

[~117H9027]



(Original Signature of Member)

118TH CONGRESS  
2D SESSION

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

To direct the Secretary of Energy to establish a pilot program on ocean fertilization and restoration research and development, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

Mr. CARTER of Georgia introduced the following bill; which was referred to the Committee on \_\_\_\_\_

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**A BILL**

To direct the Secretary of Energy to establish a pilot program on ocean fertilization and restoration 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.**

4       This Act may be cited as the “Ocean Restoration Re-  
5       search and Development Act”.

6       **SEC. 2. FINDINGS; SENSE OF CONGRESS.**

7       (a) FINDINGS.—The Congress finds the following:

1           (1) Rising greenhouse gas concentrations has  
2           been linked to a number of adverse environmental  
3           conditions and threatens the health of the global en-  
4           vironment.

5           (2) Emissions reductions and natural carbon  
6           sequestration methods to stabilize and decrease glob-  
7           al greenhouse gas concentrations should be pursued.

8           (3) The oceans have the capacity to hold 50  
9           times more carbon than the terrestrial systems and  
10          atmosphere.

11          (4) The National Academies has recognized the  
12          potential benefits of methodologies that enhance  
13          ocean-based carbon dioxide removal (marine CDR)  
14          and called for more research to assess their potential  
15          to mitigate the impacts of climate change.

16          (5) Ocean iron fertilization and other marine  
17          CDR techniques hold great potential to efficiently  
18          accelerate carbon dioxide removal from the atmos-  
19          phere.

20          (6) Ocean iron fertilization and replenishment  
21          mimics natural processes such as the influx of aeo-  
22          lian dust and volcanic ash that provide iron supple-  
23          ments to iron-limited open oceans.

1           (7) Ocean iron fertilization also stimulates  
2       ocean productivity, phytoplankton growth, and fish  
3       populations.

4           (8) Several national and international climate  
5       strategies include specifications that methods to re-  
6       store or enhance ocean photosynthesis are accepted  
7       as valid and will produce measurable and significant  
8       carbon capture and sequestration or storage referred  
9       to as a form of blue carbon.

10       (b) SENSE OF CONGRESS.—It is the sense of the  
11   Congress that conducting pilot projects for research and  
12   development of ocean iron fertilization and other marine  
13   CDR techniques is urgent and in the nation’s vital interest  
14   to better understand and advance climate restoration and  
15   should be a priority for the Secretary.

16   **SEC. 3. OCEAN FERTILIZATION RESEARCH AND DEVELOP-**  
17                                   **MENT PILOT PROGRAM.**

18       (a) ESTABLISHMENT.—The Secretary of Energy  
19   shall establish a pilot program for the research and devel-  
20   opment of ocean iron fertilization and other marine CDR  
21   techniques that have the potential to achieve regional-to-  
22   global scale carbon dioxide removal, ocean restoration, en-  
23   hancement of fisheries, or conservation of marine mam-  
24   mals.

1 (b) REQUIREMENTS.—The pilot program established  
2 under subsection (a) shall include—

3 (1) an applied research and development incen-  
4 tive program, including monitoring of effects on eco-  
5 systems;

6 (2) demonstration projects, including commer-  
7 cial scale by private industry;

8 (3) engineering, design, environmental and eco-  
9 nomic analysis;

10 (4) an assessment of the efficacy of ocean iron  
11 fertilization and other marine CDR replenishment  
12 techniques to—

13 (A) absorb and sequester greenhouse gas-  
14 ses and restore marine ecosystems;

15 (B) replicate those practices under varying  
16 conditions; and

17 (C) assess secondary environmental im-  
18 pacts and associated verification methodologies;  
19 and

20 (5) a data management plan to include access  
21 and archive functions to allow for interagency sci-  
22 entific discovery.

23 (c) CONSULTATION.—In carrying out the pilot pro-  
24 gram established under subsection (a), the Secretary shall  
25 consult and collaborate with—

1           (1) the heads of other relevant Federal depart-  
2           ments and agencies, including—

3                   (A) the Administrator of the National Oce-  
4                   anic and Atmospheric Administration;

5                   (B) the Secretary of Treasury;

6                   (C) the Administrator of the Environ-  
7                   mental Protection Agency;

8                   (D) the Director of the Bureau of Ocean  
9                   Energy Management; and

10                  (E) the Director of the National Science  
11                  Foundation;

12                  (2) institutions of higher education;

13                  (3) the National Oceanographic Partnership  
14                  Program; and

15                  (4) representatives from other relevant private  
16                  and public sector organizations.

17           (d) PROGRAM GOALS AND OBJECTIVES.—In con-  
18           sultation with the entities described in subsection (c), the  
19           Secretary shall within 1 year of enactment of this Act de-  
20           velop goals and objectives for the pilot program estab-  
21           lished under subsection (a), taking into consideration—

22                   (1) the acceleration of the development of ocean  
23                   iron fertilization technologies and other marine CDR  
24                   practices that have transformational ocean restora-

1       tion, carbon removal, and carbon storage character-  
2       istics;

3           (2) the utilization of, to the maximum extent  
4       practicable, environmental data collected by—

5           (A) the entities described in subsection (c);

6           (B) the Defense Advanced Research  
7       Projects Agency through the Ocean of Things  
8       program;

9           (C) the National Aeronautics and Space  
10       Administration through the Plankton, Aerosol,  
11       Cloud, ocean Ecosystem mission;

12          (D) NOAA's Joint Polar Satellite System  
13       and Geostationary Operational Environmental  
14       Satellites, and data available from the National  
15       Centers for Environmental Information;

16          (E) the Integrated Ocean Observing Sys-  
17       tem of the National Oceanic and Atmospheric  
18       Administration; and

19          (F) the United States Navy, through the  
20       Marine Mammal Program;

21       (3) support for sites for safe testing and dem-  
22       onstration;

23       (4) the need to enter into cooperative agree-  
24       ments to carry out and expedite meso-scale dem-  
25       onstration projects;

1           (5) compliance with relevant international laws  
2           and treaties, if applicable;

3           (6) any benefits or barriers to the commercial  
4           deployment of any such technologies and practices;  
5           and

6           (7) the need for adequate data sharing and  
7           management protocols among all participants to en-  
8           sure that the data and information collected from  
9           the pilot project is available to the science commu-  
10          nity and the public.

