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(Original Signature of Member)

116TH CONGRESS  
1ST SESSION

**H. R.** \_\_\_\_\_

To provide research, development, and deployment of marine energy, and  
for other purposes.

\_\_\_\_\_  
IN THE HOUSE OF REPRESENTATIVES

Mr. DEUTCH introduced the following bill; which was referred to the  
Committee on \_\_\_\_\_

\_\_\_\_\_  
**A BILL**

To provide research, development, and deployment of marine  
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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the  
5 “Marine Energy Research and Development Act of 2019”.

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. Purpose.
- Sec. 3. Amendment to short title.
- Sec. 4. Definition of marine energy.

Sec. 5. Marine energy research and development.

Sec. 6. National Marine Energy Centers.

Sec. 7. Authorization of appropriations.

1 **SEC. 2. PURPOSE.**

2 It is the purpose of this Act to support marine energy  
3 programs that—

4 (1) promote the research and development of  
5 increased energy generation and capacity at reduced  
6 costs;

7 (2) promote research and development that im-  
8 proves environmental outcomes of marine energy  
9 technologies;

10 (3) provide grid stability and create new market  
11 opportunities; and

12 (4) promote job creation in the energy sector.

13 **SEC. 3. AMENDMENT TO SHORT TITLE.**

14 Section 631 of the Energy Independence and Security  
15 Act of 2007 (42 U.S.C. 17001) is amended by striking  
16 “and Hydrokinetic Renewable” from the short title.

17 **SEC. 4. DEFINITION OF MARINE ENERGY.**

18 Section 632 of the Energy Independence and Security  
19 Act of 2007 (42 U.S.C. 17211) is amended to read as  
20 follows:

21 **“SEC. 632. DEFINITIONS.**

22 “For purposes of this subtitle, the term ‘marine en-  
23 ergy’ means energy from—

1           “(1) waves, tides, and currents in oceans, estu-  
2           aries, and tidal areas;

3           “(2) free flowing hydrokinetic water in rivers,  
4           lakes, and streams;

5           “(3) free flowing hydrokinetic water in man-  
6           made channels; and

7           “(4) differentials in ocean temperature (ocean  
8           thermal energy conversion).”.

9   **SEC. 5. MARINE ENERGY RESEARCH AND DEVELOPMENT.**

10       Section 633 of the Energy Independence and Security  
11 Act of 2007 (42 U.S.C. 17212) is amended to read as  
12 follows:

13   **“SEC. 633. MARINE ENERGY RESEARCH AND DEVELOP-**  
14                           **MENT.**

15       “(a) IN GENERAL.—The Secretary, acting through  
16 the Water Power Technologies Office, in consultation with  
17 the Secretary of the Interior, the Secretary of Commerce,  
18 and the Federal Energy Regulatory Commission, shall  
19 conduct a program to accelerate the introduction of ma-  
20 rine energy production into the United States energy sup-  
21 ply, giving priority to technologies most likely to lead to  
22 commercial utilization, while fostering accelerated re-  
23 search, development, demonstration, and commercial ap-  
24 plication of technology, including programs to—

1           “(1) assist technology development at a variety  
2 of scales, including full scale prototypes, in order to  
3 improve the components, processes, and systems  
4 used for power generation from marine energy re-  
5 sources;

6           “(2) establish and expand critical testing infra-  
7 structure and facilities necessary to—

8                 “(A) cost-effectively and efficiently test  
9 and prove marine energy devices; and

10                “(B) accelerate the technological readiness  
11 and commercialization of such devices;

12           “(3) support efforts to increase the efficiency of  
13 energy conversion, lower the cost, increase the use,  
14 improve the reliability, and demonstrate the applica-  
15 bility of marine energy technologies by participating  
16 in demonstration projects;

17           “(4) investigate variability issues and the effi-  
18 cient and reliable integration of marine energy with  
19 the utility grid;

20           “(5) identify and study critical short- and long-  
21 term needs to create a sustainable marine energy  
22 supply chain based in the United States;

23           “(6) increase the reliability and survivability of  
24 marine energy technologies;

1           “(7) verify the performance, reliability, main-  
2           tainability, and cost of new marine energy device de-  
3           signs and system components in an operating envi-  
4           ronment;

5           “(8) consider the protection of critical infra-  
6           structure, such as adequate separation between ma-  
7           rine energy devices and projects and submarine tele-  
8           communications cables, including consideration of  
9           established industry standards;

