

116TH CONGRESS
2D SESSION

S. 4985

To establish forestry policies that facilitate reforestation, conservation, international cooperation, and other ecologically sound management practices that reduce atmospheric carbon, to support United States efforts in partnership with the One Trillion Trees Initiative, to encourage the sustainable management, restoration, and conservation of global forests, grasslands, wetlands, and coastal habitats, and for other purposes.

IN THE SENATE OF THE UNITED STATES

DECEMBER 9, 2020

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

A BILL

To establish forestry policies that facilitate reforestation, conservation, international cooperation, and other ecologically sound management practices that reduce atmospheric carbon, to support United States efforts in partnership with the One Trillion Trees Initiative, to encourage the sustainable management, restoration, and conservation of global forests, grasslands, wetlands, and coastal habitats, 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,*

1 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

2 (a) SHORT TITLE.—This Act may be cited as the
3 “Trillion Trees and Natural Carbon Storage Act”.

4 (b) TABLE OF CONTENTS.—The table of contents for
5 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Sense of Congress.
- Sec. 3. Definitions.

TITLE I—CARBON SEQUESTRATION THROUGH FOREST
CONSERVATION AND LAND MANAGEMENT ACTIVITIES

- Sec. 101. Domestic forest carbon stock objectives.
- Sec. 102. Renewable resource assessment and survey update.
- Sec. 103. Forest nursery revival program.
- Sec. 104. Carbon sequestration through wetland and grassland.
- Sec. 105. Carbon sequestration through the healthy forest reserve program.
- Sec. 106. National Forest Foundation activities.
- Sec. 107. Carbon sequestration on State and private land.
- Sec. 108. Carbon sequestration research and monitoring programs.

TITLE II—MARKET INCENTIVES FOR CARBON SEQUESTRATION

- Sec. 201. Clarification of research and development program for cellulosic biochemical and bioplastics.
- Sec. 202. Rural Forest Market Investment Program.

TITLE III—ENGAGING AMERICA’S ALLIES IN CONSERVATION AND
STRONGER LAND MANAGEMENT

- Sec. 301. Statement of policy.
- Sec. 302. International support for conservation.
- Sec. 303. Establishment of foundation.
- Sec. 304. International sustainable land-use management plans.
- Sec. 305. Blue carbon monitoring.
- Sec. 306. Report to Congress.
- Sec. 307. International forestry cooperation.
- Sec. 308. Modifications to authorities relating to tropical forests.

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

7 It is the sense of Congress that—

- 8 (1) forests and other ecosystems, including
- 9 grasslands and coastal wetlands, sequester and store
- 10 atmospheric carbon on climatologically relevant
- 11 timescales;

1 (2) conserving, protecting, and restoring forest,
 2 grassland, and wetland ecosystems globally would se-
 3 quester a substantial amount of atmospheric carbon
 4 and constitute a pragmatic step towards addressing
 5 global carbon emissions and the degradation of bio-
 6 diversity;

7 (3) blue carbon habitat can also store a sub-
 8 stantial amount of atmospheric carbon and provide
 9 numerous other environmental, cultural, and eco-
 10 nomic benefits;

11 (4) as methods to address the changing climate,
 12 restore ecosystems, and benefit human health, the
 13 United States Government should take a leadership
 14 role, both domestically and abroad, in—

15 (A) ending deforestation;

16 (B) supporting tree planting, natural re-
 17 generation, forest landscape restoration, wildfire
 18 risk reduction, and sustainable forest manage-
 19 ment; and

20 (C) conserving and restoring grasslands,
 21 wetlands, blue carbon habitats, and other lands
 22 and waters at scale; and

23 (5) the 1t.org trillion trees platform established
 24 by the World Economic Forum, the Global Environ-
 25 ment Facility, and other domestic and international

1 efforts to conserve and expand healthy forest and
2 tree cover, grasslands, wetlands, and blue carbon
3 habitats globally should be supported.

4 **SEC. 3. DEFINITIONS.**

5 In this Act:

6 (1) ADMINISTRATOR.—The term “Adminis-
7 trator” means the Administrator of the United
8 States Agency for International Development.

9 (2) BLUE CARBON HABITAT.—The term “blue
10 carbon habitat” means a coastal habitat in the soils
11 and vegetation of which carbon is stored, including
12 a tidal wetland, a mangrove forest, a seagrass bed,
13 a kelp forest, and other saltwater and estuarine
14 coastal systems.

15 (3) CARBON SEQUESTRATION.—The term “car-
16 bon sequestration” means the processes of capturing
17 and storing atmospheric carbon dioxide for a cli-
18 matologically relevant period of time.

19 (4) FOREST LANDSCAPE RESTORATION.—The
20 term “forest landscape restoration” means a process
21 that aims to regain ecological functionality and en-
22 hance human well-being in deforested or degraded
23 landscapes.

24 (5) NATIONAL FOREST SYSTEM.—The term
25 “National Forest System” has the meaning given

1 the term in section 11(a) of the Forest and Range-
2 land Renewable Resources Planning Act of 1974 (16
3 U.S.C. 1609(a)).

4 (6) NATURALLY REGENERATE.—The term
5 “naturally regenerate” means the regeneration of
6 natural tree growth from—

7 (A) available seed sources native to the
8 specific forest area; or

9 (B) any other natural process that does
10 not primarily involve planting.

11 (7) NET CARBON STOCK.—The term “net car-
12 bon stock” means the absolute quantity of carbon
13 held within a discrete portion of the biosphere (in-
14 cluding carbon held within a discrete portion of
15 aboveground forest biomass and forest soil) at a
16 specified time.

17 (8) SECRETARY.—The term “Secretary” means
18 the Secretary of Agriculture.

19 (9) SUSTAINABLE.—The term “sustainable”
20 means the manner in which a land-use activity will,
21 over the long-term—

22 (A) satisfy the human and ecological needs
23 associated with the use of land;

1 (B) conserve critical habitat and conserve
 2 and enhance the environmental quality of the
 3 land; and

4 (C) optimize current and future land uses
 5 to ensure any enhancements in productivity are
 6 at a rate and in a manner that does not threat-
 7 en decline.

