

110TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

To amend the Clean Air Act to establish a program to regulate the emission of greenhouse gases from electric utilities.

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IN THE SENATE OF THE UNITED STATES

Mrs. FEINSTEIN (for herself and Mr. CARPER) introduced the following bill; which was read twice and referred to the Committee on

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**A BILL**

To amend the Clean Air Act to establish a program to regulate the emission of greenhouse gases from electric utilities.

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 “Electric Utility Cap and Trade Act of 2007”.

6 (b) TABLE OF CONTENTS.—The table of contents of  
7 this Act is as follows:

Sec. 1. Short title; table of contents.

TITLE I—GLOBAL CLIMATE CHANGE

Sec. 101. Global climate change.

## “TITLE VII—GLOBAL CLIMATE CHANGE

“Sec. 701. Definitions.

## “Subtitle A—Stopping and Reversing Greenhouse Gas Emissions

“Sec. 711. Regulations; greenhouse gas tonnage limitation.

“Sec. 712. Scientific review of the safe climate level.

“Sec. 713. Required review of emission reductions needed to maintain the safe climate level.

“Sec. 714. Distribution of allowances between auctions and allocations; nature of allowances.

“Sec. 715. Auction of allowances.

“Sec. 716. Allocation of allowances.

“Sec. 717. Climate Action Trust Fund.

“Sec. 718. Early reduction credits.

“Sec. 719. Recognition and use of international credits.

“Sec. 720. Avoiding significant economic harm.

“Sec. 721. Use and transfer of credits.

“Sec. 722. Compliance and enforcement.

## “Subtitle B—Offset Credits

“Sec. 731. Outreach initiative on revenue enhancement for agricultural producers.

“Sec. 732. Offset measurement for agricultural, forestry, wetlands, and other land use-related sequestration projects.

“Sec. 733. Categories of agricultural offset practices.

“Sec. 734. Offset credits from forest management, grazing management, and wetlands management.

“Sec. 735. Offset credits from the avoided conversion of forested land or wetland.

“Sec. 736. Offset credits from greenhouse gas emissions reduction projects.

“Sec. 737. Borrowing at program start-up based on contracts to purchase offset credits.

“Sec. 738. Review and correction of accounting for offset credits.

## “Subtitle C—National Registry for Credits

“Sec. 741. Establishment and operation of national registry.

“Sec. 742. Monitoring and reporting.

## TITLE II—CLIMATE CHANGE RESEARCH INITIATIVES

Sec. 201. Research grants through National Science Foundation.

Sec. 202. Abrupt climate change research.

Sec. 203. Development of new measurement technologies.

Sec. 204. Technology development and diffusion.

Sec. 205. Public land.

Sec. 206. Sea level rise from polar ice sheet melting.



1                   “(II) any State, local, or tribal  
2                   government.

3                   “(2)       AFFORESTATION.—The       term  
4                   ‘afforestation’ means the conversion to a forested  
5                   condition of land that has been in a nonforested con-  
6                   dition for at least 15 years.

7                   “(3) ALLOCATION.—The term ‘allocation’, with  
8                   respect to an allowance, means the issuance of an al-  
9                   lowance directly to covered units, at no cost, under  
10                  this title.

11                  “(4) ALLOWANCE.—The term ‘allowance’  
12                  means an authorization under this title to emit 1  
13                  metric ton of carbon dioxide (or a carbon dioxide  
14                  equivalent), as allocated to a covered unit pursuant  
15                  to section 716.

16                  “(5) CARBON DIOXIDE EQUIVALENT.—The  
17                  term ‘carbon dioxide equivalent’ means, with respect  
18                  to a greenhouse gas, the quantity of the greenhouse  
19                  gas that makes the same contribution to global  
20                  warming as 1 metric ton of carbon dioxide, as deter-  
21                  mined by the Administrator.

22                  “(6) COGENERATION FACILITY.—The term ‘co-  
23                  generation facility’ means a facility that—

24                       “(A) cogenerates steam and electricity; and

1           “(B) supplies, on a net annual basis, to  
2           the electric power grid—

3                   “(i) more than  $\frac{1}{3}$  of the potential  
4                   electric output capacity of the facility; and

5                   “(ii) more than 25 megawatts of elec-  
6                   trical output from the facility.

7           “(7) COVERED UNIT.—The term ‘covered unit’  
8           means—

9                   “(A) an affected unit;

10                   “(B) a nuclear generating unit (including  
11                   a facility owned or operated by any instrumen-  
12                   tality of the Federal Government or of any  
13                   State, local, or tribal government), but only to  
14                   the extent of incremental nuclear generation of  
15                   the unit; and

16                   “(C) a renewable energy unit (including a  
17                   facility owned or operated by any instrumen-  
18                   tality of the Federal Government or of any  
19                   State, local, or tribal government).

20           “(8) CREDIT.—

21                   “(A) IN GENERAL.—The term ‘credit’  
22                   means an authorization under this title to emit  
23                   greenhouse gases equivalent to 1 metric ton of  
24                   carbon dioxide.

1                   “(B) INCLUSIONS.—The term ‘credit’ in-  
2                   cludes—

3                   “(i) an allowance;

4                   “(ii) an offset credit;

5                   “(iii) an early reduction credit; or

6                   “(iv) an international credit.

7                   “(9) EARLY REDUCTION CREDIT.—The term  
8                   ‘early reduction credit’ means a credit issued under  
9                   section 718 for a reduction in the quantity of emis-  
10                  sions or an increase in sequestration equivalent to 1  
11                  metric ton of carbon dioxide.

12                  “(10) FUND.—The term ‘Fund’ means the Cli-  
13                  mate Action Trust Fund established by section  
14                  717(a)(1).

15                  “(11) GREENHOUSE GAS.—The term ‘green-  
16                  house gas’ means—

17                  “(A) carbon dioxide;

18                  “(B) methane;

19                  “(C) nitrous oxide;

20                  “(D) hydrofluorocarbons;

21                  “(E) perfluorocarbons; and

22                  “(F) sulfur hexafluoride.

23                  “(12) GREENHOUSE GAS AUTHORIZED AC-  
24                  COUNT REPRESENTATIVE.—The term ‘greenhouse  
25                  gas authorized account representative’ means, for a

1 covered unit, an individual who is authorized by the  
2 owner and operator of the covered unit to represent  
3 and legally bind the owner and operator in matters  
4 pertaining to this title.

5 “(13) GREENHOUSE GAS-EMITTING FUEL.—

6 “(A) IN GENERAL.—The term ‘greenhouse  
7 gas-emitting fuel’ means any fuel that produces  
8 a greenhouse gas as a combustion product.

9 “(B) INCLUSIONS.—The term ‘greenhouse  
10 gas-emitting fuel’ includes—

11 “(i) fossil fuels;

12 “(ii) municipal waste;

13 “(iii) industrial waste;

14 “(iv) agricultural waste; and

15 “(v) biomass that is not grown using  
16 sustainable techniques.

17 “(C) EXCLUSION.—The term ‘greenhouse  
18 gas-emitting fuel’ does not include biomass that  
19 is grown using sustainable techniques.

20 “(14) INCREMENTAL NUCLEAR GENERATION.—

21 The term ‘incremental nuclear generation’ means, as  
22 determined by the Administrator and measured in  
23 megawatt hours, the difference between—

1           “(A) the quantity of electricity generated  
2           by a nuclear generating unit in a calendar year;  
3           and

4           “(B) the quantity of electricity generated  
5           by the nuclear generating unit in calendar year  
6           1990.

7           “(15) INDUSTRY SECTOR.—The term ‘industry  
8           sector’ means any sector of the economy of a coun-  
9           try (including, where applicable, the forestry sector)  
10          that is responsible for significant quantities of  
11          greenhouse gas emissions.

12          “(16) INTERNATIONAL CREDIT.—The term  
13          ‘international credit’ means a credit recognized for a  
14          reduction in the quantity of emissions or an increase  
15          in sequestration equivalent to 1 metric ton of carbon  
16          dioxide that—

17                 “(A) arises from activities outside the  
18                 United States; and

19                 “(B) is authorized for use under section  
20                 719.

21          “(17) INVASIVE SPECIES.—The term ‘invasive  
22          species’ means a species (including pathogens, seeds,  
23          spores, or any other biological material relating to a  
24          species) the introduction of which causes or is likely

1 to cause economic or environmental harm or harm  
2 to human health.

3 “(18) LAND-GRANT COLLEGES AND UNIVER-  
4 SITIES.—The term ‘land-grant colleges and univer-  
5 sities’ has the meaning given the term in section  
6 1404 of the National Agricultural Research, Exten-  
7 sion, and Teaching Policy Act of 1977 (7 U.S.C.  
8 3103).

9 “(19) LEAKAGE.—The term ‘leakage’ means an  
10 increase in greenhouse gas emissions or a decrease  
11 in sequestration of greenhouse gases that is—

12 “(A) outside the area of a project; and

13 “(B) attributable to the project.

14 “(20) NATIVE PLANT.—The term ‘native plant’  
15 means an indigenous, terrestrial, or aquatic plant  
16 species that evolved naturally in an ecosystem.

17 “(21) NEW AFFECTED UNIT.—The term ‘new  
18 affected unit’ means an affected unit that has oper-  
19 ated for not more than 3 years.

20 “(22) NEW COVERED UNIT.—The term ‘new  
21 covered unit’ means a covered unit that has operated  
22 for not more than 3 years.

23 “(23) NOXIOUS WEED.—The term ‘noxious  
24 weed’ means a plant species that is—

25 “(A) characterized by being—

1 “(i) aggressive and difficult to man-  
2 age;

3 “(ii) poisonous, toxic, parasitic, or a  
4 carrier or host of insects or disease rep-  
5 resenting a serious threat to native species  
6 or crops; or

7 “(iii) nonnative to, new to, or not  
8 common to, the United States (or a region  
9 of the United States); or

10 “(B) otherwise designated as a noxious  
11 weed by the Secretary of Agriculture or an ap-  
12 propriate State official.

13 “(24) NUCLEAR GENERATING UNIT.—The term  
14 ‘nuclear generating unit’ means an electric gener-  
15 ating facility that uses nuclear energy to generate  
16 electricity for sale.

17 “(25) OFFSET CREDIT.—The term ‘offset cred-  
18 it’ means a credit issued for an offset project pursu-  
19 ant to subtitle B certifying a reduction in the quan-  
20 tity of emissions or an increase in sequestration  
21 equivalent to 1 metric ton of carbon dioxide.

22 “(26) OFFSET PRACTICE.—The term ‘offset  
23 practice’ means a practice that—

24 “(A) reduces greenhouse gas emissions or  
25 increases sequestration other than by reducing

1 the combustion of greenhouse gas-emitting fuel  
2 at an affected unit; and

3 “(B) may be eligible to create an offset  
4 credit under this title.

5 “(27) OFFSET PROJECT.—The term ‘offset  
6 project’ means a project that reduces greenhouse gas  
7 emissions or increases sequestration of carbon diox-  
8 ide or a carbon dioxide equivalent by a method other  
9 than reduction of combustion of greenhouse gas-  
10 emitting fuel at an affected unit.

11 “(28) PANEL.—The term ‘Panel’ means the  
12 Climate Science Advisory Panel established by sec-  
13 tion 712(b)(1).

14 “(29) PLANT MATERIAL.—The term ‘plant ma-  
15 terial’ means—

16 “(A) a seed;

17 “(B) a part of a plant; or

18 “(C) a whole plant.

