

116TH CONGRESS
1ST SESSION

S. 1679

To require the Secretary of Defense to carry out the Direct Air Capture and Blue Carbon Removal Technology Program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 23 (legislative day, MAY 22), 2019

Mr. WHITEHOUSE (for himself, Mr. REED, and Mr. SULLIVAN) introduced the following bill; which was read twice and referred to the Committee on Armed Services

A BILL

To require the Secretary of Defense to carry out the Direct Air Capture and Blue Carbon Removal Technology Program, 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 “Securing Energy for
5 our Armed Forces Using Engineering Leadership Act of
6 2019” or the “SEA FUEL Act of 2019”.

7 **SEC. 2. DIRECT AIR CAPTURE AND BLUE CARBON RE-**
8 **MOVAL TECHNOLOGY PROGRAM.**

9 (a) PROGRAM REQUIRED.—

1 (1) IN GENERAL.—The Secretary of Defense, in
2 coordination with the Secretary of Homeland Secu-
3 rity, the Secretary of Energy, and the heads of such
4 other Federal agencies as the Secretary of Defense
5 considers appropriate, shall carry out a program on
6 research, development, testing, evaluation, study,
7 and demonstration of technologies related to blue
8 carbon capture and direct air capture.

9 (2) PROGRAM GOALS.—The goals of the pro-
10 gram established under paragraph (1) are as follows:

11 (A) To develop technologies that capture
12 carbon dioxide from seawater and the air to
13 turn such carbon dioxide into clean fuels to en-
14 hance fuel and energy security.

15 (B) To develop and demonstrate tech-
16 nologies that capture carbon dioxide from sea-
17 water and the air to reuse such carbon dioxide
18 to create products for military uses.

19 (C) To develop direct air capture tech-
20 nologies for use—

21 (i) at military installations or facilities
22 of the Department of Defense; or

23 (ii) in modes of transportation by the
24 Navy or the Coast Guard.

1 (3) PHASES.—The program established under
2 paragraph (1) shall be carried out in two phases as
3 follows:

4 (A) The first phase shall consist of re-
5 search and development and shall be carried out
6 as described in subsection (b).

7 (B) The second phase shall consist of test-
8 ing and evaluation and shall be carried out as
9 described in subsection (c), if the Secretary de-
10 termines that the results of the research and
11 development phase justify implementing the
12 testing and evaluation phase.

13 (4) DESIGNATION.—The program established
14 under paragraph (1) shall be known as the “Direct
15 Air Capture and Blue Carbon Removal Technology
16 Program” (in this section referred to as the “Pro-
17 gram”).

18 (b) RESEARCH AND DEVELOPMENT PHASE.—

19 (1) IN GENERAL.—During the research and de-
20 velopment phase of the Program, the Secretary of
21 Defense shall conduct research and development in
22 pursuit of the goals set forth in subsection (a)(2).

23 (2) DIRECT AIR CAPTURE.—The research and
24 development phase of the Program may include, with
25 respect to direct air capture, a front end engineering

1 and design study that includes an evaluation of di-
2 rect air capture designs to produce fuel for use—

3 (A) at military installations or facilities of
4 the Department of Defense; or

5 (B) in modes of transportation by the
6 Navy or the Coast Guard.

7 (3) DURATION.—The Secretary shall carry out
8 the research and development phase of the Program
9 during a four-year period commencing not later than
10 90 days after the date of the enactment of this Act.

11 (4) GRANTS AUTHORIZED.—The Secretary may
12 carry out the research and development phase of the
13 Program through the award of grants to private per-
14 sons and eligible laboratories.

15 (5) REPORT REQUIRED.—Not later than 180
16 days after the date of the completion of the research
17 and development phase of the Program, the Sec-
18 retary shall submit to Congress a report on the re-
19 search and development carried out under the Pro-
20 gram.

21 (6) AUTHORIZATION OF APPROPRIATIONS.—
22 There are authorized to be appropriated to carry out
23 the research and development phase of the Pro-
24 gram—

25 (A) \$8,000,000 for fiscal year 2020; and

1 (B) \$10,000,000 for each of fiscal years
2 2021 through 2023.

3 (c) TESTING AND EVALUATION PHASE.—

4 (1) IN GENERAL.—During the testing and eval-
5 uation phase of the Program, the Secretary shall, in
6 pursuit of the goals set forth in subsection (a)(2),
7 conduct tests and evaluations of the technologies re-
8 searched and developed during the research and de-
9 velopment phase of the Program.

10 (2) DIRECT AIR CAPTURE.—The testing and
11 evaluation phase of the Program may include dem-
12 onstration projects for direct air capture to produce
13 fuel for use—

14 (A) at military installations or facilities of
15 the Department of Defense; or

16 (B) in modes of transportation by the
17 Navy or the Coast Guard.

18 (3) DURATION.—Subject to subsection
19 (a)(3)(B), the Secretary shall carry out the testing
20 and evaluation phase of the Program during the
21 three-year period commencing on the date of the
22 completion of the research and development phase
23 described in subsection (b), except that the testing
24 and evaluation phase of the Program with respect to
25 direct air capture may commence at such time after

1 a front end engineering and design study dem-
2 onstrates to the Secretary that commencement of
3 such phase is appropriate.

4 (4) GRANTS AUTHORIZED.—The Secretary may
5 carry out the testing and evaluation phase of the
6 Program through the award of grants to private per-
7 sons and eligible laboratories.

8 (5) LOCATIONS.—The Secretary shall carry out
9 the testing and evaluation phase of the Program at
10 military installations or facilities of the Department
11 of Defense.

12 (6) REPORT REQUIRED.—Not later than Sep-
13 tember 30, 2026, the Secretary shall submit to Con-
14 gress a report on the findings of the Secretary with
15 respect to the effectiveness of the technologies tested
16 and evaluated under the Program.

17 (7) AUTHORIZATION OF APPROPRIATIONS.—
18 There is authorized to be appropriated to carry out
19 the testing and evaluation phase of the Program
20 \$15,000,000 for each of fiscal years 2024 through
21 2026.

22 (d) DEFINITIONS.—In this section:

23 (1) BLUE CARBON CAPTURE.—The term “blue
24 carbon capture” means the removal of dissolved car-
25 bon dioxide from seawater through engineered or in-

1 organic processes, including filters, membranes, or
2 phase change systems.

3 (2) DIRECT AIR CAPTURE.—

4 (A) IN GENERAL.—The term “direct air
5 capture”, with respect to a facility, technology,
6 or system, means that the facility, technology,
7 or system uses carbon capture equipment to
8 capture carbon dioxide directly from the air.

9 (B) EXCLUSION.—The term “direct air
10 capture” does not include any facility, tech-
11 nology, or system that captures carbon diox-
12 ide—

13 (i) that is deliberately released from a
14 naturally occurring subsurface spring; or

15 (ii) using natural photosynthesis.

16 (3) ELIGIBLE LABORATORY.—The term “eligi-
17 ble laboratory” means—

18 (A) a National Laboratory (as defined in
19 section 2 of the Energy Policy Act of 2005 (42
20 U.S.C. 15801)); or

21 (B) a laboratory of the Department of De-
22 fense.

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