8 **TITLE I—CARBON SEQUESTRA-**
 9 **TION THROUGH FOREST CON-**
 10 **SERVATION AND LAND MAN-**
 11 **AGEMENT ACTIVITIES**

12 **SEC. 101. DOMESTIC FOREST CARBON STOCK OBJECTIVES.**

13 (a) IN GENERAL.—Not later than 2 years after the
 14 date of enactment of this Act, the Secretary, in collabora-
 15 tion with the Administrator of the National Oceanic and
 16 Atmospheric Administration, shall establish—

17 (1) objectives for increased net carbon stock for
 18 the forest, grassland, wetland, and coastal blue car-
 19 bon habitat ecosystems of the United States that are
 20 owned or managed by the Federal Government; and

21 (2) objectives that shall be developed collabo-
 22 ratively between 1 or more non-Federal entities and
 23 1 or more Federal partners for increased net carbon
 24 stock for the forest, grassland, wetland, and coastal
 25 blue carbon habitat ecosystems of the United States

1 that are owned or managed by a State or local gov-
2 ernment, an Indian Tribe, or a private person.

3 (b) REQUIREMENTS.—Objectives established under
4 subsection (a)—

5 (1) shall be based on the best available sci-
6 entific and commercial information, including cur-
7 rent and reference net carbon stock conditions for
8 each ecosystem;

9 (2) shall be based on information relating to the
10 maintenance or restoration of the ecological integrity
11 of the ecosystems described in subsection (a), includ-
12 ing maintaining or restoring ecologically appropriate
13 forest, grassland, wetland, and blue carbon habitat
14 structure, function, composition, and connectivity;

15 (3) shall consider naturally regenerated plant
16 growth and planted growth;

17 (4) shall be established at levels that assist in
18 achieving—

19 (A) the optimally feasible and ecologically
20 appropriate increase in the total net carbon
21 stock that private domestic, State, and Tribal
22 landowners and the Federal Government can
23 achieve by January 1, 2030, and every 10 years
24 thereafter through January 1, 2100; and

1 (B) the maximum practicable retention, re-
2 cruitment, and restoration of critical habitats,
3 as appropriate for the forest type, to the extent
4 that the trees promote increased net carbon
5 stock;

6 (5) shall be informed by data collected through
7 the Forest Inventory and Analysis program of the
8 Forest Service and other relevant data;

9 (6) shall not negatively impact forest ecological
10 integrity, forest function, forest composition, forest
11 connectivity, and sustained yield and multiple uses;

12 (7) shall be published in the Federal Register,
13 after notice and an opportunity for public comment,
14 together with a statement of the basis and justifica-
15 tion for the objectives;

16 (8) shall consider input from and the interests
17 of local stakeholders; and

18 (9) shall consider—

19 (A) the conservation of existing ecosystems
20 that sequester carbon; and

21 (B) the impact that a changing climate
22 may have on—

23 (i) existing net carbon stocks in for-
24 est, grassland, wetland, and coastal blue
25 carbon habitat ecosystems; and

1 (ii) the carbon sequestration potential
2 of the ecosystems described in clause (i).

3 **SEC. 102. RENEWABLE RESOURCE ASSESSMENT AND SUR-**
4 **VEY UPDATE.**

5 (a) RENEWABLE RESOURCE ASSESSMENT.—Section
6 3 of the Forest and Rangeland Renewable Resources Plan-
7 ning Act of 1974 (16 U.S.C. 1601) is amended—

8 (1) in subsection (a)—

9 (A) in each of paragraphs (4) and (5), by
10 striking “and” at the end;

11 (B) in paragraph (6), by striking the
12 comma at the end and inserting a semicolon;
13 and

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

15 “(7) an analysis of the total carbon storage ca-
16 pacity of the National Forest System based on the
17 lifecycle analysis established under section 102(b) of
18 the Trillion Trees and Natural Carbon Storage Act;
19 and

20 “(8) an analysis of the opportunities to enhance
21 and optimize total net carbon stock (as defined in
22 section 3 of that Act and taking into consideration
23 the requirements described in section 101(b) of that
24 Act) in the National Forest System.”; and

25 (2) in subsection (c)—

1 (A) in paragraph (2), by striking “and” at
 2 the end;

3 (B) in paragraph (3), by striking the pe-
 4 riod at the end and inserting “; and”; and

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

6 “(4) the potential for increased utilization of
 7 forest and wood products and byproducts that are
 8 sustainable (as defined in section 3 of the Trillion
 9 Trees and Natural Carbon Storage Act), including
 10 recommendations to Congress for actions relating to
 11 those products and byproducts that would lead to in-
 12 creased net carbon sequestration (as defined in that
 13 section).”.

14 (b) LIFECYCLE ANALYSIS.—

15 (1) LIFECYCLE STORAGE MODEL.—As a part of
 16 the assessment required under section 3 of the For-
 17 est and Rangeland Renewable Resources Planning
 18 Act of 1974 (16 U.S.C. 1601), the Secretary shall
 19 develop, using the best available science, including
 20 data collected through the Forest Inventory and
 21 Analysis program of the Forest Service, computa-
 22 tional models to analyze the lifecycle forest and
 23 grassland carbon sequestration potential associated
 24 with the National Forest System.

1 (2) CONSIDERATIONS.—In developing the model
2 under paragraph (1), the Secretary shall consider—

3 (A) the net carbon stock in forests, grass-
4 lands, and wetlands, including in wood and for-
5 est soils;

6 (B) the rate of carbon sequestration in
7 new trees and young forests;

8 (C) the rate of carbon sequestration in old
9 trees and older forests;

10 (D) the carbon impacts from tree mor-
11 tality;

12 (E) the carbon impacts from logging, mill-
13 ing, and other forest management activities;

14 (F) the carbon impacts from wildfire,
15 pests, and other natural disturbances;

16 (G) the full lifecycle of carbon impacts
17 from the manufacture of wood-based products,
18 including storage benefits and substitution ben-
19 efits from the use of wood-based products as
20 compared to the use of more greenhouse-gas-in-
21 tensive materials, including impacts on forest
22 ecosystem net carbon stocks;

23 (H) the net carbon impact of a cycle of—

24 (i) harvest and regeneration; or

25 (ii) harvest and replanting;

1 (I) the carbon impacts from ecologically
2 sound active forest management;

3 (J) the carbon impacts from retention, for-
4 est conservation, improved management, and
5 restoration of other landscapes, including grass-
6 lands, sagebrush, steppe, wetlands, abandoned
7 mine land, brownfields, and other degraded
8 lands that were historically forested; and

9 (K) other factors, as determined by the
10 Secretary.

