

119TH CONGRESS
2^D SESSION

S. 3684

To amend the Energy Independence and Security Act of 2007 to reauthorize water power research, development, demonstration, and commercial application activities, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JANUARY 15, 2026

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

A BILL

To amend the Energy Independence and Security Act of 2007 to reauthorize water power research, development, demonstration, and commercial application activities, 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 “Water Power Research
5 and Development Reauthorization Act”.

6 **SEC. 2. WATER POWER RESEARCH AND DEVELOPMENT.**

7 (a) DEFINITIONS.—Section 632 of the Energy Inde-
8 pendence and Security Act of 2007 (42 U.S.C. 17211) is

1 amended by redesignating paragraphs (4), (5), and (6) as
2 paragraphs (5), (6), and (4), respectively, and moving the
3 paragraphs so as to appear in numerical order.

4 (b) WATER POWER TECHNOLOGY RESEARCH, DE-
5 VELOPMENT, AND DEMONSTRATION.—Section 633 of the
6 Energy Independence and Security Act of 2007 (42
7 U.S.C. 17212) is amended—

8 (1) in paragraph (1), by striking “capacity and
9 reduce the cost” inserting “capacity or efficiency,
10 and reduce the cost,”; and

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

12 “(5) To advance scalable United States-based
13 manufacturing of composite and additive manufac-
14 tured marine energy components through collabora-
15 tions with regional institutions of higher education
16 and industry, including advanced composite and ad-
17 ditive manufacturing facilities.”.

18 (c) HYDROPOWER RESEARCH, DEVELOPMENT, AND
19 DEMONSTRATION.—Section 634 of the Energy Independ-
20 ence and Security Act of 2007 (42 U.S.C. 17213) is
21 amended—

22 (1) in the matter preceding paragraph (1), in
23 the first sentence, by inserting “generation,” after
24 “efficiency,”;

1 (2) in paragraph (2), in the matter preceding
2 subparagraph (A), by inserting “, cybersecurity,”
3 after “physical”;

4 (3) by striking paragraph (3) and inserting the
5 following:

6 “(3) study, in conjunction with other relevant
7 Federal agencies, State agencies, Tribal entities (in-
8 cluding Alaska Native Corporations), and local agen-
9 cies, as appropriate, methods to streamline and im-
10 prove the hydropower licensing process, including by
11 compiling current environmental data and studies,
12 accepted best practices, public comments, and meth-
13 odologies to assess the full range of potential envi-
14 ronmental and economic impacts;”;

15 (4) in paragraph (6)—

16 (A) in the matter preceding subparagraph
17 (A), by striking “develop methods and tech-
18 nologies to improve environmental impact” and
19 inserting “develop and support studies, meth-
20 ods, and technologies to assess and improve en-
21 vironmental impacts”; and

22 (B) in subparagraph (D), by inserting “hy-
23 drology,” after “water quality,”;

1 (5) in paragraph (7)(G), by inserting “for hy-
2 dropower and pumped storage applications” after
3 “components”;

4 (6) in paragraph (9), by inserting “and project
5 management and delivery strategies” after “systems
6 analysis”;

7 (7) in paragraph (10)—

8 (A) in subparagraph (B), by striking
9 “and” at the end;

10 (B) in subparagraph (C), by inserting
11 “and” after the semicolon; and

12 (C) by adding at the end the following:

13 “(D) improving methods for incorporating
14 hydropower and pumped storage in grid mod-
15 eling systems;”;

16 (8) in paragraph (13), by striking “and” at the
17 end; and

18 (9) by striking paragraph (14) and inserting
19 the following:

20 “(14) identify mechanisms and systems to test,
21 validate, and improve performance and reliability of
22 hydropower and pumped storage technologies;

23 “(15) conduct research on, and develop meth-
24 ods for, mitigating the impacts of invasive species on
25 hydropower equipment; and

1 “(16) support workforce development programs
2 (including Tribal workforce development programs),
3 training, student-led research, and education and
4 outreach activities to foster growth of the next gen-
5 eration of hydropower professionals and research-
6 ers.”.

7 (d) MARINE ENERGY RESEARCH, DEVELOPMENT,
8 AND DEMONSTRATION.—Section 635(a) of the Energy
9 Independence and Security Act of 2007 (42 U.S.C.
10 17214(a)) is amended—

11 (1) in the matter preceding paragraph (1), by
12 inserting a comma before “and other relevant”;

13 (2) in paragraph (2), in the matter preceding
14 subparagraph (A), by striking “infrastructure and
15 facilities” and inserting “infrastructure, facilities,
16 and equipment”;

17 (3) in paragraph (4), by striking “, which may
18 include smart building systems” and inserting “and
19 microgrids, which may include smart energy man-
20 agement systems”;

21 (4) in paragraph (5), by striking “maintaining
22 a sustainable” and inserting “establish and support
23 manufacturing and an industrial”;

1 (5) in paragraph (9), by inserting “, which may
2 include production of hydrogen and other transpor-
3 tation fuels” before the semicolon;

4 (6) in paragraph (11), by inserting before the
5 semicolon the following: “and cooperative defense re-
6 search and development through demonstration
7 projects with the Department of Defense and the
8 Navy for resilient coastal power and surveillance sys-
9 tems”;

10 (7) in paragraph (13), by inserting “utilization
11 of advanced manufacturing processes, including the”
12 after “such as the”;

13 (8) in paragraph (17), by striking “; and” and
14 inserting “, including data centers, subsea or off-
15 shore power, microgrids, sensors, and communica-
16 tions systems;”;

17 (9) in paragraph (18)—

18 (A) in the matter preceding subparagraph
19 (A), by striking “to develop” and inserting “de-
20 velop”; and