19 “(30) RENEWABLE ENERGY.—The term ‘renew-  
20 able energy’ means electricity generated from—

21 “(A) wind;

22 “(B) organic waste (excluding incinerated  
23 municipal solid waste);

1           “(C) biomass (including anaerobic diges-  
2           tion from farm systems and landfill gas recov-  
3           ery); or

4           “(D) a hydroelectric, geothermal, solar  
5           thermal, photovoltaic, tidal, wave, or other non-  
6           fossil fuel, nonnuclear source.

7           “(31) RENEWABLE ENERGY UNIT.—The term  
8           ‘renewable energy unit’ means an electric generating  
9           unit that exclusively uses renewable energy to gen-  
10          erate electricity for sale.

11          “(32) RESTORATION.—

12           “(A) IN GENERAL.—The term ‘restoration’  
13           means assisting the recovery of an ecosystem  
14           that has been degraded, damaged, or destroyed.

15           “(B) INCLUSION.—The term ‘restoration’  
16           includes the reestablishment in an ecosystem of  
17           preexisting biotic integrity with respect to spe-  
18           cies composition and community structure.

19          “(33) SEQUESTRATION.—The term ‘sequestra-  
20          tion’ means the separation, isolation, or removal of  
21          greenhouse gases from the atmosphere.

22          “(34) SEQUESTRATION FLOW.—The term ‘se-  
23          questration flow’ means the uptake of greenhouse  
24          gases each year from sequestration practices, as cal-  
25          culated under section 732.

1           “(35) SUSTAINABLE TECHNIQUE.—The term  
2           ‘sustainable technique’ means an agricultural, for-  
3           estry, or animal husbandry technique that does not  
4           result in—

5                   “(A) a long-term net depletion of natural  
6           resources; or

7                   “(B) a net emission of greenhouse gas dur-  
8           ing the lifecycle of biomass production, harvest,  
9           processing, and consumption.

10           “(36) UNFCCC.—The term ‘UNFCCC’ means  
11           the United Nations Framework Convention on Cli-  
12           mate Change, done at New York on May 9, 1992.

13           **“Subtitle A—Stopping and Revers-**  
14           **ing Greenhouse Gas Emissions**

15           **“SEC. 711. REGULATIONS; GREENHOUSE GAS TONNAGE**  
16           **LIMITATION.**

17           “(a) REGULATIONS.—Not later than 18 months after  
18           the date of enactment of this title, the Administrator shall  
19           promulgate regulations to establish an allowance trading  
20           program to address emissions of greenhouse gases from  
21           affected units in the United States.

22           “(b) GREENHOUSE GAS TONNAGE LIMITATION.—  
23           Beginning in calendar year 2011, the annual tonnage limi-  
24           tation for the aggregate quantity of emissions of green-

1 house gases from affected units in the United States shall  
2 be equal to—

3           “(1) for each of calendar years 2011 through  
4           2014, the aggregate quantity of emissions emitted  
5           from affected units in calendar year 2006, as deter-  
6           mined by the Administrator based on certified and  
7           quality-assured continuous emissions monitoring  
8           data for greenhouse gases, or data that the Adminis-  
9           trator determines to be of similar reliability for af-  
10          fected units without continuous monitoring systems,  
11          reported to the Administrator by affected units in  
12          accordance with this subtitle;

13           “(2) for calendar year 2015, the aggregate  
14          quantity of emissions emitted from affected units in  
15          calendar year 2001, as determined by the Adminis-  
16          trator based on certified and quality-assured contin-  
17          uous emissions monitoring data for greenhouse  
18          gases, or data that the Administrator determines to  
19          be of similar reliability for affected units without  
20          continuous monitoring systems, reported to the Ad-  
21          ministrator by affected units in accordance with this  
22          subtitle;

23           “(3) for each of calendar years 2016 through  
24          2019, the aggregate quantity of emissions emitted  
25          from affected units during the calendar year that is

1 1 percent less than the aggregate quantity of emis-  
2 sions from affected units allowed pursuant to this  
3 section during the preceding calendar year; and

4 “(4) for calendar year 2020 and each calendar  
5 year thereafter, the aggregate quantity of emissions  
6 emitted during the calendar year that is 1.5 percent  
7 less than the aggregate quantity of emissions from  
8 affected units allowed pursuant to this section dur-  
9 ing the preceding calendar year, except as modified  
10 by the Administrator pursuant to section 713.

11 **“SEC. 712. SCIENTIFIC REVIEW OF THE SAFE CLIMATE**  
12 **LEVEL.**

13 “(a) DEFINITION AND OBJECTIVE OF MAINTAINING  
14 THE SAFE CLIMATE LEVEL.—

15 “(1) FINDING.—Congress finds that ratification  
16 by the Senate in 1992 of the UNFCCC, commit-  
17 ments which were affirmed by the President in  
18 2002, established for the United States an objective  
19 of ‘stabilization of greenhouse gas concentrations in  
20 the atmosphere at a level that would prevent dan-  
21 gerous anthropogenic interference with the climate  
22 system’.

23 “(2) DEFINITION OF SAFE CLIMATE LEVEL.—  
24 In this section, the term ‘safe climate level’ means  
25 the climate level referred to in paragraph (1).

1 “(b) CLIMATE SCIENCE ADVISORY PANEL.—

2 “(1) ESTABLISHMENT.—Not later than 270  
3 days after the date of enactment of this title, the  
4 Administrator shall establish an advisory panel, to  
5 be known as the ‘Climate Science Advisory Panel’.

6 “(2) DUTIES.—The Panel shall—

7 “(A) inform Congress and the Adminis-  
8 trator of the state of climate science;

9 “(B) not later than December 31, 2011,  
10 and not less frequently than every 4 years  
11 thereafter, issue a report that is endorsed by at  
12 least 7 members of the Panel that describes  
13 recommendations for the Administrator, based  
14 on the best available information in the fields of  
15 climate science, including reports from the  
16 Intergovernmental Panel on Climate Change,  
17 relating to—

18 “(i) the specific concentration, in  
19 parts per million, of all greenhouse gases  
20 in carbon dioxide equivalents at or below  
21 which constitutes the safe climate level;  
22 and

23 “(ii) the projected timeframe for  
24 achieving the safe climate level.

25 “(3) COMPOSITION.—



1                   “(II) recent publications relating  
2                   to earth systems, and particularly re-  
3                   lating to the climate system; and

4                   “(III) a high publication rate,  
5                   typically at least 2 or 3 papers per  
6                   year; and

7                   “(iv) have participated in high-level  
8                   committees, such as those formed by the  
9                   National Academy of Sciences or by lead-  
10                  ing scientific societies.

11                  “(C) RESTRICTION.—A majority of climate  
12                  scientists appointed to the Panel under sub-  
13                  paragraph (B) shall be participating, as of the  
14                  date of appointment to the Panel, in active re-  
15                  search in the physical or biological sciences,  
16                  with a particular focus on or link to 1 or more  
17                  aspects of climate science.

18                  “(D) FEDERAL OFFICIALS.—

19                  “(i) IN GENERAL.—Subject to clause  
20                  (ii), the Administrator shall appoint as  
21                  members of the Panel, the longest-serving  
22                  former Administrators of the Environ-  
23                  mental Protection Agency for each of the  
24                  3 most recent former Presidents.

1           “(ii) TIMING.—The 3 most recent  
2 former Presidents described in clause (i)  
3 shall be identified as of the deadline for  
4 appointments to the Panel under subpara-  
5 graph (B) or (E)(ii), whichever is applica-  
6 ble.

7           “(iii) SUBSTITUTES.—If a former Ad-  
8 ministrator described in clause (i) declines  
9 appointment, or is unable to serve, as a  
10 member of the Panel, the Administrator  
11 shall appoint in place of the former Admin-  
12 istrator—

13           “(I) the longest-serving former  
14 Administrator for the applicable  
15 President who agrees to serve; or

16           “(II) if no individual described in  
17 subclause (I) accepts appointment as  
18 a member of the Panel, the longest-  
19 serving Assistant Administrator for  
20 Air and Radiation for the applicable  
21 President who agrees to serve.

22           “(E) TERMS OF SERVICE AND VACAN-  
23 CIES.—

24           “(i) TERMS.—The initial term of a  
25 member of the Panel shall be—

1 “(I) to the maximum extent prac-  
2 ticable, the period covered by, and ex-  
3 tending through the date of issuance  
4 of, each report under paragraph  
5 (2)(B); but

6 “(II) not longer than 4 years.

7 “(ii) SUBSEQUENT PANELS AND RE-  
8 PORTS.—On the issuance of each report  
9 under paragraph (2)(B)—

10 “(I) the Panel that submitted the  
11 report shall terminate; and

12 “(II)(aa) pursuant to subpara-  
13 graphs (B) and (C), the President of  
14 the National Academy of Sciences  
15 shall appoint climate scientists (in-  
16 cluding at least 3 climate scientists  
17 who served as members of the pre-  
18 ceding Panel) to serve as members of  
19 a new Panel by not later than 15  
20 months after the deadline for issuance  
21 of the report under paragraph (2)(B);  
22 and

23 “(bb) pursuant to subparagraph  
24 (D), the Administrator shall appoint 3  
25 Federal officials as members of the

1 new Panel by the deadline described  
2 in item (aa).

3 “(iii) VACANCIES.—Vacancies in the  
4 membership of the Panel—

5 “(I) shall not affect the power of  
6 the remaining members to execute the  
7 functions of the Panel; and

8 “(II) shall be filled in the same  
9 manner in which the original appoint-  
10 ment was made.

11 “(F) CHAIRPERSON AND VICE CHAIR-  
12 PERSON.—The Panel shall elect a Chairperson  
13 and Vice Chairperson as soon as practicable.

14 “(G) COMPENSATION OF MEMBERS.—A  
15 member of the Panel shall be compensated at a  
16 rate equal to the daily equivalent of the annual  
17 rate of basic pay prescribed for level IV of the  
18 Executive Schedule under section 5315 of title  
19 5, United States Code, for each day (including  
20 travel time) during which the member is en-  
21 gaged in the performance of the duties of the  
22 Panel.

23 “(H) TRAVEL EXPENSES.—A member of  
24 the Panel shall be allowed travel expenses, in-  
25 cluding per diem in lieu of subsistence, at rates

1 authorized for an employee of an agency under  
2 subchapter I of chapter 57 of title 5, United  
3 States Code, while away from the home or reg-  
4 ular place of business of the member in the per-  
5 formance of the duties of the Panel.

6 “(4) STAFF.—

7 “(A) IN GENERAL.—The Chairperson of  
8 the Panel may, without regard to the civil serv-  
9 ice laws (including regulations), appoint and  
10 terminate an executive director and such other  
11 additional personnel as are necessary to enable  
12 the Panel to perform the duties of the Panel.

13 “(B) CONFIRMATION OF EXECUTIVE DI-  
14 RECTOR.—The employment of an executive di-  
15 rector shall be subject to confirmation by the  
16 Panel.

17 “(C) COMPENSATION.—

18 “(i) IN GENERAL.—Except as pro-  
19 vided in clause (ii), the Chairperson of the  
20 Panel may fix the compensation of the ex-  
21 ecutive director and other personnel with-  
22 out regard to the provisions of chapter 51  
23 and subchapter III of chapter 53 of title 5,  
24 United States Code, relating to classifica-

1                   tion of positions and General Schedule pay  
2                   rates.