11 (3) VALIDATION PROGRAM.—

12 (A) IN GENERAL.—The Secretary shall
13 carry out a program for validation and inde-
14 pendent testing of the lifecycle models devel-
15 oped under paragraph (1).

16 (B) REQUIREMENTS.—In carrying out the
17 validation program under subparagraph (A),
18 the Secretary shall—

19 (i) regularly perform retrospective as-
20 sessments comparing model predictions to
21 field data on the carbon stored on the Na-
22 tional Forest System; and

23 (ii) require third-party evaluation and
24 comparison of lifecycle models developed
25 under paragraph (1) against existing mod-

1 els, including enabling empirical testing of
2 hypotheses regarding the net effects on
3 land and atmospheric carbon stocks and
4 other greenhouse gas impacts.

5 (4) REPORT.—Not later than 3 years after the
6 date of enactment of this Act, the Secretary shall
7 submit to the Committee on Agriculture of the
8 House of Representatives and the Committee on Ag-
9 riculture, Nutrition, and Forestry of the Senate a
10 report on the findings of the analysis conducted
11 using the lifecycle models developed under paragraph
12 (1).

13 **SEC. 103. FOREST NURSERY REVIVAL PROGRAM.**

14 (a) IN GENERAL.—Section 2 of the Act of June 9,
15 1930 (commonly known as the “Knutson-Vandenberg
16 Act”) (16 U.S.C. 576a), is amended—

17 (1) by striking the section designation and all
18 that follows through “the Secretary of Agriculture”
19 and inserting the following:

20 **“SEC. 2. FOREST NURSERY REVIVAL PROGRAM.**

21 “(a) IN GENERAL.—The Secretary of Agriculture
22 shall use amounts made available under subsection (b)”;
23 and

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

1 “(b) AUTHORIZATION OF APPROPRIATIONS.—There
2 is authorized to be appropriated to the Secretary of Agri-
3 culture to carry out subsection (a) \$10,000,000 for each
4 of fiscal years 2021 through 2030.”.

5 (b) REPORT.—Not later than 3 years after the date
6 of enactment of this Act, the Secretary shall submit to
7 the Committee on Agriculture, Nutrition, and Forestry of
8 the Senate and the Committee on Agriculture of the
9 House of Representatives a report describing the short-
10 comings of, and barriers to, reforestation activities under
11 section 2 of the Act of June 9, 1930 (commonly known
12 as the “Knutson-Vandenberg Act”) (16 U.S.C. 576a).

13 **SEC. 104. CARBON SEQUESTRATION THROUGH WETLAND**
14 **AND GRASSLAND.**

15 (a) IN GENERAL.—The Administrator of the Na-
16 tional Oceanic and Atmospheric Administration and the
17 Secretary of the Interior, in consultation with the Sec-
18 retary and the heads of other relevant agencies, are en-
19 couraged to identify and pursue opportunities for the res-
20 toration or conservation of grasslands, wetlands, and
21 coastal blue carbon habitats of the United States that are
22 owned or managed by the Federal Government, State or
23 local governments, Indian Tribes, or private persons that
24 will—

(b) BLUE CARBON MONITORING.—In carrying out subsection (a), the Administrator of the National Oceanic and Atmospheric Administration, in collaboration with the Secretary of the Interior and the heads of other relevant agencies, shall monitor the net carbon stock in blue carbon habitats.

17 SEC. 105. CARBON SEQUESTRATION THROUGH THE
18 HEALTHY FOREST RESERVE PROGRAM.

22 (1) in paragraph (3), by striking “and” at the
23 end;

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

2 “(5) to promote, in pursuit of the objectives for
3 increasing net carbon stock established under section
4 101(a) of the Trillion Trees and Natural Carbon
5 Storage Act—

6 “(A) first in priority, the conservation and
7 management of existing forests; and

8 “(B) second in priority, the planting or re-
9 generation of additional trees in an ecologically
10 appropriate manner.”.

11 (b) ENROLLMENT PRIORITY.—Section 502(f) of the
12 Healthy Forests Restoration Act of 2003 (16 U.S.C.
13 6572) is amended by striking paragraph (1) and inserting
14 the following:

15 “(1) IN GENERAL.—The Secretary of Agri-
16 culture shall give priority to the enrollment in the
17 healthy forests reserve program of land that—

18 “(A) provides the greatest conservation
19 benefit to—

20 “(i) species listed as endangered or
21 threatened under section 4 of the Endan-
22 gered Species Act of 1973 (16 U.S.C.
23 1533); and

24 “(ii) species that—

1 “(I) are not listed as endangered
 2 or threatened under section 4 of the
 3 Endangered Species Act of 1973 (16
 4 U.S.C. 1533); but

5 “(II)(aa) are candidates for such
 6 listing, State-listed species, or special
 7 concern species; or

8 “(bb) are deemed a species of
 9 greatest conservation need under a
 10 State wildlife action plan;

11 “(B) promotes the restoration of marginal
 12 farmland or degraded forestland into healthy
 13 forest ecosystems; or

14 “(C) promotes the continuation of an eco-
 15 logically appropriate ecosystem.”.

16 (c) RESTORATION PLANS.—Section 503(b) of the
 17 Healthy Forests Restoration Act of 2003 (16 U.S.C.
 18 6573(b)) is amended by striking paragraph (4) and insert-
 19 ing the following:

20 “(4) Practices, including reforestation and
 21 other forestry practices, to increase net carbon stock
 22 (as defined in section 3 of the Trillion Trees and
 23 Natural Carbon Storage Act).”.

