9 ergy industry by collecting and disseminating
10 information on best practices in all areas relat-
11 ing to developing and managing marine and
12 hydrokinetic renewable energy technologies; and

13 “(2) may serve as technology test facilities es-
14 tablished under section 633(c).”.

15 **SEC. 5. MARINE-BASED ENERGY DEVICE VERIFICATION**
16 **PROGRAM.**

17 The Energy Independence and Security Act of 2007
18 (42 U.S.C. 17211 et seq.) is amended—

19 (1) by redesignating sections 635 and 636 (42
20 U.S.C. 17214, 17215) as sections 638 and 639, re-
21 spectively; and

22 (2) by inserting after section 634 (42 U.S.C.
23 17213) the following:

1 **“SEC. 635. MARINE-BASED ENERGY DEVICE VERIFICATION**
2 **PROGRAM.**

3 “(a) ESTABLISHMENT.—The Secretary shall estab-
4 lish a marine-based energy device verification program to
5 provide a bridge from the marine and hydrokinetic renew-
6 able energy capture device design and development efforts
7 underway across the industry to commercial deployment
8 of marine and hydrokinetic renewable energy devices.

9 “(b) PURPOSES.—The purposes of the program are
10 to fund, facilitate the development and installation of, and
11 evaluate marine and hydrokinetic renewable energy
12 projects, in partnership with Federally Funded Research
13 and Development Centers, and in conjunction with univer-
14 sities and other institutions of higher education, private
15 business entities, and other appropriate organizations, in
16 order—

17 “(1) to increase marine and hydrokinetic renew-
18 able energy experience; and

19 “(2) to build and operate enough candidate de-
20 vices to obtain statistically significant operating and
21 maintenance data.

22 “(c) OBJECTIVES.—The objectives of the program
23 shall include—

24 “(1) verifying the performance, reliability,
25 maintainability, and cost of new marine and

1 hydrokinetic renewable energy device designs and
2 system components in an operating environment;

3 “(2) providing States, regulators, utilities, and
4 other stakeholders with a valid opportunity to test
5 and evaluate marine and hydrokinetic renewable en-
6 ergy technology in new areas;

7 “(3) documenting and communicating the expe-
8 rience from those projects for the benefit of utilities,
9 independent power producers, other nonutility gen-
10 erators, device suppliers, and others in the marine
11 and hydrokinetic renewable energy development com-
12 munity; and

13 “(4) resolving environmental issues through ro-
14 bust characterization, reliable impact prediction, ef-
15 fective monitoring, development, and use of adaptive
16 management, and informing engineering design to
17 improve environmental performance.”.

18 **SEC. 6. ADAPTIVE MANAGEMENT AND ENVIRONMENTAL**
19 **GRANT PROGRAM.**

20 The Energy Independence and Security Act of 2007
21 (42 U.S.C. 17211 et seq.) (as amended by section 5) is
22 amended by inserting after section 635 the following:

23 **“SEC. 636. ADAPTIVE MANAGEMENT AND ENVIRONMENTAL**
24 **GRANT PROGRAM.**

25 “(a) FINDINGS.—Congress finds that—

1 “(1) the use of marine and hydrokinetic renew-
2 able energy technologies can reduce contributions to
3 global warming;

4 “(2) marine and hydrokinetic renewable energy
5 technologies can be produced domestically;

6 “(3) marine and hydrokinetic renewable energy
7 is a nascent industry; and

8 “(4) the United States must work to promote
9 new renewable energy technologies that reduce con-
10 tributions to global warming gases and improve do-
11 mestic energy production.

12 “(b) GRANT PROGRAM.—

13 “(1) IN GENERAL.—As soon as practicable
14 after the date of enactment of this subsection, the
15 Secretary shall establish a program under which the
16 Secretary shall award grants to eligible entities—

17 “(A) to advance the development of marine
18 and hydrokinetic renewable energy;

19 “(B) to help fund the costs of environ-
20 mental analysis affecting the deployment of ma-
21 rine hydrokinetic devices;

22 “(C) to help enable the eligible entities—

23 “(i) to gather and collect the types of
24 environmental data that are required when
25 working in a public resource (including the

1 waterways and oceans of the United
2 States); and

3 “(ii) to monitor the impacts of dem-
4 onstration projects and make the resulting
5 information available for widespread dis-
6 semination to aid future projects; and

7 “(D) to help fund the cost of advancing re-
8 newable marine and hydrokinetic technologies
9 in ocean and riverine environments from dem-
10 onstration projects to development and deploy-
11 ment.

