

115TH CONGRESS
2D SESSION

S. 2997

To amend the Farm Security and Rural Investment Act of 2002 to advance carbon utilization technologies, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JUNE 5, 2018

Mr. BENNET (for himself and Mr. WHITEHOUSE) introduced the following bill; which was read twice and referred to the Committee on Agriculture, Nutrition, and Forestry

A BILL

To amend the Farm Security and Rural Investment Act of 2002 to advance carbon utilization technologies, 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 “Carbon Utilization Act
5 of 2018”.

1 **SEC. 2. BIOREFINERY, RENEWABLE CHEMICAL, AND**
 2 **BIOBASED PRODUCT MANUFACTURING AS-**
 3 **SISTANCE.**

4 Section 9003(b)(3) of the Farm Security and Rural
 5 Investment Act of 2002 (7 U.S.C. 8103(b)(3)) is amend-
 6 ed—

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

9 (2) by striking subparagraph (B) and inserting
 10 the following:

11 “(B) a renewable chemical or biobased
 12 product technology not described in subpara-
 13 graph (A) that has been demonstrated to have
 14 technical and economic potential for commercial
 15 application in a biorefinery; and

16 “(C) a technology for the capture, com-
 17 pression, or utilization of carbon dioxide that is
 18 produced at a biorefinery producing from re-
 19 newable biomass a biofuel, a renewable chem-
 20 ical, or a biobased product.”.

21 **SEC. 3. BIOMASS RESEARCH AND DEVELOPMENT.**

22 Section 9008 of the Farm Security and Rural Invest-
 23 ment Act of 2002 (7 U.S.C. 8108) is amended—

24 (1) in subsection (a)(1)—

25 (A) in subparagraph (A), by striking “or”
 26 at the end;

1 (B) in subparagraph (B), by striking the
 2 period at the end and inserting “; or”; and

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

4 “(C) carbon dioxide that—

5 “(i) is intended for permanent seques-
 6 tration or utilization; and

7 “(ii) is a byproduct of the production
 8 of the products described in subparagraphs
 9 (A) and (B).”;

10 (2) in subsection (d)(2)(A)—

11 (A) in clause (xii), by striking “and” at
 12 the end;

13 (B) by redesignating clause (xiii) as clause
 14 (xiv); and

15 (C) by inserting after clause (xii) the fol-
 16 lowing:

17 “(xiii) an individual with expertise in
 18 carbon dioxide capture, utilization, and se-
 19 questration; and”; and

20 (3) in subsection (e)—

21 (A) in paragraph (2)(B)—

22 (i) in clause (ii), by striking “and” at
 23 the end; and

24 (ii) by adding at the end the fol-
 25 lowing:

1 “(iv) to permanently sequester or uti-
 2 lize carbon dioxide that is produced as a
 3 byproduct of the production of biobased
 4 products; and”; and

5 (B) in paragraph (3)(B)—

6 (i) in clause (i), by striking “and” at
 7 the end;

8 (ii) in clause (ii), by striking the pe-
 9 riod at the end and inserting “; and”; and

10 (iii) by adding at the end the fol-
 11 lowing:

12 “(iii) the development of technologies
 13 to permanently sequester or utilize carbon
 14 dioxide that is produced as a byproduct of
 15 the production of biobased products.”.

16 **SEC. 4. BIOGAS RESEARCH AND ADOPTION OF BIOGAS SYS-**
 17 **TEMS.**

18 Title IX of the Farm Security and Rural Investment
 19 Act of 2002 is amended by inserting after section 9011
 20 (7 U.S.C. 8111) the following:

21 **“SEC. 9012. BIOGAS RESEARCH AND ADOPTION OF BIOGAS**
 22 **SYSTEMS.**

23 “(a) DEFINITIONS.—In this section:

1 “(1) ANAEROBIC DIGESTION.—The term ‘an-
2 aerobic digestion’ means a biological process or se-
3 ries of biological processes—

4 “(A) through which microorganisms break
5 down biodegradable material in the absence of
6 oxygen; and

7 “(B) the end products of which are biogas
8 and digested materials.

9 “(2) BIOGAS.—The term ‘biogas’ means a mix-
10 ture of primarily methane and carbon dioxide pro-
11 duced by the bacterial decomposition of organic ma-
12 terials in the absence of oxygen.

13 “(3) BIOGAS PROCESSING.—The term ‘biogas
14 processing’ means the process by which water, car-
15 bon dioxide, and other trace compounds are removed
16 from biogas, as determined by the end user.