1 **SEC. 106. NATIONAL FOREST FOUNDATION ACTIVITIES.**

2 (a) PURPOSES OF FOUNDATION.—Section 402(b) of
 3 the National Forest Foundation Act (16 U.S.C. 583j(b))
 4 is amended—

5 (1) in paragraph (2), by striking “and” at the
 6 end;

7 (2) in paragraph (3), by striking the period at
 8 the end and inserting a semicolon; and

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

10 “(4) encourage, accept, and administer private
 11 gifts of money and of real and personal property for
 12 the benefit of, or in connection with, the objectives
 13 for optimizing total domestic carbon stocks estab-
 14 lished under section 101(a) of the Trillion Trees and
 15 Natural Carbon Storage Act; and

16 “(5) carry out the Theodore Roosevelt Jr. Prize
 17 for Forest Restoration under section 410.”.

18 (b) THEODORE ROOSEVELT JR. PRIZE FOR FOREST
 19 RESTORATION.—The National Forest Foundation Act (16
 20 U.S.C. 583j et seq.) is amended—

21 (1) in section 405, by striking “410” both
 22 places it appears and inserting “411”;

23 (2) by redesignating section 410 as section 411;
 24 and

25 (3) by inserting after section 409 the following:

1 **“SEC. 410. THEODORE ROOSEVELT JR. PRIZE FOR FOREST**
 2 **RESTORATION.**

3 “(a) DEFINITIONS.—In this section:

4 “(1) SECRETARY.—The term ‘Secretary’ means
 5 the Secretary of Agriculture.

6 “(2) THEODORE ROOSEVELT JR. PRIZE.—The
 7 term ‘Theodore Roosevelt Jr. Prize’ means the
 8 Theodore Roosevelt Jr. Prize for Forest Restoration
 9 established under subsection (b).

10 “(b) ESTABLISHMENT.—The Foundation shall, in
 11 consultation with the Secretary, establish a program to
 12 award an incentive prize, to be known as the ‘Theodore
 13 Roosevelt Jr. Prize for Forest Restoration’, to support do-
 14 mestic reforestation activities carried out by individuals,
 15 communities, nonprofit organizations, and corporations.

16 “(c) ELIGIBLE RECIPIENTS.—The following entities
 17 are eligible to receive the Theodore Roosevelt Jr. Prize:

18 “(1) A State agency.

19 “(2) A nonprofit entity that the Secretary de-
 20 termines has a demonstrated expertise in tree plant-
 21 ing activity and reforestation.

22 “(3) Other entities that the Secretary deter-
 23 mines to be appropriate, such as a local government
 24 or a private owner of land covered by a forest man-
 25 agement plan.

1 “(d) COORDINATION.—In carrying out this section,
 2 the Secretary may coordinate on an ongoing basis with
 3 appropriate Federal, State, Tribal, and local resource
 4 management departments, local nonprofit organizations,
 5 private landowners, and corporations—

6 “(1) to identify land suitable for reforestation;

7 “(2) to encourage, accept, and administer pri-
 8 vate gifts of money, technical expertise, and real and
 9 personal property for the benefit of the program
 10 under this section; and

11 “(3) to manage and maintain reforested land.”.

12 **SEC. 107. CARBON SEQUESTRATION ON STATE AND PRI-**
 13 **VATE LAND.**

14 (a) ADDING NET CARBON STOCK AS A PURPOSE.—
 15 Section 2(b) of the Cooperative Forestry Assistance Act
 16 of 1978 (16 U.S.C. 2101(b)) is amended—

17 (1) by redesignating paragraphs (6) through
 18 (10) as paragraphs (7) through (11), respectively;
 19 and

20 (2) by inserting after paragraph (5) the fol-
 21 lowing:

22 “(6) the encouragement of reforestation, con-
 23 servation, and related optimization of net carbon
 24 stock (as defined in section 3 of the Trillion Trees
 25 and Natural Carbon Storage Act and taking into

1 consideration the requirements described in section
 2 101(b) of that Act);”.

3 (b) SUPPORT FOR STATE ASSESSMENTS AND STRAT-
 4 EGIES FOR FOREST RESOURCES WHEN CONSIDERING
 5 CARBON EMISSIONS.—Section 2A(a)(1) of the Coopera-
 6 tive Forestry Assistance Act of 1978 (16 U.S.C.
 7 2101a(a)(1)) is amended—

8 (1) by redesignating subparagraphs (C) and
 9 (D) as subparagraphs (D) and (E), respectively; and

10 (2) by inserting after subparagraph (B) the fol-
 11 lowing:

12 “(C)(i) the net carbon stock (as defined in
 13 section 3 of the Trillion Trees and Natural Car-
 14 bon Storage Act and taking into consideration
 15 the requirements described in section 101(b) of
 16 that Act) on State land and private land in the
 17 State; and

18 “(ii) opportunities to increase that net car-
 19 bon stock, taking into consideration the require-
 20 ments described in section 101(b) of that Act;”.

21 (c) CARBON STORAGE THROUGH THE FOREST STEW-
 22 ARDSHIP PROGRAM.—Section 5(d)(1) of the Cooperative
 23 Forestry Assistance Act of 1978 (16 U.S.C. 2103a(d)(1))
 24 is amended by inserting “carbon sequestration (as defined

1 in section 3 of the Trillion Trees and Natural Carbon
2 Storage Act),” before “and the aesthetic”.

3 (d) CARBON STORAGE THROUGH THE COMMUNITY
4 FOREST AND OPEN SPACE CONSERVATION PROGRAM.—
5 Section 7A(c)(1)(B)(ii) of the Cooperative Forestry As-
6 sistance Act of 1978 (16 U.S.C. 2103d(c)(1)(B)(ii)) is
7 amended by inserting “, net carbon stock (as defined in
8 section 3 of the Trillion Trees and Natural Carbon Stor-
9 age Act and taking into consideration the requirements
10 described in section 101(b) of that Act),” before “and
11 wildlife”.