12 “(2) APPLICATION.—To be eligible to receive a
13 grant under this paragraph, an entity shall submit
14 to the Secretary an application at such time, in such
15 manner, and containing such information as the Sec-
16 retary may require.”

17 **SEC. 7. ADMINISTRATION.**

18 The Energy Independence and Security Act of 2007
19 (42 U.S.C. 17211 et seq.) (as amended by section 6) is
20 amended by inserting after section 636 the following:

21 **“SEC. 637. ADMINISTRATION.**

22 “(a) IN GENERAL.—In carrying out this subtitle, the
23 Secretary shall—

24 “(1) coordinate and avoid duplication of activi-
25 ties across programs of the Department and other

1 applicable Federal agencies, including the National
2 Laboratories;

3 “(2) collaborate with (as applicable)—

4 “(A) industry;

5 “(B) stakeholders;

6 “(C) other Federal agencies, including the
7 National Laboratories;

8 “(D) academic institutions; and

9 “(E) international bodies with relevant sci-
10 entific expertise; and

11 “(3) obtain from the recipient of assistance and
12 make available to the public, through Web sites, re-
13 ports, and databases of the Department, any re-
14 search, development, demonstration, and commercial
15 application information produced with respect to
16 supported technology, including information obtained
17 after the completion of supported activities, except
18 to the extent that the information is protected from
19 disclosure under section 552(b) of title 5, United
20 States Code.

21 “(b) REPORTS.—Not later than 1 year after the date
22 of enactment of this section and at least once every 2 years
23 thereafter, the Secretary shall submit to Congress a report
24 on findings and activities conducted under this subtitle.”.

1 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

2 Section 639 of the Energy Independence and Security
3 Act of 2007 (42 U.S.C. 17215) (as redesignated by section
4 5(1)) is amended to read as follows:

5 **“SEC. 639. AUTHORIZATION OF APPROPRIATIONS.**

6 “(a) IN GENERAL.—There is authorized to be appro-
7 priated to carry out this subtitle \$75,000,000 for each of
8 fiscal years 2012 through 2014, to remain available until
9 expended.

10 “(b) OFFSETS.—Of the amount authorized to be ap-
11 propriated for each fiscal year under subsection (a),
12 \$75,000,000 shall be derived for each fiscal year from the
13 amount authorized for energy-intensive industries effi-
14 ciency programs under section 452(f) of the Energy Inde-
15 pendence and Security Act of 2007 (42 U.S.C. 17111(f))
16 for each of fiscal years 2012 through 2015.

17 “(c) RENEWABLE ENERGY FUNDS.—No funds shall
18 be appropriated under this section for activities that are
19 receiving funds under section 931(a)(2)(E)(i) of the En-
20 ergy Policy Act of 2005 (42 U.S.C. 16231(a)(2)(E)(i)).”.

21 **SEC. 9. NATIONAL RENEWABLE ENERGY DEPLOYMENT**
22 **PROGRAM.**

23 (a) IN GENERAL.—Section 803 of the Energy Inde-
24 pendence and Security Act of 2007 (42 U.S.C. 17282) is
25 amended by striking the section heading and inserting

1 **“NATIONAL RENEWABLE ENERGY DEPLOYMENT**
2 **PROGRAM”**.

3 (b) DEFINITIONS.—Section 803(a) of the Energy
4 Independence and Security Act of 2007 (42 U.S.C.
5 17282(a)) is amended—

6 (1) by striking paragraph (1);

7 (2) by redesignating paragraphs (2) through
8 (4) as paragraphs (1) through (3), respectively; and

9 (3) in paragraph (3)(B)(iv) (as so redesign-
10 nated), by striking “Alaska small”.

11 (c) RENEWABLE ENERGY CONSTRUCTION
12 GRANTS.—Section 803(b) of the Energy Independence
13 and Security Act of 2007 (42 U.S.C. 17282(b)) is amend-
14 ed—

15 (1) in paragraph (1), by inserting “establish a
16 national renewable energy construction grants pro-
17 gram under which the Secretary shall” after “shall”;
18 and

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

20 “(5) PRIORITY.—In making grants to eligible
21 applicants to carry out renewable energy projects
22 under this section, the Secretary shall give priority
23 to applicants that—

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

1 “(B) will use the grant to construct renew-
2 able electricity projects to replace fossil fuel
3 projects.”.

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