3                   “(ii) EXCEPTION.—The rate of pay  
4                   for the executive director and other per-  
5                   sonnel shall not exceed the rate payable for  
6                   level V of the Executive Schedule under  
7                   section 5316 of title 5, United States  
8                   Code.

9                   “(D) DETAIL OF FEDERAL GOVERNMENT  
10                  EMPLOYEES.—

11                  “(i) IN GENERAL.—An employee of  
12                  the Federal Government may be detailed to  
13                  the staff of the Panel without reimburse-  
14                  ment.

15                  “(ii) TREATMENT OF DETAILEES.—  
16                  The detail of the employee shall be without  
17                  interruption or loss of civil service status  
18                  or privilege.

19                  “(E) PROCUREMENT OF TEMPORARY AND  
20                  INTERMITTENT SERVICES.—The Chairperson or  
21                  executive director of the Panel may procure  
22                  temporary and intermittent services in accord-  
23                  ance with section 3109(b) of title 5, United  
24                  States Code, at rates for individuals that do not  
25                  exceed the daily equivalent of the annual rate of

1           basic pay prescribed for level V of the Executive  
2           Schedule under section 5316 of that title.

3           “(5) HEARINGS.—The Panel may hold such  
4           hearings, meet and act at such times and places,  
5           take such testimony, and receive such evidence as  
6           the Panel considers advisable to carry out this sec-  
7           tion.

8           “(6) INFORMATION FROM FEDERAL AGEN-  
9           CIES.—

10           “(A) IN GENERAL.—The Panel may secure  
11           directly from a Federal agency such informa-  
12           tion as the Panel considers necessary to carry  
13           out this section.

14           “(B) PROVISION OF INFORMATION.—On  
15           request of the Chairperson of the Panel, the  
16           head of the agency shall provide the informa-  
17           tion to the Panel.

18           “(7) POSTAL SERVICES.—The Panel may use  
19           the United States mail in the same manner and  
20           under the same conditions as other agencies of the  
21           Federal Government.

1 **“SEC. 713. REQUIRED REVIEW OF EMISSION REDUCTIONS**  
2 **NEEDED TO MAINTAIN THE SAFE CLIMATE**  
3 **LEVEL.**

4 “(a) REVIEW AND DETERMINATION REGARDING RE-  
5 DUCTION RATE.—Not later than December 31, 2015, the  
6 Administrator, after providing public notice and oppor-  
7 tunity to comment, shall promulgate a final rule pursuant  
8 to which the Administrator shall review the reduction rate  
9 for greenhouse gas emissions required under section  
10 711(b)(4) and determine—

11 “(1) whether to—

12 “(A) accept the recommendations of the  
13 Panel under section 712(b)(2)(B) regarding the  
14 safe climate level and the timeframe for achiev-  
15 ing the safe climate level; or

16 “(B) establish a different safe climate level  
17 or timeframe, together with a detailed expla-  
18 nation of the justification of the Administrator  
19 for rejection of the recommendations of the  
20 Panel; and

21 “(2) whether, in order to achieve the safe cli-  
22 mate level within the timeframe described in para-  
23 graph (1), the reduction rate under section  
24 711(b)(4) is most accurately characterized as requir-  
25 ing—

1           “(A) the appropriate level of emission re-  
2           ductions;

3           “(B) lesser emission reductions than are  
4           necessary; or

5           “(C) greater emission reductions than are  
6           necessary.

7           “(b) MODIFICATION OF REDUCTION RATE.—

8           “(1) IN GENERAL.—If the Administrator makes  
9           a determination described in subparagraph (B) or  
10          (C) of subsection (a)(2), the final rule promulgated  
11          pursuant to subsection (a) shall establish a required  
12          level of emissions reductions for each calendar year,  
13          beginning with calendar year 2020, based on the  
14          considerations described in paragraph (2).

15          “(2) CONSIDERATIONS.—

16                 “(A) PRIMARY CONSIDERATION.—In estab-  
17                 lishing the required level of emission reductions  
18                 pursuant to paragraph (1), the Administrator  
19                 shall take into consideration primarily the emis-  
20                 sion reductions necessary to stabilize atmos-  
21                 pheric greenhouse gas concentrations at the  
22                 safe climate level within the timeframe specified  
23                 under section 712(b)(2)(B).

24                 “(B) SECONDARY CONSIDERATIONS.—In  
25                 establishing the required level of emission re-

1           ductions pursuant to paragraph (1), in addition  
2           to the primary consideration described in para-  
3           graph (1), the Administrator shall take into  
4           consideration—

5                   “(i) technological capability to reduce  
6                   greenhouse gas emissions;

7                   “(ii) the progress that foreign coun-  
8                   tries have made toward reducing their  
9                   greenhouse gas emissions;

10                   “(iii) the economic impacts within the  
11                   United States of implementing this sub-  
12                   title, including impacts on the major emit-  
13                   ting sectors; and

14                   “(iv) the economic impacts within the  
15                   United States of inadequate action.

16           “(c) ENFORCEMENT PROVISION.—

17                   “(1) IN GENERAL.—If the Administrator fails  
18                   to meet a deadline for promulgation of any regula-  
19                   tion under subsection (a), the Administrator shall  
20                   withhold from allocation to covered units that would  
21                   otherwise be entitled to an allocation of allowances  
22                   under this subtitle a total of 10 percent of the allow-  
23                   ances for each covered unit for each year after the  
24                   deadline until the Administrator promulgates the ap-  
25                   plicable regulation.

1           “(2) RETURN OF ALLOWANCES.—On promulga-  
2           tion of a delayed regulation described in paragraph  
3           (1), the Administrator shall distribute any allow-  
4           ances withheld under that paragraph—

5                   “(A) among the covered units from which  
6                   the allowances were withheld; and

7                   “(B) in accordance with the applicable for-  
8                   mula under section 716.

9           “(d) SUBSEQUENT RULEMAKINGS.—

10           “(1) IN GENERAL.—Not later than December  
11           31, 2019, and every 4 years thereafter, the Adminis-  
12           trator shall promulgate a new final rule described in  
13           subsection (a) in accordance with this section.

14           “(2) EFFECTIVE DATE.—If a new final rule  
15           promulgated pursuant to paragraph (1) changes a  
16           level of emission reductions required under the pre-  
17           ceding final rule, the effective date of the new final  
18           rule shall be January 1 of the calendar year that is  
19           5 years after the deadline for promulgation of the  
20           new final rule under paragraph (1).

21   **“SEC. 714. DISTRIBUTION OF ALLOWANCES BETWEEN AUC-**  
22                   **TIONS AND ALLOCATIONS; NATURE OF AL-**  
23                   **LOWANCES.**

24           “(a) DISTRIBUTION OF ALLOWANCES BETWEEN  
25   AUCTIONS AND ALLOCATIONS.—

1           “(1) IN GENERAL.—For each calendar year, the  
 2           total quantity of allowances to be auctioned and allo-  
 3           cated under this subtitle shall be equal to the annual  
 4           tonnage limitation for emissions of greenhouse gases  
 5           from affected units specified in section 711 for the  
 6           calendar year.

7           “(2) DISTRIBUTION.—The proportion of allow-  
 8           ances to be auctioned pursuant to section 715 and  
 9           allocated pursuant to section 716 for each calendar  
 10          year beginning in calendar year 2011 shall be as fol-  
 11          lows:

“Percentages of Allowances to be Auctioned and Allocated

Calendar Year	Percentage to be Auc- tioned	Percentage to be Allo- cated
2011 .....	15	85
2012 .....	18	82
2013 .....	21	79
2014 .....	24	76
2015 .....	27	73
2016 .....	30	70
2017 .....	33	67
2018 .....	36	64
2019 .....	39	61
2020 .....	42	58
2021 .....	45	55
2022 .....	48	52
2023 .....	51	49
2024 .....	54	46
2025 .....	57	43
2026 .....	60	40
2027 .....	63	37
2028 .....	66	34
2029 .....	69	41
2030 .....	72	28
2031 .....	75	25
2032 .....	80	20
2033 .....	85	15
2034 .....	90	10
2035 .....	95	5
2036 and thereafter ....	100	0

12          “(b) NATURE OF ALLOWANCES.—An allowance—

1           “(1) shall not be considered to be a property  
2           right; and

3           “(2) may be terminated or limited by the Ad-  
4           ministrator.

5           “(c) NO JUDICIAL REVIEW.—An auction or alloca-  
6           tion of an allowance by the Administrator shall not be sub-  
7           ject to judicial review.

8           **“SEC. 715. AUCTION OF ALLOWANCES.**

9           “(a) IN GENERAL.—Not later than 2 years after the  
10          date of enactment of this title, the Administrator shall  
11          promulgate regulations establishing a procedure for the  
12          auction of the quantity of allowances specified in section  
13          714(a) for each calendar year.

14          “(b) DEPOSIT OF PROCEEDS.—The Administrator  
15          shall deposit all proceeds from auctions conducted under  
16          this section in the Fund for use in accordance with section  
17          717.

18          **“SEC. 716. ALLOCATION OF ALLOWANCES.**

19          “(a) ALLOCATION TO NEW COVERED UNITS.—

20                 “(1) ESTABLISHMENT.—For each calendar  
21          year, the Administrator, in consultation with the  
22          Secretary of Energy, shall, based on projections of  
23          electricity output for new covered units, promulgate  
24          regulations establishing—

1           “(A) a reserve of allowances to be allocated  
2           among new covered units for the calendar year;  
3           and

4           “(B) the methodology for allocating those  
5           allowances among new covered units.

6           “(2) LIMITATION.—The number of allowances  
7           allocated under paragraph (1) during a calendar  
8           year shall be not more than 3 percent of the total  
9           number of allowances allocated among covered units  
10          for the calendar year.

11          “(3) UNUSED ALLOWANCES.—For each cal-  
12          endar year, the Administrator shall reallocate to  
13          each covered unit any unused allowances from the  
14          new unit reserve established under paragraph (1) in  
15          the proportion that—

16               “(A) the number of allowances allocated to  
17               each covered unit for the calendar year; bears  
18               to

19               “(B) the number of allowances allocated to  
20               all covered units for the calendar year.

21          “(b) ALLOCATION TO COVERED UNITS THAT ARE  
22          NOT NEW COVERED UNITS.—

23               “(1) TIMING OF ALLOCATIONS.—Subject to  
24               subsection (c), the Administrator shall allocate al-

1 lowances among covered units that are not new cov-  
2 ered units—

3 “(A) not later than December 31, 2007,  
4 for calendar year 2011; and

5 “(B) not later than December 31 of cal-  
6 endar year 2008 and of each calendar year  
7 thereafter, for each fourth calendar year that  
8 begins after that December 31.

9 “(2) ALLOCATIONS.—

10 “(A) IN GENERAL.—Subject to subsection  
11 (c), the Administrator shall allocate to each cov-  
12 ered unit that is not a new covered unit a quan-  
13 tity of allowances that is equal to the product  
14 obtained by multiplying—

15 “(i) the quantity of allowances avail-  
16 able for allocation under this subsection;  
17 and

18 “(ii) the quotient obtained by divid-  
19 ing—

20 “(I) the annual average quantity  
21 of electricity generated by the unit  
22 (including only incremental nuclear  
23 generation for nuclear generating  
24 units) during the most recent 3-cal-  
25 endar year period for which data is

1 available, updated each calendar year  
2 and measured in megawatt hours; by

3 “(II) the difference between—

4 “(aa) the total of the aver-  
5 age quantities calculated under  
6 subelause (I) for all covered  
7 units; and

8 “(bb) the quantity of elec-  
9 tricity generated by all affected  
10 units and new affected units  
11 that, pursuant to subsection (c),  
12 do not receive any allowances.