12 (e) CARBON STORAGE THROUGH THE PROMOTION
13 OF FOREST HEALTH.—Section 8(a) of the Cooperative
14 Forestry Assistance Act of 1978 (16 U.S.C. 2104(a)) is
15 amended—

16 (1) by redesignating paragraphs (4) through
17 (6) as paragraphs (5) through (7), respectively; and

18 (2) by inserting after paragraph (3) the fol-
19 lowing:

20 “(4) protect or enhance net carbon stock (as
21 defined in section 3 of the Trillion Trees and Nat-
22 ural Carbon Storage Act and taking into consider-
23 ation the requirements described in section 101(b) of
24 that Act) on healthy forestland;”.

1 (f) CARBON STORAGE THROUGH URBAN AND COM-
 2 MUNITY FORESTRY.—Section 9(d)(3) of the Cooperative
 3 Forestry Assistance Act of 1978 (16 U.S.C. 2105(d)(3))
 4 is amended—

5 (1) in subparagraph (C), by striking “and” at
 6 the end;

7 (2) in subparagraph (D), by inserting “and” at
 8 the end; and

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

10 “(E) identifying opportunities to increase
 11 carbon stored through tree planting and sci-
 12 entific urban forestry management;”.

13 (g) CARBON STORAGE THROUGH THE STATE AND
 14 PRIVATE FOREST LANDSCAPE-SCALE RESTORATION.—
 15 Section 13A of the Cooperative Forestry Assistance Act
 16 of 1978 (16 U.S.C. 2109a) is amended—

17 (1) in subsection (e)—

18 (A) in paragraph (6), by striking “and” at
 19 the end;

20 (B) by redesignating paragraph (7) as
 21 paragraph (8); and

22 (C) by inserting after paragraph (6) the
 23 following:

24 “(7) to improve the potential to increase the net
 25 carbon stock (as defined in section 3 of the Trillion

1 Trees and Natural Carbon Storage Act and taking
 2 into consideration the requirements described in sec-
 3 tion 101(b) of that Act) of forest ecosystems
 4 through methods that result in real, measurable, and
 5 verifiable changes in that net carbon stock; and”;
 6 and

7 (2) in subsection (l), by striking paragraph (3)
 8 and inserting the following:

9 “(3) AUTHORIZATION OF APPROPRIATIONS.—

10 There is authorized to be appropriated to the Fund
 11 \$25,000,000 for the first full fiscal year after the
 12 date of enactment of the Trillion Trees and Natural
 13 Carbon Storage Act and each fiscal year thereafter
 14 through fiscal year 2025, to remain available until
 15 expended.”.

16 **SEC. 108. CARBON SEQUESTRATION RESEARCH AND MONI-**
 17 **TORING PROGRAMS.**

18 (a) IN GENERAL.—Section 3 of the Forest and
 19 Rangeland Renewable Resources Research Act of 1978
 20 (16 U.S.C. 1642) is amended—

21 (1) in subsection (a)—

22 (A) in the matter preceding paragraph (1),
 23 in the second sentence, by striking “include,”
 24 and all that follows through “subsection.” and

1 inserting “include the following 6 major areas
2 of renewable resource research.”;

3 (B) in paragraph (1), by inserting “further
4 expanding the understanding of wood product
5 carbon sequestration (as defined in section 3 of
6 the Trillion Trees and Natural Carbon Storage
7 Act), including by developing and improving
8 carbon accounting strategies for specific, eco-
9 logically sound forest management practices;”
10 before “and developing”; and

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

12 “(6) Renewable resource assessment research
13 shall include, as appropriate, research activities re-
14 lating to the sequestration of carbon, including—

15 “(A) accounting strategies for specific, eco-
16 logically sound forest management practices in
17 specific forest types;

18 “(B) increased carbon storage through re-
19 forestation, natural regeneration (as defined in
20 section 3 of the Trillion Trees and Natural Car-
21 bon Storage Act) or conservation, and forest
22 and rangeland management; and

23 “(C) the utilization of wood and other ma-
24 terials derived from forest and rangeland re-
25 newable resources to store carbon in building

materials and industrial or consumer products.”;

(2) in subsection (c)—

(A) in paragraph (1)—

(i) in the matter preceding subparagraph (A), by striking “United States” and all that follows through “referred to” and inserting “Chief of the Forest Service, shall carry out a program (referred to in this subsection”;

(ii) in subparagraph (G), by striking “and” at the end;

(iii) in subparagraph (H), by striking the period at the end and inserting a semicolon; and

(iv) by adding at the end the following:

“(I) accelerate and expand existing research efforts to improve forest carbon measurement and monitoring technologies—

“(i) to better predict changes in forest carbon due to a changing climate; and

“(ii) to reduce costs of participation, and increase participation, by private forest landowners in carbon markets; and

1 “(J) conduct a study to monitor impacts
2 from carbon-enhancing activities.”; and

3 (B) in paragraph (4)—

4 (i) by striking subparagraphs (A) and
5 (C);

6 (ii) by striking “the following re-
7 ports:” and all that follows through “shall
8 submit” in the matter preceding clause (i)
9 of subparagraph (B) and inserting “, not
10 later than January 15 of each year,”; and

11 (iii) by redesignating clauses (i)
12 through (iv) as subparagraphs (A) through
13 (D), respectively, and indenting appro-
14 priately; and

15 (3) in subsection (d)(2), by adding at the end
16 the following:

17 “(F) Carbon sequestration (as defined in
18 section 3 of the Trillion Trees and Natural Car-
19 bon Storage Act).”.

20 (b) TECHNICAL AMENDMENT.—Section 2(c) of the
21 Forest and Rangeland Renewable Resources Research Act
22 of 1978 (16 U.S.C. 1641(c)) is amended by inserting “of
23 Agriculture (referred to in this Act as the ‘Secretary’)”
24 after “Secretary”.