17 “(4) BIOGAS SYSTEM.—The term ‘biogas sys-
18 tem’ means a system—

19 “(A) with the potential to capture and use
20 biogas, including biogas from organic waste, in-
21 cluding animal manure, food waste, waste from
22 landfills, and wastewater; and

23 “(B) that includes—

1 “(i) the infrastructure necessary to
 2 manage the organic waste referred to in
 3 subparagraph (A);

4 “(ii) the equipment necessary to gen-
 5 erate—

6 “(I) electricity, heat, or fuel; and

7 “(II) biogas system co-products;

8 and

9 “(iii) the equipment necessary for
 10 biogas processing.

11 “(5) BIOGAS SYSTEM CO-PRODUCT.—The term
 12 ‘biogas system co-product’ means a nonenergy
 13 biogas system product produced from digested mate-
 14 rial, including soil amendments, fertilizers, compost,
 15 animal bedding, and feedstock for plastics and
 16 chemicals.

17 “(6) DIGESTED MATERIAL.—The term ‘digested
 18 material’ means solid or liquid digested material—

19 “(A) produced by digesters; and

20 “(B) that contains nutrients and organic
 21 carbon.

22 “(b) INTERAGENCY BIOGAS OPPORTUNITIES TASK
 23 FORCE.—

24 “(1) ESTABLISHMENT.—Not later than 180
 25 days after the date of enactment of the Carbon Uti-

1 lization Act of 2018, the Secretary, acting jointly
2 with the Secretary of Energy and the Administrator,
3 shall establish an Interagency Biogas Opportunities
4 Task Force (referred to in this subsection as the
5 ‘Task Force’) that shall coordinate policies, pro-
6 grams, and research to accelerate—

7 “(A) biogas research; and

8 “(B) investment in cost-effective biogas
9 systems.

10 “(2) MEMBERSHIP.—The Task Force shall be
11 composed of—

12 “(A) the head of each Federal office re-
13 sponsible for biogas research or biogas system
14 financing (or a designee), including a represent-
15 ative from the Department of Agriculture, the
16 Department of Energy, and the Environmental
17 Protection Agency;

18 “(B) 1 or more representatives of State or
19 local governments, as determined by the Sec-
20 retary, the Secretary of Energy, and the Ad-
21 ministrator;

22 “(C) 1 or more nongovernmental or indus-
23 try stakeholders, including 1 or more stake-
24 holders from relevant industries, as determined

1 by the Secretary, the Secretary of Energy, and
2 the Administrator; and

3 “(D) 1 or more community stakeholders.

4 “(3) DUTIES OF THE TASK FORCE.—In car-
5 rying out paragraph (1), the Task Force shall—

6 “(A) evaluate and improve the coordination
7 of loan and grant programs of the Federal
8 agencies represented on the Task Force—

9 “(i) to broaden the financing options
10 available for biogas systems; and

11 “(ii) to enhance opportunities for pri-
12 vate financing of biogas systems;

13 “(B) review Federal procurement guide-
14 lines to ensure that products of biogas systems
15 are eligible for and promoted by applicable pro-
16 curement programs of the Federal Government;

17 “(C) in coordination with the Secretary of
18 Commerce, evaluate the development of North
19 American Industry Classification System and
20 North American Product Classification System
21 codes for biogas and biogas system products;

22 “(D) review opportunities and develop
23 strategies to overcome barriers to integrating
24 biogas into electricity and renewable natural
25 gas markets;

1 “(E) develop tools to broaden the market
2 for nonenergy biogas system products, including
3 by developing best management practices for—

4 “(i) the use and land application of
5 digestate to maximize recovery of waste re-
6 sources and minimize environmental and
7 public health risks; and

8 “(ii) the use of carbon dioxide from
9 biogas processing;

10 “(F) provide information on the ability of
11 biogas system products to participate in mar-
12 kets that provide environmental benefits;

13 “(G) identify and investigate research gaps
14 in biogas and anaerobic digestion technology,
15 including research gaps in environmental bene-
16 fits, market assessment, and performance
17 standards;

18 “(H) assess the most cost-effective vol-
19 untary investments in biogas to reduce waste
20 and methane emissions; and

21 “(I) identify and advance additional prior-
22 ities, as determined by the Task Force.

23 “(4) REPORT.—Not later than 18 months after
24 the date of the establishment of the Task Force, the
25 Task Force shall submit to Congress a report that—

1 “(A) describes the steps taken by the Task
 2 Force to carry out the duties of the Task Force
 3 under paragraph (3); and

4 “(B) identifies and prioritizes policies and
 5 technology opportunities—

6 “(i) to expand the biogas industry;

7 “(ii) to eliminate barriers to invest-
 8 ment in biogas systems in the landfill, live-
 9 stock, wastewater, and other relevant sec-
 10 tors; and

11 “(iii) to enhance opportunities for pri-
 12 vate and public sector partnerships to fi-
 13 nance biogas systems.