10          “(9)(A) coordinate the programs carried out  
11          under this section with, and avoid duplication of ac-  
12          tivities across, programs of the Department and  
13          other applicable Federal agencies, including National  
14          Laboratories; and

15          “(B) coordinate public-private collaboration in  
16          carrying out the programs under this section;

17          “(10) identify opportunities for joint research  
18          and development programs and the development of  
19          economies of scale between—

20                 “(A) marine energy technologies; and

21                 “(B) other renewable energy and fossil en-  
22                 ergy programs, offshore oil and gas production  
23                 activities, and activities of the Department of  
24                 Defense;

1           “(11) identify, in conjunction with the Sec-  
2           retary of Commerce, acting through the Under Sec-  
3           retary of Commerce for Oceans and Atmosphere,  
4           and other relevant Federal agencies as appropriate,  
5           the potential environmental impacts, including po-  
6           tential impacts on fisheries and other marine re-  
7           sources, of marine energy technologies, measures to  
8           prevent adverse impacts, and technologies and other  
9           means available for monitoring and determining en-  
10          vironmental impacts;

11          “(12) identify, in conjunction with the Sec-  
12          retary of the Department in which the United States  
13          Coast Guard is operating, acting through the Com-  
14          mandant of the United States Coast Guard, the po-  
15          tential navigational impacts of marine energy tech-  
16          nologies and measures to prevent adverse impacts on  
17          navigation; and

18          “(13) support in-water technology development  
19          with international partners using existing coopera-  
20          tive procedures (including memoranda of under-  
21          standing) to—

22                  “(A) allow cooperative funding and other  
23                  support of value to be exchanged and leveraged;  
24                  and

1           “(B) encourage international research cen-  
2           ters and international companies to participate  
3           in the development of marine energy technology  
4           in the United States and to encourage United  
5           States research centers and companies to par-  
6           ticipate in marine energy projects abroad.

7           “(b) COST SHARING AND MERIT REVIEW.—The Sec-  
8           retary shall carry out the program under this section in  
9           compliance with sections 988 and 989 of the Energy Pol-  
10          icy Act of 2005 (42 U.S.C. Sec. 16352, 16353).”.

11       **SEC. 6. NATIONAL MARINE ENERGY CENTERS.**

12          Section 634 of the Energy Independence and Security  
13          Act of 2007 (42 U.S.C. 17213) is amended by striking  
14          subsections (a) and (b) and inserting the following:

15          “(a) CENTERS.—The Secretary shall award grants to  
16          institutions of higher education for continuation and ex-  
17          pansion of the research, development and testing activities  
18          at the National Marine Energy Centers established as of  
19          January 1, 2019, and the establishment of new National  
20          Marine Energy Centers. In selecting locations for new  
21          Centers, the Secretary shall consider one of the following  
22          criteria:

23               “(1) Hosts an existing marine energy research  
24          and development program in coordination with an

1 engineering program at an institution of higher edu-  
2 cation;

3 “(2) Has proven expertise to support environ-  
4 mental and policy-related issues associated with the  
5 harnessing of energy in the marine environment;

6 “(3) Has access to and utilizes marine re-  
7 sources.

8 “(b) PURPOSES.—The Centers shall coordinate  
9 among themselves, the Department and the National Lab-  
10 oratories to—

11 “(1) advance research, development, and dem-  
12 onstration of marine energy technologies;

13 “(2) support in-water testing and demonstra-  
14 tion of marine energy technologies, including facili-  
15 ties capable of testing—

16 “(A) marine energy systems of various  
17 technology readiness levels and scales;

18 “(B) a variety of technologies in multiple  
19 test berths at a single location; and

20 “(C) arrays of technology devices; and

21 “(3) serve as information clearinghouses for the  
22 marine energy industry by collecting and dissemi-  
23 nating information on best practices in all areas re-  
24 lating to developing and managing marine energy re-  
25 sources and energy systems.

1           “(c) COST SHARING.—The Secretary shall carry out  
2 the program under this section in compliance with section  
3 988(b)(4) of the Energy Policy Act of 2005 (42 U.S.C.  
4 16352).”.

5 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

6           Section 636 of the Energy Independence and Security  
7 Act of 2007 (42 U.S.C. 17215) is amended by inserting  
8 “and \$150,000,000 for each of fiscal years 2020 and  
9 2021” after “2008 through 2012”.