1 **TITLE II—MARKET INCENTIVES**
 2 **FOR CARBON SEQUESTRATION**

3 **SEC. 201. CLARIFICATION OF RESEARCH AND DEVELOP-**
 4 **MENT PROGRAM FOR CELLULOSIC BIO-**
 5 **CHEMICAL AND BIOPLASTICS.**

6 (a) DEFINITIONS.—In this section:

7 (1) CELLULOSIC BIOCHEMICAL PRODUCT.—The
 8 term “cellulosic biochemical product” means any
 9 biochemical, including bioethanol and its derivatives,
 10 that is derived from wood or plant cellulose fiber.

11 (2) CELLULOSIC BIOPLASTICS PRODUCT.—The
 12 term “cellulosic bioplastics product” means any bio-
 13 plastic that is derived from wood or plant cellulose
 14 fiber.

15 (3) INSTITUTION OF HIGHER EDUCATION.—The
 16 term “institution of higher education” has the
 17 meaning given the term in section 101 of the Higher
 18 Education Act of 1965 (20 U.S.C. 1001).

19 (4) SECRETARY.—The term “Secretary” means
 20 the Secretary, acting through the Research and De-
 21 velopment deputy area and the State and Private
 22 Forestry deputy area of the Forest Service.

23 (b) AUTHORIZATION.—The Secretary shall conduct
 24 performance-driven research and development and provide
 25 for education and technical assistance for the purpose of

1 facilitating the use of cellulosic biochemical and bioplastics
2 products in the United States.

3 (c) ACTIVITIES.—In carrying out subsection (b), the
4 Secretary shall, after collaboration with the wood products
5 and chemical industries, conservation organizations, and
6 institutions of higher education—

7 (1) conduct research and development, and pro-
8 vide for education and technical assistance, at the
9 Forest Products Laboratory or through the State
10 and Private Forestry deputy area that meets meas-
11 urable performance goals for the achievement of the
12 priorities described in paragraphs (1) through (4) of
13 subsection (d); and

14 (2) make competitive grants to institutions of
15 higher education for those institutions to conduct re-
16 search and development, carry out educational pro-
17 grams, and provide technical assistance.

18 (d) PRIORITIES.—In awarding grants under sub-
19 section (c)(2), the Secretary shall give priority to applica-
20 tions from institutions of higher education proposing
21 projects—

22 (1) to address ways to improve the commer-
23 cialization of cellulosic biochemical products and bio-
24 degradable cellulosic bioplastics products that, based
25 on the best available science and analyses conducted

1 using the lifecycle models developed under section
2 102(b), will allow for an increase in net carbon
3 stock;

4 (2) to develop advanced biofuels (as defined in
5 section 211(o)(1) of the Clean Air Act (42 U.S.C.
6 7545(o)(1))) that—

7 (A) are cellulosic biofuels suitable for use
8 in aviation, shipping, and heavy-duty vehicles;
9 and

10 (B) based on the best available science and
11 analyses conducted using the lifecycle models
12 developed under section 102(b), will allow for
13 an increase in net carbon stock;

14 (3) for the conduct of applied research, includ-
15 ing projects designed to bring products from bench-
16 top to production scale; or

17 (4) to address one or more other research areas
18 identified by the Secretary, in consultation with con-
19 servation organizations, institutions of higher edu-
20 cation, and the wood products industry.

21 (e) TIMEFRAME.—To the maximum extent prac-
22 ticable, the measurable performance goals for the research
23 and development, education, and technical assistance
24 under subsection (b) shall be achievable within 5 years.

1 **SEC. 202. RURAL FOREST MARKET INVESTMENT PROGRAM.**

2 (a) DEFINITION OF RURAL.—In this section, the
3 term “rural” has the meaning given the term in section
4 343 of the Consolidated Farm and Rural Development Act
5 (7 U.S.C. 1991).

6 (b) ESTABLISHMENT OF PROGRAM.—

7 (1) IN GENERAL.—The Secretary shall establish
8 a program, to be known as the “Rural Forest Mar-
9 ket Investment Program”, to guarantee an environ-
10 mental impact bond, loan, or other investment vehi-
11 cle, as determined by the Secretary, issued for the
12 sole purpose of financing eligible projects described
13 in subsection (c), to enable rural private forest land-
14 owners to participate in an innovative market for
15 forest carbon or other products.

16 (2) CONSIDERATION.—In establishing the pro-
17 gram under paragraph (1), the Secretary may con-
18 sider ways to ensure that the program minimizes, to
19 the extent practicable, disruptions to traditional for-
20 est products markets.

21 (c) ELIGIBLE PROJECTS.—An eligible project re-
22 ferred to in subsection (b)(1) is a project developed by pri-
23 vate entity, or a publicly supported, charitable nonprofit
24 organization, engaged in the aggregation of sustainable
25 forestry practices implemented by rural private forest
26 landowners to facilitate the sale of credits in the voluntary

1 carbon market or other recognized environmental market,
2 using a methodology approved by a credible, third-party
3 entity, as determined by the Secretary.

4 (d) REQUIREMENTS.—A project described in sub-
5 section (c) that includes the practice of tree planting may
6 only be carried out, as determined by the Secretary—

7 (1) on land that was historically forested;

8 (2) using tree species that are native to the re-
9 gion and at ecologically appropriate densities; and

10 (3) in a manner that does not create other neg-
11 ative impacts to biodiversity or the environment.

12 (e) GUARANTEE AMOUNT.—The Secretary may guar-
13 antee not more than \$150,000,000 with respect to each
14 bond, loan, or other investment vehicle under subsection
15 (b)(1).

16 (f) REGULATIONS.—Not later than 30 days after the
17 date of enactment of this Act, the Secretary shall issue
18 regulations to implement the program established under
19 subsection (b)(1).

20 (g) TERMINATION OF AUTHORITY.—The authority
21 provided by this section terminates on September 30,
22 2023.