13 “(B) QUANTITY TO BE ALLOCATED.—For  
14 each calendar year, the quantity of allowances  
15 allocated under subparagraph (A) to covered  
16 units that are not new covered units shall be  
17 equal to the difference between—

18 “(i) the annual tonnage limitation for  
19 emissions of greenhouse gases from af-  
20 fected units specified in section 711 for the  
21 calendar year, as modified, if applicable,  
22 under section 713; and

23 “(ii) the quantity of allowances re-  
24 served under subsection (a) for the cal-  
25 endar year.

1           “(c) COAL-FIRED AFFECTED UNITS AND NEW AF-  
2     FECTED UNITS.—

3           “(1) IN GENERAL.—Notwithstanding any other  
4     provision of this subtitle, no allowance shall be allo-  
5     cated under this subtitle to a coal-fired affected unit  
6     or a coal-fired new affected unit unless the affected  
7     unit or new affected unit—

8           “(A) is powered by qualifying advanced  
9     clean coal technology, as defined pursuant to  
10    paragraph (2); or

11          “(B) entered operation before January 1,  
12         2007.

13          “(2) DEFINITION OF QUALIFYING ADVANCED  
14     CLEAN COAL TECHNOLOGY.—

15          “(A) IN GENERAL.—Not later than 18  
16     months after the date of enactment of this title,  
17     the Administrator, by regulation, shall define  
18     the term ‘qualifying advanced clean coal tech-  
19     nology’ with respect to electric power genera-  
20     tion.

21          “(B) REQUIREMENT.—In promulgating a  
22     definition pursuant to subparagraph (A), the  
23     Administrator shall ensure that the term ‘quali-  
24     fying advanced clean coal technology’ reflects

1           advances in available technology, taking into  
2           consideration—

3                   “(i) net thermal efficiency;

4                   “(ii) measures to capture and seques-  
5           ter carbon dioxide; and

6                   “(iii) output-based emission rates  
7           for—

8                           “(I) carbon dioxide;

9                           “(II) sulfur dioxide;

10                          “(III) oxides of nitrogen;

11                          “(IV) filterable and condensable  
12           particulate matter; and

13                          “(V) mercury.

14           “(C) REVIEW AND REVISION.—

15                   “(i) IN GENERAL.—Not later than  
16           July 1, 2009, and each July 1 of every sec-  
17           ond year thereafter, the Administrator  
18           shall review and, if appropriate, revise the  
19           definition under subparagraph (A) based  
20           on technological advances during the pre-  
21           ceding 2 calendar years.

22                   “(ii) NOTICE AND COMMENT RE-  
23           QUIRED.—Subject to clause (iii), after the  
24           initial definition is established under sub-  
25           paragraph (A), no subsequent review or re-

1 vision under this subparagraph shall be  
2 subject to the notice and comment provi-  
3 sions of section 307 of this Act or of sec-  
4 tion 553 of title 5, United States Code.

5 “(iii) EFFECT.—Nothing in clause (ii)  
6 precludes the application of the notice and  
7 comment provisions of section 307 of this  
8 Act or of section 553 of title 5, United  
9 States Code, as the Administrator deter-  
10 mines to be practicable.

11 **“SEC. 717. CLIMATE ACTION TRUST FUND.**

12 “(a) ESTABLISHMENT AND ADMINISTRATION.—

13 “(1) IN GENERAL.—There is established in the  
14 general fund of the Treasury a fund, to be known  
15 as the ‘Climate Action Trust Fund’, consisting of—

16 “(A) such amounts as are deposited in the  
17 Fund under paragraph (2); and

18 “(B) any interest earned on investment of  
19 amounts in the Fund under paragraph (4).

20 “(2) TRANSFERS TO FUND.—The Secretary of  
21 the Treasury shall deposit in the Fund amounts  
22 equivalent to the proceeds received by the Adminis-  
23 trator as a result of the conduct of auctions of allow-  
24 ances under section 715.

25 “(3) EXPENDITURES FROM FUND.—

1           “(A) IN GENERAL.—Subject to subpara-  
2           graphs (B) and (C), the Administrator shall use  
3           amounts in the Fund to carry out the programs  
4           described in this section.

5           “(B) ADMINISTRATIVE EXPENSES.—Of  
6           amounts in the Fund, there shall be made avail-  
7           able to pay the administrative expenses nec-  
8           essary to carry out this title, as adjusted for  
9           changes beginning on January 1, 2007, in ac-  
10          cordance with the Consumer Price Index for  
11          All-Urban Consumers published by the Depart-  
12          ment of Labor—

13                   “(i) \$90,000,000 for each fiscal year,  
14                   to the Administrator; and

15                   “(ii) \$30,000,000 for each fiscal year,  
16                   to the Secretary of Agriculture.

17          “(C) PANEL.—Of amounts in the Fund,  
18          there shall be made available to pay the ex-  
19          penses of the Panel under section 712  
20          \$7,000,000 for each fiscal year, as adjusted for  
21          changes beginning on January 1, 2007, in ac-  
22          cordance with the Consumer Price Index for  
23          All-Urban Consumers published by the Depart-  
24          ment of Labor.

25          “(4) INVESTMENT OF AMOUNTS.—

1           “(A) IN GENERAL.—The Secretary of  
2 Treasury shall invest such portion of the Fund  
3 as is not, in the judgment of the Administrator,  
4 required to meet current withdrawals.

5           “(B) INTEREST-BEARING OBLIGATIONS.—  
6 Investments may be made only in interest-bear-  
7 ing obligations of the United States.

8           “(C) ACQUISITION OF OBLIGATIONS.—For  
9 the purpose of investments under paragraph  
10 (1), obligations may be acquired—

11                 “(i) on original issue at the issue  
12 price; or

13                 “(ii) by purchase of outstanding obli-  
14 gations at the market price.

15           “(D) SALE OF OBLIGATIONS.—Any obliga-  
16 tion acquired by the Fund may be sold by the  
17 Administrator at the market price.

18           “(E) RETURN OF PROCEEDS TO FUND.—  
19 The interest on, and the proceeds from the sale  
20 or redemption of, any obligations held in the  
21 Fund shall be credited to, and form a part of,  
22 the Fund.

23           “(5) REGULATIONS.—Not later than 2 years  
24 after the date of enactment of this title, the Admin-  
25 istrator, in consultation with the Secretary of En-

1       ergy, shall promulgate such regulations as are nec-  
2       essary to administer the Fund in accordance with  
3       this section.

4       “(b) USES OF FUND.—

5             “(1) NO FURTHER APPROPRIATION.—The Ad-  
6       ministrator shall distribute amounts in the Fund for  
7       use in accordance with this section, without further  
8       appropriation.

9             “(2) REGULATIONS.—

10            “(A) IN GENERAL.—Not later than 3 years  
11       after the date of enactment of this title, the Ad-  
12       ministrator, in consultation with the Secretary  
13       of Energy, shall promulgate regulations estab-  
14       lishing an innovative low- and zero-emitting car-  
15       bon technologies program, a clean coal tech-  
16       nologies program, and an energy efficiency  
17       technology program that include—

18            “(i) the funding mechanisms that will  
19       be available to support the development  
20       and deployment of the technologies ad-  
21       dressed by each program, including low-in-  
22       terest loans, loan guarantees, grants, and  
23       financial awards; and

1                   “(ii) the criteria for the methods by  
2                   which proposals will be funded to develop  
3                   and deploy the technologies.

4                   “(B) REVISION OF CRITERIA.—Not later  
5                   than January 1, 2014, and every 3 years there-  
6                   after, the Administrator shall review and, if ap-  
7                   propriate, revise, based on technological ad-  
8                   vances, the criteria referred to in subparagraph  
9                   (A)(ii).

10                  “(C) ADAPTATION ASSISTANCE FOR WORK-  
11                  ERS AND COMMUNITIES.—Not later than 3  
12                  years after the date of enactment of this title,  
13                  the Administrator, in consultation with the Sec-  
14                  retary of Energy, shall promulgate regulations  
15                  governing the distribution of funds pursuant to  
16                  subsection (g).

17                  “(c) INNOVATIVE LOW- AND ZERO-EMITTING CAR-  
18                  BON ELECTRICITY GENERATION TECHNOLOGIES PRO-  
19                  GRAM.—

20                  “(1) IN GENERAL.—For each calendar year, of  
21                  amounts remaining in the Fund after making the  
22                  expenditures described in subparagraphs (B) and  
23                  (C) of subsection (a)(3), the Administrator shall use  
24                  not more than 35 percent to support the develop-

1           ment and deployment of low- and zero-emitting car-  
2           bon electricity generation technologies.

3           “(2) REGULATIONS.—The regulations estab-  
4           lishing the innovative low- and zero-emitting carbon  
5           electricity generation technologies program referred  
6           to in subsection (b)(2)(A) shall establish the areas of  
7           technology development that will qualify for funding  
8           under that program, including technologies for the  
9           generation of electricity from renewable energy  
10          sources.

11          “(d) CLEAN COAL TECHNOLOGIES PROGRAM.—

12           “(1) IN GENERAL.—For each calendar year, of  
13           amounts remaining in the Fund after making the  
14           expenditures described in subparagraphs (B) and  
15           (C) of subsection (a)(3), the Administrator shall use  
16           not more than 20 percent to support the develop-  
17           ment and deployment of clean coal technologies.

18           “(2) REGULATIONS.—The regulations estab-  
19           lishing the clean coal technologies program referred  
20           to in subsection (b)(2)(A) shall establish the criteria  
21           for use in defining qualifying clean coal technologies  
22           for electric power generation, while ensuring that  
23           those technologies represent an advance in available  
24           technology, taking into consideration net thermal ef-

1 efficiency and measures to capture and sequester car-  
2 bon dioxide.

3 “(e) ENERGY EFFICIENCY TECHNOLOGY PRO-  
4 GRAM.—

5 “(1) IN GENERAL.—For each calendar year, of  
6 amounts remaining in the Fund after making the  
7 expenditures described in subparagraphs (B) and  
8 (C) of subsection (a)(3), the Administrator shall use  
9 not more than 15 percent to support the develop-  
10 ment and deployment of technologies for increasing  
11 the efficiency of energy end use in buildings and in-  
12 dustry.

13 “(2) REGULATIONS.—The regulations estab-  
14 lishing the energy efficiency program referred to in  
15 subsection (b)(2)(A) shall establish the areas of  
16 technology development that will qualify for funding  
17 under the energy efficiency program.

18 “(f) FEDERAL FUNDING OF RESEARCH INTO AND  
19 DEVELOPMENT OF ENERGY AND EFFICIENCY TECH-  
20 NOLOGIES.—For each calendar year, the Administrator  
21 shall use not more than 10 percent of the amounts in the  
22 Fund to support research into and development of energy  
23 and efficiency technologies.

24 “(g) ADAPTATION ASSISTANCE FOR WORKERS AND  
25 COMMUNITIES NEGATIVELY AFFECTED BY CLIMATE

1 CHANGE AND GREENHOUSE GAS REGULATION.—For  
2 each calendar year, of amounts remaining in the Fund  
3 after making the expenditures described in subparagraphs  
4 (B) and (C) of subsection (a)(3), the Administrator shall  
5 use at least 10 percent to provide adaptation assistance  
6 for workers and communities—

7           “(1) to address local or regional impacts of cli-  
8 mate change and the impacts, if any, from green-  
9 house gas regulation, including by providing assist-  
10 ance to displaced workers and disproportionately af-  
11 fected communities; and

12           “(2) to mitigate impacts of climate change and  
13 the impacts, in any, from greenhouse gas regulation  
14 on low-income energy consumers.