14 “(c) ADVANCEMENT OF BIOGAS RESEARCH.—

15 “(1) STUDY ON BIOGAS.—

16 “(A) IN GENERAL.—The Secretary, in co-
 17 ordination with the Secretary of Energy and
 18 the Administrator, shall enter into an agree-
 19 ment with the National Renewable Energy Lab-
 20 oratory to conduct a study relating to biogas.

21 “(B) STUDY.—Under the agreement de-
 22 scribed in subparagraph (A), the study con-
 23 ducted by the National Renewable Energy Lab-
 24 oratory shall include an analysis of—

1 “(i) barriers to injecting biogas into
2 existing natural gas pipelines;

3 “(ii) methods for optimizing biogas
4 systems, including methods to obtain the
5 highest energy output from biogas, includ-
6 ing through the use of co-digestion;

7 “(iii) opportunities for, and barriers
8 to, the productive use of biogas system co-
9 products, carbon dioxide from biogas proc-
10 essing, and recovered nutrients;

11 “(iv) the optimal configuration of
12 local, State, or regional infrastructure for
13 the production of electricity, heat, or fuel
14 from biogas, including infrastructure for
15 the aggregation, cleaning, and pipeline in-
16 jection of biogas; and

17 “(v) any other subject relating to
18 biogas, as determined by the Interagency
19 Biogas Opportunities Task Force estab-
20 lished under subsection (b)(1).

21 “(C) REPORT.—Not later than 2 years
22 after the date of enactment of the Carbon Utili-
23 zation Act of 2018, the Secretary shall submit
24 to Congress a report on the study conducted
25 under this paragraph.

1 “(2) COLLECTION OF DATA FOR BIOGAS MAR-
2 KETTS.—The Secretary, in coordination with the Sec-
3 retary of Energy and the Administrator, shall iden-
4 tify, collect, and analyze environmental, technical,
5 and economic performance data relating to biogas
6 systems, including the production of energy of
7 biogas systems, co-products, greenhouse gas and
8 other emissions, water quality benefits, and other
9 data necessary to develop markets for biogas and
10 biogas system co-products.

11 “(3) MONITORING OF METHANE EMISSIONS.—
12 The Administrator shall identify, and offer to enter
13 into an agreement with, a research institution—

14 “(A) to identify, measure, and monitor
15 methane emissions in geographical areas in
16 which those emissions are the most significant
17 or concentrated;

18 “(B) to detect temporal changes in meth-
19 ane emissions;

20 “(C) to determine the efficacy of biogas
21 systems in reducing emissions;

22 “(D) to describe factors that contribute to
23 increased methane emissions; and

1 “(E) to conduct research in any other area
 2 relating to biogas, as determined by the Admin-
 3 istrator.”.

4 **SEC. 5. CARBON UTILIZATION EDUCATION PROGRAM.**

5 Title IX of the Farm Security and Rural Investment
 6 Act of 2002 (7 U.S.C. 8101 et seq.) is amended by adding
 7 at the end the following:

8 **“SEC. 9014. CARBON UTILIZATION EDUCATION PROGRAM.**

9 “(a) DEFINITIONS.—In this section:

10 “(1) CARBON DIOXIDE.—The term ‘carbon di-
 11 oxide’ means carbon dioxide that is produced as a
 12 byproduct of the production of a biobased product.

13 “(2) ELIGIBLE ENTITY.—The term ‘eligible en-
 14 tity’ means an entity that—

15 “(A) is—

16 “(i) an organization described in sec-
 17 tion 501(c)(3) of the Internal Revenue
 18 Code of 1986 and exempt from taxation
 19 under 501(a) of that Code; or

20 “(ii) an institution of higher education
 21 (as defined in section 101(a) of the Higher
 22 Education Act of 1965 (20 U.S.C.
 23 1001(a)));

24 “(B) has demonstrated knowledge about—

1 “(i) sequestration and utilization of
2 carbon dioxide; or

3 “(ii) aggregation of organic waste
4 from multiple sources into a single biogas
5 system; and

6 “(C) has a demonstrated ability to conduct
7 educational and technical support programs.

8 “(b) ESTABLISHMENT.—The Secretary, in consulta-
9 tion with the Secretary of Energy, shall make competitive
10 grants to eligible entities—

11 “(1) to provide education to the public about
12 the economic and emissions benefits of permanent
13 sequestration or utilization of carbon dioxide; or

14 “(2) to provide education to biogas producers
15 about opportunities for aggregation of organic waste
16 from multiple sources into a single biogas system.