1 **TITLE III—ENGAGING AMER-**
 2 **ICA’S ALLIES IN CONSERVA-**
 3 **TION AND STRONGER LAND**
 4 **MANAGEMENT**

5 **SEC. 301. STATEMENT OF POLICY.**

6 It shall be the policy of the United States to—

7 (1) lead the world in creating incentives and in-
 8 vestments to protect intact forests, reduce deforest-
 9 ation and support tree planting and forest landscape
 10 restoration, conservation, and sustainable manage-
 11 ment in support of the goal to plant and conserve
 12 one trillion trees globally;

13 (2) support carbon sequestration through sus-
 14 tainable management and restoration of coastal and
 15 inland aquatic ecosystems, including wetlands and
 16 blue carbon habitats; and

17 (3) utilize the vast natural assets and technical
 18 expertise of the United States to assist with sustain-
 19 able management and utilization, conservation, and
 20 restoration of forests, grasslands, wetlands, blue car-
 21 bon habitats, and agricultural lands for sequestering
 22 carbon globally.

23 **SEC. 302. INTERNATIONAL SUPPORT FOR CONSERVATION.**

24 (a) IN GENERAL.—The Secretary of State (referred
 25 to in this title as the “Secretary”), in coordination with

1 the Administrator, the Secretary of Agriculture, the Ad-
2 ministrator of the National Oceanic and Atmospheric Ad-
3 ministration, the Director of the United States Fish and
4 Wildlife Service, the Secretary of the Treasury, and the
5 heads of other relevant agencies and international organi-
6 zations, shall prioritize programs to support forest land-
7 scape restoration, end deforestation, and conserve and re-
8 store grasslands, wetlands, and blue carbon habitats at
9 landscape scale, including incorporating these activities
10 into other programs or forms of assistance.

11 (b) PRIORITIZATION AND TYPES OF ASSISTANCE.—
12 In providing the support outlined in subsection (a), the
13 Secretary, in coordination with the Administrator, the
14 Secretary of Agriculture, the Administrator of the Na-
15 tional Oceanic and Atmospheric Administration, and the
16 Director of the United States Fish and Wildlife Service,
17 shall—

18 (1) prioritize partnerships with developing coun-
19 tries and regions that have experienced significant
20 levels of deforestation, grassland conversion, wetland
21 loss, or blue carbon habitat degradation or whose
22 biodiversity, local economy, and stability has been or
23 could be significantly impacted by loss of forest and
24 tree cover, grasslands, wetlands, or blue carbon habi-
25 tat;

1 (2) prioritize partnerships that have been deter-
2 mined by agencies and partners with relevant exper-
3 tise to sequester or have the potential to sequester
4 significant amounts of atmospheric carbon and that
5 will provide other benefits to the region, as deter-
6 mined by the Secretary;

7 (3) encourage countries receiving relevant aid,
8 as determined by the Secretary, to report trans-
9 parently information about this aid, including local
10 ownership and benefit sharing of programs;

11 (4) encourage countries receiving relevant aid,
12 as determined by the Secretary, to adopt legislation
13 or other measures domestically to protect, restore,
14 and sustainably manage forests (both existing and
15 newly planted), grasslands, wetlands, blue carbon
16 habitats, and other ecologically important lands and
17 waters; and

18 (5) take a leadership role in ending deforest-
19 ation and habitat conversion and encouraging the
20 sustainable management, conservation, and restora-
21 tion of forests, grasslands, wetlands, blue carbon
22 habitats, and other lands and waters at landscape
23 scale.

24 (c) COORDINATION.—In carrying out the programs
25 authorized by this section, the Secretary and the Adminis-

1 trator shall, to the maximum extent practicable, make use
 2 of public-private partnerships to facilitate engagement by
 3 nonprofit organizations and industry partners.

4 **SEC. 303. ESTABLISHMENT OF FOUNDATION.**

5 (a) ESTABLISHMENT OF FOUNDATION.—The Sec-
 6 retary may enter into an agreement, or expand on existing
 7 partnerships, with a nonprofit organization to establish an
 8 “International Forest Foundation” (in this section re-
 9 ferred to as the “Foundation”), which shall not be an
 10 agency or instrumentality of the United States Govern-
 11 ment.

12 (b) PURPOSES OF FOUNDATION.—The purposes of
 13 the Foundation shall be to—

14 (1) encourage, accept, and administer private
 15 gifts of money and of real and personal property for
 16 the benefit of, or in connection with, the activities
 17 and services carried out by the United States to sup-
 18 port forest landscape restoration, end deforestation,
 19 and conserve and restore grasslands, wetlands, and
 20 blue carbon habitats around the world;

21 (2) use private funds to support, undertake,
 22 and conduct activities that further the goals set
 23 forth in section 301; and

24 (3) undertake, conduct, and encourage edu-
 25 cational, technical, and other assistance, and other

1 activities, that support international goals to in-
 2 crease global carbon sequestration and ecosystem
 3 health through the conservation and restoration of
 4 healthy forests, grasslands, wetlands, blue carbon
 5 habitats, and sustainably managed agricultural land.

6 (c) TRANSFER OF FUNDS; LIABILITY.—

7 (1) TRANSFER OF FUNDS.—The Secretary may
 8 authorize, pursuant to an agreement entered into in
 9 accordance with section 302(c), the transfer of funds
 10 of the United States to a nonprofit organization for
 11 the purpose of offsetting any administrative costs of
 12 the Foundation.

13 (2) LIABILITY.—The United States shall not be
 14 liable for any debts, defaults, acts, or omissions of
 15 the Foundation. The full faith and credit of the
 16 United States shall not extend to any obligations of
 17 the Foundation.

18 **SEC. 304. INTERNATIONAL SUSTAINABLE LAND-USE MAN-**
 19 **AGEMENT PLANS.**

20 (a) IN GENERAL.—The Secretary, in coordination
 21 with the Administrator, the Secretary of Agriculture, the
 22 heads of other relevant Federal agencies, and international
 23 organizations, shall encourage countries receiving funding
 24 or other forms of assistance related to agriculture that is
 25 funded or partially funded by the United States to

1 produce, make publicly available, and adhere to detailed
2 land-use management plans that identify and preserve
3 areas important to ecosystem health and carbon seques-
4 tration and prioritize landscape restoration.