15           “(h) FISH AND WILDLIFE HABITAT.—

16           “(1) IN GENERAL.—For each calendar year, of  
17 amounts remaining in the Fund after making the  
18 expenditures described in subparagraphs (B) and  
19 (C) of subsection (a)(3), the Administrator shall use  
20 at least 10 percent to mitigate the impacts of cli-  
21 mate change on fish and wildlife habitat in accord-  
22 ance with this subsection.

23           “(2) WILDLIFE RESTORATION FUND.—

24           “(A) IN GENERAL.—For each calendar  
25 year, the Administrator shall transfer not less

1 than 70 percent of the amounts made available  
2 under paragraph (1) to the Federal aid to wild-  
3 life restoration fund established under section  
4 3(a)(1) of the Pittman-Robertson Wildlife Res-  
5 toration Act (16 U.S.C. 669b(a)(1))—

6 “(i) to carry out climate change im-  
7 pact mitigation actions pursuant to com-  
8 prehensive wildlife conservation strategies;  
9 and

10 “(ii) to provide relevant information,  
11 training, monitoring, and other assistance  
12 to develop climate change impact mitiga-  
13 tion and adaptation plans and integrate  
14 the plans into State comprehensive wildlife  
15 conservation strategies.

16 “(B) AVAILABILITY.—Amounts transferred  
17 to the Federal aid to wildlife restoration fund  
18 under this paragraph shall—

19 “(i) be available, without further ap-  
20 propriation, for obligation and expenditure;  
21 and

22 “(ii) remain available until expended.

23 “(3) PROTECTION OF NATURAL RESOURCES.—

24 “(A) IN GENERAL.—For each calendar  
25 year, the Administrator, in consultation with

1 the Secretary of Agriculture, the Secretary of  
2 Commerce, the Chief of Engineers, and State  
3 and national wildlife conservation organizations,  
4 shall transfer not more than 30 percent of the  
5 funds made available under paragraph (1) to  
6 the Secretary of the Interior for use in carrying  
7 out Federal and State programs and projects—

8 “(i) to protect natural communities  
9 that are most vulnerable to climate change;

10 “(ii) to restore and protect natural re-  
11 sources that directly guard against dam-  
12 ages from climate change events; and

13 “(iii) to restore and protect ecosystem  
14 services that are most vulnerable to climate  
15 change.

16 “(B) ADMINISTRATION.—Amounts trans-  
17 ferred to the Secretary of the Interior under  
18 this paragraph shall—

19 “(i) be available, without further ap-  
20 propriation, for obligation and expenditure;

21 “(ii) remain available until expended;

22 “(iii)(I) be obligated not later than 2  
23 years after the date of transfer; or

24 “(II) if the amounts are not obligated  
25 in accordance with subclause (I), be trans-

1           ferred to the Federal aid to wildlife res-  
2           toration fund for use in accordance with  
3           paragraph (2); and

4                   “(iv) supplement, and not supplant,  
5           the amount of Federal, State, and local  
6           funds otherwise expended to carry out pro-  
7           grams and projects described in subpara-  
8           graph (A).

9                   “(C) PROGRAMS AND PROJECTS.—Pro-  
10          grams and projects for which funds may be  
11          used under this paragraph include—

12                   “(i) Federal programs and projects—

13                           “(I) to identify Federal land and  
14                   water at greatest risk of being dam-  
15                   aged or depleted by climate change;

16                           “(II) to monitor Federal land  
17                   and water to allow for early detection  
18                   of impacts;

19                           “(III) to develop adaptation  
20                   strategies to minimize the damage;  
21                   and

22                           “(IV) to restore and protect Fed-  
23                   eral land and water at the greatest  
24                   risk of being damaged or depleted by  
25                   climate change;

1           “(ii) Federal programs and projects to  
2 identify climate change risks and develop  
3 adaptation strategies for natural grassland,  
4 wetlands, migratory corridors, and other  
5 habitats vulnerable to climate change on  
6 private land enrolled in—

7           “(I) the wetlands reserve pro-  
8 gram established under subchapter C  
9 of chapter 1 of subtitle D of title XII  
10 of the Food Security Act of 1985 (16  
11 U.S.C. 3837 et seq.);

12           “(II) the grassland reserve pro-  
13 gram established under subchapter C  
14 of chapter 2 of subtitle D of title XII  
15 of that Act (16 U.S.C. 3838n et seq.);  
16 and

17           “(III) the wildlife habitat incen-  
18 tive program established under section  
19 1240N of that Act (16 U.S.C.  
20 3839bb-1);

21           “(iii) programs and projects under the  
22 North American Wetlands Conservation  
23 Act (16 U.S.C. 4401 et seq.), the North  
24 American Bird Conservation Initiative, and  
25 the Neotropical Migratory Bird Conserva-

1 tion Act (16 U.S.C. 6101 et seq.) to pro-  
2 tect habitat for migratory birds that are  
3 vulnerable to climate change impacts;

4 “(iv) programs and projects—

5 “(I) to identify coastal and ma-  
6 rine resources (such as coastal wet-  
7 lands, coral reefs, submerged aquatic  
8 vegetation, shellfish beds, and other  
9 coastal or marine ecosystems) at the  
10 greatest risk of being damaged by cli-  
11 mate change;

12 “(II) to monitor those resources  
13 to allow for early detection of impacts;

14 “(III) to develop adaptation  
15 strategies;

16 “(IV) to protect and restore  
17 those resources; and

18 “(V) to integrate climate change  
19 adaptation requirements into State  
20 plans developed under the coastal  
21 zone management program estab-  
22 lished under the Coastal Zone Man-  
23 agement Act of 1972 (16 U.S.C. 1451  
24 et seq.), the national estuary program  
25 established under section 320 of the

1 Federal Water Pollution Control Act  
2 (33 U.S.C. 1330), the Coastal and  
3 Estuarine Land Conservation Pro-  
4 gram established under the fourth  
5 proviso of the matter under the head-  
6 ing ‘PROCUREMENT, ACQUISITION,  
7 AND CONSTRUCTION (INCLUDING  
8 TRANSFERS OF FUNDS)’ of title II of  
9 the Departments of Commerce, Jus-  
10 tice, and State, the Judiciary, and Re-  
11 lated Agencies Appropriations Act,  
12 2002 (16 U.S.C. 1456d), or other  
13 comparable State programs;

14 “(v) programs and projects to con-  
15 serve habitat for endangered species and  
16 species of conservation concern that are  
17 vulnerable to the impact of climate change;

18 “(vi) programs and projects under the  
19 Forest Legacy Program established under  
20 section 7 of the Cooperative Forestry As-  
21 sistance Act (16 U.S.C. 2103c), to support  
22 State efforts to protect environmentally  
23 sensitive forest land through conservation  
24 easements to provide refuges for wildlife;

1           “(vii) other Federal or State pro-  
2           grams and projects identified by the heads  
3           of agencies described in subparagraph (A)  
4           as high priorities—

5                   “(I) to protect natural commu-  
6                   nities that are most vulnerable to cli-  
7                   mate change;

8                   “(II) to restore and protect nat-  
9                   ural resources that directly guard  
10                  against damages from climate change  
11                  events; and

12                  “(III) to restore and protect eco-  
13                  system services that are most vulner-  
14                  able to climate change;

15                  “(viii) to address climate change in  
16                  Federal land use planning and plan imple-  
17                  mentation and to integrate climate change  
18                  adaptation strategies into—

19                   “(I) comprehensive conservation  
20                   plans prepared under section 4(e) of  
21                   the National Wildlife Refuge System  
22                   Administration Act of 1966 (16  
23                   U.S.C. 668dd(e));

1                   “(II) general management plans  
2                   for units of the National Park Sys-  
3                   tem;

4                   “(III) resource management  
5                   plans of the Bureau of Land Manage-  
6                   ment; and

7                   “(IV) land and resource manage-  
8                   ment plans under the Forest and  
9                   Rangeland Renewable Resources  
10                  Planning Act of 1974 (16 U.S.C.  
11                  1600 et seq.) and the National Forest  
12                  Management Act of 1976 (16 U.S.C.  
13                  1600 et seq.); and

14                  “(ix) projects to promote sharing of  
15                  information on climate change wildlife im-  
16                  pacts and mitigation strategies across  
17                  agencies, including funding efforts to  
18                  strengthen and restore habitat that im-  
19                  proves the ability of fish and wildlife to  
20                  adapt successfully to climate change  
21                  through the Wildlife Conservation and Res-  
22                  toration Account established by section  
23                  3(a)(2) of the Pittman-Robertson Wildlife  
24                  Restoration Act (16 U.S.C. 669b(a)(2)).

1 **“SEC. 718. EARLY REDUCTION CREDITS.**

2 “(a) REGULATIONS.—Not later than 2 years after  
3 the date of enactment of this title, the Administrator shall  
4 promulgate regulations that provide for the issuance on  
5 a 1-time basis, certification, and use of early reduction  
6 credits for greenhouse gas reduction or sequestration  
7 projects carried out during any of calendar years 2000  
8 through 2010.

9 “(b) ELIGIBLE PROJECTS.—A greenhouse gas reduc-  
10 tion or sequestration project shall be eligible for early re-  
11 duction credits if the project—

12 “(1) is carried out in the United States;

13 “(2) meets the standards contained in regula-  
14 tions promulgated by the Administrator under sub-  
15 section (a) that the Administrator determines to be  
16 applicable to the project, including consistency with  
17 the requirements of—

18 “(A) paragraphs (2) through (5) of section  
19 736(a), with respect to greenhouse gas reduc-  
20 tion projects; and

21 “(B) section 732(a), with respect to se-  
22 questration projects; and

23 “(3) was reported—

24 “(A) under section 1605(b) of the Energy  
25 Policy Act of 1992 (42 U.S.C. 13385(b)); or

1           “(B) to a State or regional greenhouse gas  
2           registry.

3           “(c) LIMITATION.—

4           “(1) IN GENERAL.—The aggregate quantity of  
5           early reduction credits available for greenhouse gas  
6           reduction or sequestration projects for the period of  
7           calendar years 2000 through 2010 shall not exceed  
8           10 percent of the tonnage limitation for calendar  
9           year 2011 for emissions of greenhouse gases from  
10          affected units under section 711.

11          “(2) NO OTHER EXCEEDANCE OF TONNAGE  
12          LIMITATION.—No provision of this subtitle (other  
13          than paragraph (1)) or any regulation promulgated  
14          under this subtitle authorizes the issuance or use of  
15          a quantity of credits greater than the annual ton-  
16          nage limitation for emissions of greenhouse gases  
17          from affected units for a calendar year.

18       **“SEC. 719. RECOGNITION AND USE OF INTERNATIONAL**  
19               **CREDITS.**

20          “(a) USE OF INTERNATIONAL CREDITS.—

21          “(1) IN GENERAL.—Except as provided in this  
22          section and section 720, the owner of each affected  
23          unit may satisfy the obligation of the affected unit  
24          under section 722 to surrender a quantity of credits  
25          associated with the greenhouse gas emissions of the

1 affected unit by submitting international credits rep-  
2 resenting up to 25 percent of the total annual sub-  
3 mission requirements of the affected unit.