21 (B) by striking subparagraph (B) and in-
22 serting the following:

23 “(B) for the generation and storage of
24 power to promote the resilience of coastal and
25 riverside communities (including high-energy

1 tidal environments) and critical infrastructure
2 (as defined in subsection (e) of the Critical In-
3 frastructures Protection Act of 2001 (42 U.S.C.
4 5195c(e))), including in applications relating
5 to—

6 “(i) desalination;

7 “(ii) disaster recovery and resilience;

8 “(iii) end-user and grid resilience;

9 “(iv) aquaculture;

10 “(v) marine carbon dioxide removal;

11 “(vi) community microgrids and iso-
12 lated power systems; and

13 “(vii) resilience and microgrid dem-
14 onstration sites integrating marine energy
15 and working waterfront economies; and”;

16 and

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

18 “(19) develop, validate, and deploy marine en-
19 ergy systems designed for extreme tidal, tempera-
20 ture, and icing conditions typical of arctic marine
21 environments.”.

22 (e) NATIONAL MARINE ENERGY CENTERS.—Section
23 636 of the Energy Independence and Security Act of 2007
24 (42 U.S.C. 17215) is amended—

1 (1) in subsection (b), by adding at the end the
2 following:

3 “(4) Whether the institution has access to re-
4 gional test sites demonstrating unique natural ad-
5 vantages, such as high tidal ranges, strong currents,
6 and cold-water operating conditions”; and

7 (2) in subsection (c)—

8 (A) in the matter preceding paragraph (1),
9 by striking “and National Laboratories” and
10 inserting “National Laboratories, and other rel-
11 evant Federal agencies”;

12 (B) in paragraph (2)(D), by striking
13 “and” at the end;

14 (C) in paragraph (3), by striking the pe-
15 riod and inserting “; and”; and

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

17 “(4) support workforce development, training,
18 student-led research programs, and development and
19 dissemination of curriculum, education, and outreach
20 activities to foster growth of the next generation of
21 marine energy professionals and researchers.”.

22 (f) ORGANIZATION AND ADMINISTRATION OF PRO-
23 GRAMS.—Section 637 of the Energy Independence and Se-
24 curity Act of 2007 (42 U.S.C. 17216) is amended—

25 (1) in subsection (b)—

1 (A) in paragraph (1)—

2 (i) by striking “Minority Serving In-
3 stitutions” and inserting “minority-serving
4 institutions and Tribal Colleges and Uni-
5 versities”; and

6 (ii) by inserting “other domestic and”
7 before “international bodies”;

8 (B) in paragraph (2), by striking “Minor-
9 ity Serving Institutions” and inserting “minor-
10 ity-serving institutions and Tribal Colleges and
11 Universities”;

12 (C) in paragraph (3), by striking “(includ-
13 ing the United States Agency for International
14 Development)” and inserting “, including the
15 Department of State and the International
16 Trade Administration of the Department of
17 Commerce,”; and

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

19 “(4) INTERAGENCY COLLABORATION.—In car-
20 rying out this subtitle, the Secretary shall seek to
21 coordinate with the Secretary of Commerce to lever-
22 age the National Oceanographic and Atmospheric
23 Administration and National Sea Grant Program to
24 use existing ocean networks and coastal innovation
25 initiatives.”;

1 (2) by striking subsection (d) and inserting the
2 following:

3 “(d) AWARD FREQUENCY.—Not less frequently than
4 once per fiscal year, the Secretary shall—

5 “(1) solicit applications for awards under this
6 subtitle; and

7 “(2) to the extent funding is available, make
8 awards under this subtitle.”;

9 (3) in subsection (f), by striking paragraph (2)
10 and inserting the following:

11 “(2) workforce development and training activi-
12 ties to support education, recruitment, and the dis-
13 semination of standards and best practices for ena-
14 bling water power production, including—

15 “(A) hydropower and marine energy colle-
16 giate competitions, graduate student research
17 program and fellowships relating to marine en-
18 ergy, and other workforce programs; and

19 “(B) collaborations with foundations, non-
20 profit organizations, and educational institu-
21 tions (including Tribal Colleges and Universities
22 and Alaska Native-serving institutions) regard-
23 ing workforce issues.”;

24 (4) in subsection (g)(1), by striking “an an-
25 nual” and inserting “a biennial”; and

1 (5) by striking subsection (h) and inserting the
2 following:

3 “(h) BRIEFING TO CONGRESS.—Not later than 1
4 year after the date of enactment of the Water Power Re-
5 search and Development Reauthorization Act, and at least
6 once every 2 years thereafter, the Secretary shall provide
7 to the relevant authorizing and appropriations committees
8 of Congress a briefing on, and make available to the pub-
9 lic, the findings of research conducted and activities car-
10 ried out pursuant to this subtitle, including—

11 “(1) the most current strategic plan drafted
12 under subsection (g); and

13 “(2) a description of the progress made in im-
14 plementing the plan referred to in paragraph (1).”.

15 (g) AUTHORIZATION OF APPROPRIATIONS.—Section
16 639 of the Energy Independence and Security Act of 2007
17 (42 U.S.C. 17218) is amended by striking “\$186,600,000
18 for each of fiscal years 2021 through 2025, including
19 \$137,428,378 for marine energy and \$49,171,622 for hy-
20 dropower research, development, and demonstration ac-
21 tivities” and inserting “\$300,000,000 for each of fiscal
22 years 2026 through 2030, including \$200,000,000 for ma-
23 rine energy and \$100,000,000 for hydropower research,
24 development, and demonstration activities”.

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