5 (b) LAND-USE MANAGEMENT PLAN CRITERIA.—The
6 Secretary shall work with the Administrator, the Secretary
7 of Agriculture, the heads of other relevant Federal agen-
8 cies, international and nongovernmental organizations,
9 and other relevant experts to work with recipient countries
10 to develop and make publicly available, not later than one
11 year after the date of the enactment of this Act, science-
12 based criteria for land-use management plans that support
13 conservation of critical ecosystems, which may take mate-
14 rial or ideas from existing land-use management criteria.
15 The criteria shall prioritize—

16 (1) identifying and preserving areas important
17 to ecosystem health and carbon sequestration;

18 (2) conserving critical habitat and other signifi-
19 cant areas;

20 (3) prioritizing conservation and preservation
21 where possible;

22 (4) restoring forests, grasslands, wetlands, blue
23 carbon habitats, and other lands and waters impor-
24 tant for carbon sequestration and ecosystem health;
25 and

1 (5) stakeholder engagement with local commu-
2 nities, including indigenous communities and
3 marginalized groups, including women.

4 (c) IDENTIFICATION OF COUNTRIES.—The Secretary
5 shall work with the Administrator, the Secretary of Agri-
6 culture, the heads of other relevant United States agen-
7 cies, international organizations, and other relevant ex-
8 perts to identify and publish on a preexisting website the
9 countries receiving direct funding or benefits derived from
10 United States international aid related to agricultural de-
11 velopment, agricultural education, or agricultural trade.

12 (d) ENCOURAGING USE OF LAND-USE MANAGEMENT
13 PLANS.—The Secretary, in coordination with the Admin-
14 istrator, the Secretary of Agriculture, and the heads of
15 other relevant agencies shall—

16 (1) encourage identified countries to develop
17 and publish on a preexisting website land-use man-
18 agement plans, or to improve existing land-use man-
19 agement plans, following criteria that include clear
20 annual objectives for achieving the priorities set
21 forth in subsection (b);

22 (2) consider the progress that countries have
23 made in developing conservation and land-use man-
24 agement plans and the progress these countries have

1 made in adhering to these plans when determining
2 future aid related to agricultural development;

3 (3) encourage international organizations that
4 the United States supports and other governments
5 with which it cooperates to support land-use man-
6 agement plans and planning; and

7 (4) integrate United States financial assistance
8 and support for such plans with the assistance of
9 others to the extent doing so advances their effec-
10 tiveness.

11 **SEC. 305. BLUE CARBON MONITORING.**

12 The Administrator of the National Oceanic and At-
13 mospheric Administration shall—

14 (1) collaborate with and provide technical as-
15 sistance to the Secretary and the Administrator in
16 order to implement best practices for monitoring
17 blue carbon inventory in programs and projects es-
18 tablished under this title; and

19 (2) work in collaboration with the Smithsonian
20 Environmental Research Center to develop a global
21 blue carbon database and ensure data collection and
22 reporting are consistent with the Center’s Coastal
23 Carbon Data Clearinghouse.

1 **SEC. 306. REPORT TO CONGRESS.**

2 Not later than 2 years after the date of the enact-
3 ment of this Act, and annually thereafter, the Secretary,
4 in consultation with the Administrator, the Secretary of
5 Agriculture, the Administrator of the National Oceanic
6 and Atmospheric Administration, the Director of the
7 United States Fish and Wildlife Service, and the heads
8 of other relevant United States agencies, shall submit a
9 report to Congress that—

10 (1) outlines funding, activities, and other sup-
11 port provided to advance the priorities outlined in
12 sections 302, 303, 304, and 305 on a country-by-
13 country basis, including work to develop land-use
14 management plan criteria and efforts to encourage
15 identified countries to develop and adhere to land-
16 use management plans consistent with the developed
17 criteria; and

18 (2) makes use of modern satellite imagery tech-
19 niques to monitor grassland, forest, and tree canopy
20 cover and track the effectiveness of the programs of
21 the United States Government and its partners.

22 **SEC. 307. INTERNATIONAL FORESTRY COOPERATION.**

23 Section 602(b)(1) of the International Forestry Co-
24 operation Act of 1990 (16 U.S.C. 4501(b)(1)) is amend-
25 ed—

1 (1) in subparagraph (G), by striking “and” at
2 the end;

3 (2) in subparagraph (H), by inserting “and” at
4 the end; and

5 (3) by adding at the end the following new sub-
6 paragraph:

7 “(I) carbon sequestration (as de-
8 fined in section 3 of the Trillion Trees
9 and Natural Carbon Storage Act) ac-
10 tivities, including forest landscape res-
11 toration (as defined in that section)
12 programs, conducted in an ecologically
13 appropriate manner;”.

14 **SEC. 308. MODIFICATIONS TO AUTHORITIES RELATING TO**
15 **TROPICAL FORESTS.**

16 Section 118 of the Foreign Assistance Act of 1961
17 (22 U.S.C. 2151p-1) is amended—

18 (1) in subsection (a)(2), by inserting “, and an
19 increase in global carbon sequestration” before the
20 period at the end;

21 (2) in subsection (c)—

22 (A) in paragraph (1), by inserting “, res-
23 toration,” after “conservation”;

1 (B) in paragraph (2)(A), by inserting “and
2 impact on global carbon emissions” after “irre-
3 versible losses”;

4 (C) in paragraph (6), by inserting “(in-
5 cluding partnerships to increase and retain car-
6 bon sequestration, as defined in section 3 of the
7 Trillion Trees and Natural Carbon Storage
8 Act)” after “sustainable forestry projects and
9 practices”; and

10 (D) in paragraph (8), by inserting “in-
11 crease carbon sequestration (as defined in sec-
12 tion 3 of the Trillion Trees and Natural Carbon
13 Storage Act) and,” after “other activities to”;
14 and

15 (3) in subsection (f), by inserting “and a study
16 on the total carbon sequestered through increases in
17 and retention of tropical forest stocks globally as a
18 result of programs, projects, and activities carried
19 out under this section” before the period at the end.

○