4 “(2) NEW AFFECTED UNITS.—The owner of a  
5 new affected unit may satisfy up to 50 percent of  
6 the obligation of the new affected unit under section  
7 722 to surrender a quantity of credits associated  
8 with the greenhouse gas emissions of the new af-  
9 fected unit by submitting international credits.

10 “(b) FACILITY CERTIFICATION.—The owner of an af-  
11 fected unit who submits an international credit under this  
12 section shall certify that the international credit—

13 “(1) has not been retired from use in the reg-  
14 istry of the applicable foreign country; and

15 “(2) satisfies the requirements of subsection (c)  
16 or (d).

17 “(c) INTERNATIONAL CREDITS FROM COUNTRIES  
18 WITH MANDATORY GREENHOUSE GAS LIMITS.—The  
19 owner of an affected unit may submit an international  
20 credit under this subsection if—

21 “(1) the international credit is issued by a for-  
22 eign country pursuant to a governmental program  
23 that imposes mandatory absolute tonnage limits on  
24 greenhouse gas emissions from the country or 1 or

1 more industry sectors pursuant to protocols adopted  
2 through the UNFCCC process; and

3 “(2) the Administrator has promulgated regula-  
4 tions, taking into consideration applicable UNFCCC  
5 protocols, approving for use under this subsection  
6 international credits from such categories of coun-  
7 tries as the regulations establish, and the regulations  
8 permit the use of international credits from the for-  
9 eign country that issued the credit.

10 “(d) INTERNATIONAL CREDITS FROM COUNTRIES  
11 WITHOUT MANDATORY GREENHOUSE GAS LIMITS.—

12 “(1) IN GENERAL.—Subject to paragraph (2),  
13 the owner of an affected unit may submit an inter-  
14 national credit under this subsection if—

15 “(A) the international credit is issued by a  
16 foreign country that has not imposed manda-  
17 tory absolute tonnage limits on greenhouse gas  
18 emissions from the country or 1 or more indus-  
19 try sectors pursuant to protocols adopted  
20 through the UNFCCC process;

21 “(B) the international credit is issued pur-  
22 suant to protocols adopted through the  
23 UNFCCC process; and

24 “(C) the Administrator has promulgated  
25 regulations, taking into consideration applicable

1 UNFCCC protocols, approving for use under  
2 this subsection international credits from such  
3 categories of countries as the regulations estab-  
4 lish, and the regulations permit the use of  
5 international credits from the foreign country  
6 that issued the credit.

7 “(2) DECISION ON CONTINUED APPROVAL.—  
8 Not later than December 31, 2015, the Adminis-  
9 trator shall determine, pursuant to the regulations  
10 promulgated under paragraph (1)(C), whether to  
11 continue to approve for use under this subsection  
12 international credits from any country that—

13 “(A) has not imposed mandatory absolute  
14 tonnage limits on greenhouse gas emissions  
15 from the country or 1 or more industry sectors  
16 pursuant to protocols adopted through the  
17 UNFCCC process; and

18 “(B) generates more than 0.5 percent of  
19 global greenhouse gas emissions as of 2010 or  
20 as of the most recent year for which data are  
21 available.

22 **“SEC. 720. AVOIDING SIGNIFICANT ECONOMIC HARM.**

23 “(a) IN GENERAL.—Pursuant to the regulations pro-  
24 mulgated under this section, the Administrator may per-  
25 mit affected units—

1           “(1) to use allowances in a calendar year before  
2 the calendar year for which the allowances were allo-  
3 cated; and

4           “(2) to increase the use by the affected units of  
5 international credits up to 50 percent of the total  
6 annual submission requirements of the affected units  
7 under section 722.

8           “(b) REGULATIONS.—

9           “(1) IN GENERAL.—Not later than 3 years  
10 after the date of enactment of this title, the Admin-  
11 istrator, in coordination with the Secretary of the  
12 Treasury, shall promulgate regulations requiring the  
13 continuous monitoring of the operation of the carbon  
14 market and the effect of that market on the econ-  
15 omy of the United States.

16           “(2) REQUIREMENTS.—The regulations shall—

17           “(A) establish the criteria for determining  
18 whether allowance prices have reached and sus-  
19 tained a level that is causing or will cause sig-  
20 nificant harm to the economy of the United  
21 States; and

22           “(B) take into consideration—

23           “(i) the obligation of the United  
24 States under this subtitle to stabilize

1 greenhouse gas concentrations in the at-  
2 mosphere at the safe climate level; and

3 “(ii) the costs of the anticipated im-  
4 pacts of climate change in the United  
5 States.

6 “(3) PREVENTION OF ECONOMIC HARM.—If the  
7 Administrator determines that allowance prices have  
8 reached and sustained a level that is causing or will  
9 cause significant harm to the economy of the United  
10 States, the regulations shall establish—

11 “(A) a program under which an affected  
12 unit may use allowances in a calendar year be-  
13 fore the calendar year for which the allowances  
14 were allocated, including—

15 “(i) a requirement that allowances  
16 borrowed from the allocation of a future  
17 year reduce the allocation of allowances to  
18 the affected unit for the future year on a  
19 1-to-1 basis;

20 “(ii) a requirement for payment of in-  
21 terest on borrowed allowances requiring  
22 the submission of additional credits upon  
23 repayment of the allowances equal to the  
24 product obtained by multiplying—

1                   “(I) the number of years between  
2                   the advance use of allowances by an  
3                   affected unit under clause (i) and the  
4                   submission of additional credits under  
5                   this clause; and

6                   “(II) the sum obtained by add-  
7                   ing—

8                   “(aa) the Federal short-term  
9                   rate, as defined pursuant to sec-  
10                  tion 1274(d)(1)(C)(i) of the In-  
11                  ternal Revenue Code of 1986;  
12                  and

13                  “(bb) 2 percent; and

14                  “(iii) a limitation that in no event  
15                  may an affected unit—

16                  “(I) satisfy more than 10 percent  
17                  of the obligation of the affected unit  
18                  under section 722 to surrender allow-  
19                  ances by submitting allowances in a  
20                  calendar year before the calendar year  
21                  for which the allowances were allo-  
22                  cated; and

23                  “(II) use allowances in a cal-  
24                  endar year that is more than 5 years

1 before the calendar year for which the  
2 allowances were allocated; and

3 “(B) a program under which the owner of  
4 an affected unit may satisfy the obligation of  
5 the affected unit under section 722 to surrender  
6 allowances for the calendar year in which the  
7 determination is made by submitting inter-  
8 national credits representing up to 50 percent  
9 of the total annual submission requirements of  
10 the affected unit.

11 **“SEC. 721. USE AND TRANSFER OF CREDITS.**

12 “(a) USE IN OTHER GREENHOUSE GAS ALLOWANCE  
13 TRADING PROGRAMS.—

14 “(1) IN GENERAL.—A credit obtained under  
15 this subtitle may be used in any other greenhouse  
16 gas allowance trading program, including a program  
17 of 1 or more States or subdivisions of States, that  
18 is approved by the Administrator and an authorized  
19 official for the other program for use of the allow-  
20 ance.

21 “(2) RECIPROCITY.—A credit obtained from an-  
22 other greenhouse gas trading program, including a  
23 program of 1 or more States or subdivisions of  
24 States, that is approved by the Administrator and

1 an authorized official for the other program may be  
2 used in the trading program under this title.

3 “(b) ALLOWANCE USE BEFORE APPLICABLE CAL-  
4 ENDAR YEAR.—Except as provided in section 720, an al-  
5 lowance auctioned or allocated under this subtitle may not  
6 be used before the calendar year for which the allowance  
7 was auctioned or allocated.

8 “(c) TRANSFER.—

9 “(1) IN GENERAL.—Except as provided in para-  
10 graph (2), the transfer of a credit shall not take ef-  
11 fect until receipt and recording by the Administrator  
12 of a written certification of the transfer that is exe-  
13 cuted by an authorized official of the person making  
14 the transfer.

15 “(2) SPECIAL RULE FOR ALLOWANCES.—Not-  
16 withstanding paragraph (1), the transfer of an al-  
17 lowance auctioned or allocated under this subtitle  
18 may take effect before the calendar year for which  
19 the allowance was auctioned or allocated.

20 “(d) BANKING OF CREDITS.—Any affected unit may  
21 use a credit obtained under this subtitle in the calendar  
22 year for which the credit was auctioned or allocated, or  
23 in a subsequent calendar year, to demonstrate compliance  
24 with section 722.

1 **“SEC. 722. COMPLIANCE AND ENFORCEMENT.**

2 “(a) IN GENERAL.—For calendar year 2011 and  
3 each calendar year thereafter, the owner of each affected  
4 unit shall surrender to the Administrator a quantity of  
5 credits that is equal to the total tons of carbon dioxide  
6 or, with respect to other greenhouse gases, tons in carbon  
7 dioxide equivalent, associated with the combustion by the  
8 affected unit of greenhouse gas-emitting fuels during the  
9 calendar year.

10 “(b) REGULATIONS.—Not later than 2 years after  
11 the date of enactment of this title, the Administrator shall  
12 promulgate regulations establishing the procedures for the  
13 surrender of credits.

14 “(c) PENALTY.—The owner of an affected unit that  
15 emits greenhouse gases associated with the combustion by  
16 the affected unit of a greenhouse gas-emitting fuel in ex-  
17 cess of the number of credits that the owner of the af-  
18 fected unit holds for use of the affected unit for the cal-  
19 endar year shall—

20 “(1) submit to the Administrator 1.3 credits for  
21 each metric ton of excess greenhouse gas emissions  
22 of the affected unit; and

23 “(2) pay an excess emissions penalty equal to  
24 the product obtained by multiplying—

25 “(A) the number of tons of carbon dioxide,  
26 or the carbon dioxide equivalent of other green-

1 house gases, emitted in excess of the total  
2 quantity of credits held by the affected unit;  
3 and

4 “(B)(i) except as provided in clause (ii),  
5 \$100, as adjusted for changes beginning on  
6 January 1, 2007, in accordance with the Con-  
7 sumer Price Index for All-Urban Consumers  
8 published by the Department of Labor; or

9 “(ii) if the average market price for a met-  
10 ric ton of carbon dioxide equivalent during a  
11 calendar year exceeds \$60, \$200, as adjusted  
12 for changes beginning on January 1, 2007, in  
13 accordance with the Consumer Price Index for  
14 All-Urban Consumers published by the Depart-  
15 ment of Labor.

## 16 **“Subtitle B—Offset Credits**

### 17 **“SEC. 731. OUTREACH INITIATIVE ON REVENUE ENHANCE-** 18 **MENT FOR AGRICULTURAL PRODUCERS.**

19 “(a) PURPOSES.—The purposes of this subtitle are  
20 to achieve climate benefits, reduce overall costs to the  
21 United States economy, and enhance revenue for domestic  
22 agricultural producers, foresters, and other landowners  
23 by—

24 “(1) establishing procedures by which domestic  
25 agricultural producers, foresters, and other land-

1 owners can measure and report reductions in green-  
2 house gas emissions and increases in sequestration;  
3 and

4 “(2) publishing a handbook of guidance for do-  
5 mestic agricultural producers, foresters, and other  
6 landowners to market emission reductions to compa-  
7 nies.