17 “(c) FUNDING.—

18 “(1) MANDATORY FUNDING.—Of the funds of
19 the Commodity Credit Corporation, the Secretary
20 shall use for each of fiscal years 2019 through
21 2023—

22 “(A) \$1,000,000 to carry out subsection
23 (b)(1); and

24 “(B) \$1,000,000 to carry out subsection
25 (b)(2).

1 “(2) DISCRETIONARY FUNDING.—There are au-
 2 thorized to be appropriated for each of fiscal years
 3 2019 through 2023—

4 “(A) \$1,000,000 to carry out subsection
 5 (b)(1); and

6 “(B) \$1,000,000 to carry out subsection
 7 (b)(2).”.

8 **SEC. 6. CARBON DIOXIDE CAPTURE AND UTILIZATION.**

9 (a) GENERAL AUTHORIZATION.—Notwithstanding
 10 any other provision of law (including regulations), in car-
 11 rying out any program pursuant to this Act or an amend-
 12 ment made by this Act under which the Secretary of Agri-
 13 culture provides a loan or loan guarantee, the Secretary
 14 may provide such a loan or loan guarantee for carbon di-
 15 oxide capture and utilization.

16 (b) RURAL ELECTRIFICATION ASSISTANCE PRO-
 17 GRAMS.—

18 (1) GENERAL AUTHORITY OF THE SECRETARY
 19 OF AGRICULTURE.—Section 2(a) of the Rural Elec-
 20 trification Act of 1936 (7 U.S.C. 902(a)) is amended
 21 by striking “efficiency and conservation” and insert-
 22 ing “efficiency, conservation, and carbon dioxide
 23 capture and utilization”.

1 (2) AUTHORIZATION OF APPROPRIATIONS.—

2 Section 4(a) of the Rural Electrification Act of 1936
3 (7 U.S.C. 904(a)) is amended—

4 (A) by inserting “and related carbon diox-
5 ide capture and utilization facilities” after
6 “generating plants”; and

7 (B) by striking “efficiency and conserva-
8 tion” and inserting “efficiency, conservation,
9 and carbon dioxide capture and utilization”.

10 (3) ENERGY GENERATION, TRANSMISSION, AND
11 DISTRIBUTION FACILITIES EFFICIENCY GRANTS AND
12 LOANS IN RURAL COMMUNITIES WITH EXTREMELY
13 HIGH ENERGY COSTS.—Section 19(a) of the Rural
14 Electrification Act of 1936 (7 U.S.C. 918a(a)) is
15 amended, in paragraphs (1) and (2), by inserting
16 “(including carbon dioxide capture and utilization)”
17 after “generation” each place it appears.

18 (c) RURAL AND REMOTE COMMUNITIES ELEC-
19 TRIFICATION GRANTS.—Section 609(c)(3) of the Public
20 Utility Regulatory Policies Act of 1978 (7 U.S.C.
21 918c(c)(3)) is amended by striking “preference to renew-
22 able energy facilities.” and inserting the following: “pref-
23 erence to—

24 “(A) renewable energy facilities; and

1 “(B) facilities for carbon dioxide capture
2 and utilization.”.

3 **SEC. 7. TECHNICAL ASSISTANCE FOR RURAL ELECTRIFICA-**
4 **TION LOANS.**

5 Section 2 of the Rural Electrification Act of 1936 (7
6 U.S.C. 902) is amended by adding at the end the fol-
7 lowing:

8 “(c) TECHNICAL ASSISTANCE.—

9 “(1) IN GENERAL.—Not later than 180 days
10 after the date of enactment of the Carbon Utiliza-
11 tion Act of 2018, the Secretary shall enter into a
12 memorandum of understanding with the Secretary of
13 Energy under which the Secretary of Energy shall
14 provide technical assistance to applicants for loans
15 made under subsection (a) and section 4(a).

16 “(2) FORM OF ASSISTANCE.—The technical as-
17 sistance that the Secretary may request pursuant to
18 a memorandum of understanding entered into under
19 paragraph (1) may include—

20 “(A) direct advice;

21 “(B) tools, maps, and training relating
22 to—

23 “(i) the implementation of demand-
24 side management of electric and telephone
25 service in rural areas;

- 1 “(ii) energy efficiency and conserva-
2 tion programs; and
3 “(iii) on-grid and off-grid renewable
4 energy systems; and
5 “(C) any other forms of assistance deter-
6 mined necessary by the Secretary.”.

○