11          (e) ELIGIBLE ENTITIES.—In carrying out the pilot  
12          program established under subsection (a), the Secretary  
13          shall have the authority to contract with private or public  
14          entities provided that—

15                (1) the entity has demonstrated experience with  
16                ocean iron fertilization, other marine CDR tech-  
17                niques, or expertise in oceanography;

18                (2) at least 51 percent of project costs are to  
19                be provided by sources of funding other than Fed-  
20                eral funds; and

21                (3) certain data collected from such projects is  
22                made available to the Secretary to demonstrate effi-  
23                cacy of ocean iron fertilization or other marine CDR  
24                techniques, subject to the protection of all propri-  
25                etary data.

1 (f) STATE AND TRIBAL INVOLVEMENT.—In consulta-  
2 tion with the Secretary, States and Tribes may enter into  
3 contracts with private and public entities to advance ocean  
4 iron fertilization for carbon sequestration or fisheries res-  
5 toration.

6 (g) PRIORITIES.—In carrying out the pilot program  
7 established under subsection (a), the Secretary shall, to  
8 the maximum extent practicable, prioritize activities  
9 that—

10 (1) take place in pelagic waters;

11 (2) will not cause or accelerate harmful algal  
12 blooms in coastal waters; and

13 (3) restores ocean primary productivity.

14 (h) REPORT TO CONGRESS.—Not later than 1 year  
15 after the date of enactment of this Act, the Secretary shall  
16 submit to Congress a report describing—

17 (1) the program goals and objectives adopted  
18 under subsection (d);

19 (2) improving and enhancing techniques for  
20 ocean iron fertilization and other marine CDR tech-  
21 niques;

22 (3) any results, successes, and related co-bene-  
23 fits to marine mammals and fisheries, and any di-  
24 rect, indirect, and cumulative impacts to the envi-



1       ronment carrying out the pilot program established  
2       under subsection (a);

3           (4) the potential to undertake large-scale  
4       projects and utilize international waters for dem-  
5       onstration projects;

6           (5) applicability of Research and Development  
7       tax credits and other means to incentivize private in-  
8       vestment;

9           (6) any policies or permitting recommendations  
10      for work conducted in United States and inter-  
11      national waters; and

12          (7) any other information the Secretary con-  
13      siders relevant.

14      (i) SYMPOSIUM.—Not later than 2 years after the  
15      date of enactment of this Act, the Secretary shall convene  
16      a symposium, bringing together experts from academia,  
17      industry and government to assess the status of deploy-  
18      ment, best practices, innovation and technologies, and on-  
19      going research and development related to iron fertiliza-  
20      tion and other marine CDR techniques for ocean restora-  
21      tion.

22      (j) WAIVER.—Notwithstanding any other provision of  
23      law, the Secretary shall have the authority to waive any  
24      other legal requirements the Secretary, in the Secretary's  
25      sole discretion, determines necessary to ensure expeditious

1 development and implementation of the pilot projects  
2 under this section. Any such decision by the Secretary  
3 shall be effective upon being published in the Federal Reg-  
4 ister.

5 (k) FEDERAL COURT REVIEW.—The district courts  
6 of the United States shall have exclusive jurisdiction to  
7 hear all causes or claims arising from any action under-  
8 taken, or any decision made, by the Secretary pursuant  
9 to subsection (j). A cause of action or claim may only be  
10 brought alleging a violation of the Constitution of the  
11 United States. The court shall not have jurisdiction to  
12 hear any claim not specified in this subsection.

13 (l) AUTHORIZATION OF APPROPRIATIONS.—There  
14 are authorized to be appropriated to carry out this section  
15 \$33,000,000 for each of fiscal years 2025 through 2030.

16 (m) DEFINITIONS.—In this section:

17 (1) COASTAL WATERS.—The term “coastal  
18 waters” means the land and sea areas bordering the  
19 shoreline where hypoxic conditions exist or are likely  
20 to occur due to excess nutrients.

21 (2) OCEAN RESTORATION.—The term “ocean  
22 restoration” includes the research and development  
23 of technologies and techniques that support the ad-  
24 dition of trace elements or nutrients to the upper

1 layers of the ocean for the purpose of stimulating  
2 phytoplankton activity.

3 (3) PELAGIC WATERS.—The term “pelagic  
4 waters” means the part of the open sea or ocean  
5 other than coastal waters.

6 (4) OCEAN IRON FERTILIZATION.—The term  
7 “ocean iron fertilization” means introduction of low  
8 concentrations of iron to high nutrient, low chloro-  
9 phyll regions of the ocean surface to stimulate  
10 phytoplankton production.

11 (5) MARINE CDR TECHNIQUES.—In addition to  
12 ocean iron fertilization, other marine CDR tech-  
13 niques include, but are not limited to, ocean alka-  
14 linity enhancement, electrochemical approaches, and  
15 kelp and seaweed cultivation.