8 “(b) ESTABLISHMENT.—The Secretary of Agri-  
9 culture, acting through the Chief of the Natural Resources  
10 Conservation Service, the Chief of the Forest Service, the  
11 Administrator of the Cooperative State Research, Edu-  
12 cation, and Extension Service, and land-grant colleges and  
13 universities, in consultation with the Administrator and  
14 the heads of other appropriate departments and agencies,  
15 shall establish an outreach initiative to provide informa-  
16 tion to agricultural producers, agricultural organizations,  
17 foresters, and other landowners about opportunities under  
18 this subtitle to earn new revenue.

19 “(c) COMPONENTS.—The initiative under this sec-  
20 tion—

21 “(1) shall be designed to ensure that, to the  
22 maximum extent practicable, agricultural organiza-  
23 tions and individual agricultural producers, for-  
24 esters, and other landowners receive detailed prac-  
25 tical information about—

1           “(A) opportunities to earn new revenue  
2           under this subtitle;

3           “(B) measurement protocols, monitoring,  
4           verifying, inventorying, registering, insuring,  
5           and marketing offsets under this title;

6           “(C) emerging domestic and international  
7           markets for energy crops, allowances, and off-  
8           sets; and

9           “(D) local, regional, and national data-  
10          bases and aggregation networks to facilitate  
11          achievement, measurement, registration, and  
12          sales of offsets;

13          “(2) shall provide—

14                 “(A) outreach materials, including the  
15                 handbook published under subsection (d)(1), to  
16                 interested parties;

17                 “(B) workshops; and

18                 “(C) technical assistance; and

19          “(3) may include the creation and development  
20          of regional marketing centers or coordination with  
21          existing centers (including centers within the Nat-  
22          ural Resources Conservation Service or the Coopera-  
23          tive State Research, Education, and Extension Serv-  
24          ice or at land-grant colleges and universities).

25          “(d) HANDBOOK.—

1           “(1) IN GENERAL.—Not later than 2 years  
2 after the date of enactment of this title, the Sec-  
3 retary of Agriculture, in consultation with the Ad-  
4 ministrator and after public input, shall publish a  
5 handbook for use by agricultural producers, agricul-  
6 tural cooperatives, foresters, other landowners, offset  
7 buyers, and other stakeholders that provides easy-to-  
8 use guidance on achieving, reporting, registering,  
9 and marketing offsets.

10           “(2) DISTRIBUTION.—The Secretary of Agri-  
11 culture shall ensure, to the maximum extent prac-  
12 ticable, that the handbook is distributed widely  
13 through land-grant colleges and universities and  
14 other appropriate institutions.

15 **“SEC. 732. OFFSET MEASUREMENT FOR AGRICULTURAL,**  
16 **FORESTRY, WETLANDS, AND OTHER LAND**  
17 **USE-RELATED SEQUESTRATION PROJECTS.**

18           “(a) IN GENERAL.—Not later than 2 years after the  
19 date of enactment of this title, the Secretary of Agri-  
20 culture, in consultation with the Administrator, shall pro-  
21 mulgate regulations establishing the requirements regard-  
22 ing the issuance, certification, and use of offset credits for  
23 greenhouse gas reductions from agricultural, forestry, wet-  
24 lands, and other land use-related sequestration projects,  
25 including requirements—

1           “(1) for a region-specific discount factor for  
2 business-as-usual practices for specific types of se-  
3 questration projects, in accordance with subsection  
4 (c);

5           “(2) that ensure that the reductions are real,  
6 additional, verifiable, and enforceable;

7           “(3) that address leakage;

8           “(4) that the reductions are not otherwise re-  
9 quired by any law (including a regulation) or other  
10 legally binding requirement;

11           “(5) for the quantification, monitoring, report-  
12 ing, and verification of the reductions;

13           “(6) that ensure that offset credits are limited  
14 in duration to the period of sequestration of green-  
15 house gases, and rectify any loss of sequestration  
16 other than a loss caused by an error in calculation  
17 identified under this subtitle, by requiring the sub-  
18 mission of additional credits of an equivalent quan-  
19 tity to the lost sequestration; and

20           “(7) that quantify sequestration flow.

21           “(b) ELIGIBILITY TO CREATE OFFSET CREDITS.—

22           “(1) IN GENERAL.—A sequestration project  
23 that commences operation on or after January 1,  
24 2011, is eligible to create offset credits under this

1 subtitle if the sequestration project satisfies the  
2 other applicable requirements of this subtitle.

3 “(2) EXCEPTION FOR AGRICULTURAL  
4 PROJECTS.—Notwithstanding paragraph (1), seques-  
5 tration flow from an agricultural project that occurs  
6 on or after January 1, 2011, may provide the basis  
7 for offset credits under this subtitle regardless of the  
8 date on which the agricultural sequestration project  
9 to which the sequestration flow is attributable com-  
10 menced, if the project satisfies the other applicable  
11 requirements of this subtitle.

12 “(c) DISCOUNTING FOR BUSINESS-AS-USUAL PRAC-  
13 TICES.—

14 “(1) IN GENERAL.—In order to streamline the  
15 availability of offset credits for agricultural and  
16 other land use-related sequestration projects, the  
17 regulations promulgated under subsection (a) shall  
18 provide for the calculation and reporting of region-  
19 specific discount factors by the Secretary of Agri-  
20 culture—

21 “(A) to be used by developers of agricul-  
22 tural projects and other land use-related se-  
23 questration projects; and

24 “(B) to account for business-as-usual prac-  
25 tices for specific types of sequestration projects.

1           “(2) CALCULATION.—Unless otherwise provided  
2           in this subtitle, the region-specific discount factor  
3           for business-as-usual practices for sequestration  
4           projects shall be calculated by dividing—

5                   “(A) the difference between—

6                           “(i) the quantity of greenhouse gases  
7                           sequestered in the region as a result of the  
8                           offset practice under this subtitle; and

9                           “(ii) the quantity of greenhouse gases  
10                          sequestered in the region as a result of the  
11                          projected business-as-usual implementation  
12                          of the applicable offset practice; by

13                          “(B) the quantity of greenhouse gases se-  
14                          questered in the region as a result of the offset  
15                          practice under this subtitle.

16           “(3) REQUIREMENTS.—

17                   “(A) IN GENERAL.—The regulations pro-  
18                   mulgated under this section shall, to the max-  
19                   imum extent practicable—

20                           “(i) define geographic regions with  
21                           reference to land that has similar agricul-  
22                           tural characteristics; and

23                           “(ii) subject to subparagraph (B), de-  
24                           fine baseline historical reference periods  
25                           for each category of sequestration practice,

1           using the most recent period of sufficient  
2           length for which there are reasonably com-  
3           prehensive data available.

4           “(B) EXCEPTION.—If the Secretary of Ag-  
5           riculture determines that entities have increased  
6           implementation of the relevant offset practice  
7           during the most recent period in anticipation of  
8           legislation granting credit for the offsets, the  
9           regulations described in subparagraph (A)(ii)  
10          may define baseline historical reference periods  
11          for each category of sequestration practice  
12          using an earlier period.

13          “(d) QUANTIFYING SEQUESTRATION FLOW.—The  
14          regulations that quantify sequestration flow shall in-  
15          clude—

16                 “(1) a default rate of sequestration flow, re-  
17                 gionally specific to the maximum extent practicable,  
18                 for each offset practice or combination of offset  
19                 practices, that is estimated conservatively to allow  
20                 for site-specific variations and data uncertainties;

21                 “(2) a downward adjustment factor for any off-  
22                 set practice or combination of practices for which, in  
23                 the judgment of the Secretary of Agriculture, there  
24                 are substantial uncertainties in the sequestration  
25                 flows estimated in paragraph (1), but still reason-

1 ably sufficient data to calculate a default rate of  
2 flow; and

3 “(3) offset practice- or project-specific measure-  
4 ment, monitoring, and verification requirements  
5 for—

6 “(A) offset practices or projects for which  
7 there are insufficiently reliable data to calculate  
8 a default rate of sequestration flow; or

9 “(B) projects for which the project pro-  
10 ponent chooses to use project-specific require-  
11 ments.

12 “(e) USE OF NATIVE PLANT SPECIES IN OFFSET  
13 PROJECTS.—

14 “(1) REGULATIONS.—Not later than 18 months  
15 after the date of enactment of this title, the Admin-  
16 istrator, in consultation with the Secretary of Agri-  
17 culture, shall promulgate regulations for selection,  
18 use, and storage of native and nonnative plant mate-  
19 rials in the offset projects described in paragraph  
20 (2)—

21 “(A) to ensure native plant materials are  
22 given primary consideration, in accordance with  
23 applicable Department of Agriculture guidance  
24 for use of native plant materials;

1                   “(B) to prohibit the use of Federal- or  
2                   State-designated noxious weeds; and

3                   “(C) to prohibit the use of a species listed  
4                   by a regional or State invasive plant council  
5                   within the applicable region or State.

6                   “(2) APPLICABILITY.—The regulations under  
7                   paragraph (1) shall apply to qualifying offset  
8                   projects described in sections 733(b)(2), 734(a)(2),  
9                   and 734(b)(1).

10 **“SEC. 733. CATEGORIES OF AGRICULTURAL OFFSET PRACTICES.**  
11                   **TICES.**

12                   “(a) REGULATIONS.—Not later than 2 years after  
13 the date of enactment of this title, the Secretary of Agri-  
14 culture, in consultation with the Administrator, shall pro-  
15 mulgate regulations establishing the categories of offset  
16 practices that—

17                   “(1) reduce greenhouse gases as a result of ag-  
18                   ricultural sequestration projects; and

19                   “(2) are eligible to receive offset credits under  
20                   this subtitle.

21                   “(b) OFFSET PRACTICES.—Offset practices described  
22 in subsection (a) shall include—

23                   “(1) agricultural sequestration practices, includ-  
24                   ing—

25                   “(A) no-till agriculture;

1           “(B) conservation tillage (ridge till or min-  
2           imum till);

3           “(C) winter cover cropping;

4           “(D) switching from a cycle of—

5                 “(i) planting wheat or other crops and  
6                 then fallowing land; to

7                 “(ii) continuous cropping;

8           “(E) any other offset practices identified  
9           by the Administrator, in consultation with the  
10           Secretary of Agriculture; and

11           “(F) combinations of any of the offset  
12           practices described in subparagraphs (A)  
13           through (E); and

14           “(2) conversion of cropland to rangeland or  
15           grassland.

16   **“SEC. 734. OFFSET CREDITS FROM FOREST MANAGEMENT,**  
17                   **GRAZING MANAGEMENT, AND WETLANDS**  
18                   **MANAGEMENT.**

19           “(a) FOREST MANAGEMENT OFFSETS.—

20                 “(1) IN GENERAL.—Not later than 3 years  
21                 after the date of enactment of this title, the Sec-  
22                 retary of Agriculture, in consultation with the Ad-  
23                 ministrator, shall promulgate regulations providing  
24                 for the issuance of offset credits for forest manage-  
25                 ment projects that provide durable, long-term reduc-

1 tions in greenhouse gases as a result of sequestra-  
2 tion.

3 “(2) FOREST MANAGEMENT OFFSETS.—Forest  
4 management offset projects under this section may  
5 include activities that reduce greenhouse gases as a  
6 result of forest management sequestration projects  
7 (including afforestation), other than avoided forest  
8 land conversion as described in section 735.

9 “(3) PROHIBITIONS.—

10 “(A) IN GENERAL.—In accordance with  
11 section 732(e), no afforestation project may in-  
12 volve the planting of invasive species or noxious  
13 weeds.

14 “(B) EXISTING NATIVE GRASSLAND AND  
15 ECOSYSTEMS.—No afforestation project may in-  
16 volve planting trees on existing native grassland  
17 or other existing native non-forested ecosystems  
18 that the Secretary of Agriculture determines  
19 should be protected in their existing native con-  
20 dition.

21 “(b) WETLANDS MANAGEMENT OFFSETS.—

22 “(1) IN GENERAL.—Not later than 3 years  
23 after the date of enactment of this title, the Admin-  
24 istrator, in consultation with the Chief of Engineers,  
25 shall promulgate regulations providing for the

1 issuance of offset credits for wetlands management  
2 projects that provide durable, long-term reductions  
3 in greenhouse gases as a result of sequestration.

4 “(2) PROHIBITIONS.—

5 “(A) IN GENERAL.—In accordance with  
6 section 732(e), no wetlands restoration project  
7 may involve the planting of invasive species or  
8 noxious weeds.

9 “(B) NO NEW WETLANDS.—No wetlands  
10 offset project may be carried out in an area in  
11 which underlying local hydrologic processes will  
12 not support a wetland.

13 “(c) GRAZING MANAGEMENT OFFSETS.—

14 “(1) IN GENERAL.—Not later than 3 years  
15 after the date of enactment of this title, the Sec-  
16 retary of Agriculture, in consultation with the Ad-  
17 ministrator, shall promulgate regulations providing  
18 for the issuance of offset credits for grazing manage-  
19 ment projects that provide durable, long-term reduc-  
20 tions in greenhouse gases as a result of sequestra-  
21 tion.

22 “(2) GRAZING MANAGEMENT OFFSETS.—Graz-  
23 ing management offset projects under this section  
24 may include activities that reduce greenhouse gases  
25 as a result of grazing management sequestration

1 projects other than conversion of cropland to grass-  
2 land or rangeland under section 733.

3 “(d) USE OF OFFSETS.—

4 “(1) IN GENERAL.—For each calendar year, an  
5 affected unit may satisfy not more than 5 percent of  
6 the total allowance submission requirements of the  
7 affected unit under section 722 by using forest man-  
8 agement offset credits under this section.

9 “(2) EXCEPTIONS.—The limitation in para-  
10 graph (1) does not apply to grazing management,  
11 afforestation, or wetland offset projects.

12 **“SEC. 735. OFFSET CREDITS FROM THE AVOIDED CONVER-**  
13 **SION OF FORESTED LAND OR WETLAND.**

14 “(a) IN GENERAL.—Offset credits for avoided con-  
15 version of forested land or wetland shall be awarded to  
16 any State that reduces the conversion below expected lev-  
17 els for all or a significant portion of the State.

18 “(b) REGULATIONS.—Not later than 3 years after  
19 the date of enactment of this title, the Administrator, in  
20 conjunction with the Secretary of Agriculture, shall pro-  
21 mulgate regulations that address the eligibility of offset  
22 practices that avoid the conversion of forested land or wet-  
23 land to nonforested land uses or drained or converted wet-  
24 land to receive offset credits under this subtitle, including  
25 requirements that address—

1           “(1) the methodology for measuring the avoided  
2 conversion of forest land or wetland, including—

3                   “(A) measurement of presently on-going  
4 rates of forest land conversion or wetland con-  
5 version;

6                   “(B) calculation of business-as-usual rates  
7 of forest land conversion or wetland conversion  
8 by reference to the historical rate of conversion  
9 of forested land or wetland; and

10                   “(C) comparison of the rates in subpara-  
11 graph (A) and subparagraph (B); and

12           “(2) leakage, including—

13                   “(A) adjustments for leakage using stand-  
14 ardized regional leakage factors for  
15 afforestation and wetland restoration; and

16                   “(B) the magnitude of the forested region  
17 or wetlands region in a State in which the rate  
18 of conversion of forest land or wetland must be  
19 reduced to ensure that leakage of forest land or  
20 wetlands conversion is minimized.

21           “(c) PRECONDITION.—For an offset to be creditable  
22 under this section, the State must certify that the State  
23 has reduced its rate of conversion of forest land or wetland  
24 over a period of 5 or more consecutive years for the entire

1 State or a significant forested or wetland region in the  
2 State.

3 “(d) AWARD BY STATES OF OFFSET CREDITS.—  
4 States that participate in the program under this section  
5 shall establish transparent and equitable rules by which  
6 offset credits will be awarded to owners of forested land  
7 or wetland.

8 “(e) AUTHORIZATION OF APPROPRIATIONS.—There  
9 is authorized to be appropriated to the Administrator, in  
10 consultation with the Secretary of Agriculture, for use in  
11 awarding grants to States to carry out this section  
12 \$5,000,000 for each fiscal year.

13 **“SEC. 736. OFFSET CREDITS FROM GREENHOUSE GAS EMIS-**  
14 **SIONS REDUCTION PROJECTS.**

15 “(a) IN GENERAL.—Not later than 2 years after the  
16 date of enactment of this title, the Administrator shall  
17 promulgate regulations establishing the requirements re-  
18 garding the issuance, certification, and use of offset cred-  
19 its for greenhouse gas emissions reduction offset projects,  
20 including requirements—

21 “(1) for performance standards for specific  
22 types of offset projects, which represent significant  
23 improvements compared to recent practices in the  
24 geographic area, to be reviewed, and updated if the

1 Administrator determines updating is appropriate,  
2 every 5 years;

3 “(2) that ensure that the reductions are real,  
4 additional, verifiable, enforceable, and permanent;

5 “(3) that address leakage;

6 “(4) that the reductions are not otherwise re-  
7 quired by any law (including a regulation) or other  
8 legally binding requirement;

9 “(5) for the quantification, monitoring, report-  
10 ing, and verification of the reductions; and

11 “(6) that specify the duration of offset credits  
12 for greenhouse gas emissions reduction projects  
13 under this section.

14 “(b) ELIGIBILITY TO CREATE OFFSET CREDITS.—  
15 Greenhouse gas emissions reduction offset projects that  
16 commence operation on or after January 1, 2007, are eli-  
17 gible to create offset credits under this subtitle if the  
18 projects satisfy the other applicable requirements of this  
19 subtitle.

20 “(c) APPROVED CATEGORIES OF GREENHOUSE GAS  
21 EMISSIONS REDUCTION OFFSET PROJECTS.—Greenhouse  
22 gas emission reductions from the following types of oper-  
23 ations shall be eligible to create offsets for use under this  
24 section:

25 “(1) Landfill operations.

1           “(2) Agricultural manure management projects.

2           “(3) Wastewater treatment facilities.

3           “(4) Coal mining operations.

4           “(5) Natural gas transmission and distribution  
5 systems.

6           “(6) Electrical transmission and distribution  
7 systems.

8           “(7) Elimination or reduction in use of chemi-  
9 cals that substitute for ozone-depleting substances.

10          “(8) Cement manufacturing.

11          “(9) Lime manufacturing.

12          “(10) Iron and steel production.

13          “(11) Aluminum production.

14          “(12) Adipic acid production.

15          “(13) Nitric acid production.

16          “(14) Semiconductor manufacturing.

17          “(15) Magnesium production and processing.

18          “(16) Fossil fuel combustion at commercial and  
19 residential buildings.

20          “(d) CREATION OF ADDITIONAL CATEGORIES OF  
21 GREENHOUSE GAS EMISSIONS REDUCTION OFFSET  
22 PROJECTS.—The Administrator may, by regulation, cre-  
23 ate additional categories of greenhouse gas emissions re-  
24 duction offset projects for types of projects for which the

1 Administrator determines that compliance with the regula-  
2 tions promulgated under subsection (a) is feasible.

3 “(e) PROHIBITION ON USE.—Notwithstanding the  
4 eligibility of greenhouse gas emission reduction projects to  
5 create offset credits in accordance with subsection (c) or  
6 (d), greenhouse gas emissions reduction offset projects  
7 shall not be eligible to create offset credits for use under  
8 this section beginning on the date on which the reductions  
9 are required by law (including regulations) or other legally  
10 binding requirement.

11 **“SEC. 737. BORROWING AT PROGRAM START-UP BASED ON**  
12 **CONTRACTS TO PURCHASE OFFSET CREDITS.**

13 “(a) IN GENERAL.—During calendar years 2011,  
14 2012, and 2013, an affected unit may satisfy not more  
15 than 5 percent of the allowance submission requirements  
16 of section 722 by submitting to the Administrator contrac-  
17 tual commitments to purchase offset credits that will im-  
18 plement an equivalent quantity of emission reductions or  
19 sequestration not later than December 31, 2015.

20 “(b) APPROVAL OF QUALIFYING OFFSET  
21 PROJECTS.—Offset projects that may be appropriately  
22 carried out under this section shall be approved by the  
23 Administrator in accordance with this subtitle.

24 “(c) REPAYMENT BY 2015.—

1           “(1) IN GENERAL.—If an affected unit uses  
2 subsection (a) to comply with section 722, not later  
3 than the deadline in that section for allowance sub-  
4 missions for calendar year 2015, the affected unit  
5 shall submit additional credits of a quantity equiva-  
6 lent to the sum obtained by adding—

7           “(A) the value of credits submitted to com-  
8 ply with credit submission requirements de-  
9 scribed in subsection (a); and

10           “(B) interest calculated in accordance with  
11 paragraph (2).

12           “(2) INTEREST.—Interest referred to in para-  
13 graph (1)(B) shall be equal to the product obtained  
14 by multiplying—

15           “(A) the number of years between—

16           “(i) the use by an affected unit of the  
17 method of compliance described in sub-  
18 section (a); and

19           “(ii) the submission by the affected  
20 unit of additional credits under this sub-  
21 section; and

22           “(B) the sum obtained by adding—

23           “(i) the Federal short-term rate, as  
24 defined pursuant to section

1                   1274(d)(1)(C)(i) of the Internal Revenue  
2                   Code of 1986; and  
3                   “(ii) 2 percent.

4   **“SEC. 738. REVIEW AND CORRECTION OF ACCOUNTING FOR**  
5                   **OFFSET CREDITS.**

6           “(a) DUTY TO MONITOR.—The Secretary of Agri-  
7 culture and the Administrator shall monitor regularly  
8 whether offset credits under the respective jurisdiction of  
9 each agency head under this subtitle are being awarded  
10 only for real and additional sequestration of greenhouse  
11 gases and reductions in greenhouse gas emissions, includ-  
12 ing—

13                   “(1) the accuracy of default calculations of se-  
14 questration flow and greenhouse gas emission reduc-  
15 tions achieved by the use of offset practices;

16                   “(2) the calculation of region-specific discount  
17 factors; and

18                   “(3) the accuracy of leakage calculations.

19           “(b) PERIODIC REVIEW.—Not later than December  
20 31, 2013, and every 5 years thereafter, the Secretary of  
21 Agriculture and the Administrator shall review the  
22 issuance of offset credits under the respective jurisdiction  
23 of each agency head under this subtitle to determine—

24                   “(1) whether offset credits are being awarded  
25           only for real and additional sequestration of green-

1 house gases or reductions in greenhouse gas emis-  
2 sions, as described in subsection (a);

3 “(2) the amount of excessive award of any off-  
4 set credits;

5 “(3) the volume of offset credits that have been  
6 or are expected to be approved;

7 “(4) the impact of the offset credits on market  
8 prices; and

9 “(5) the impact of the offset credits on the tra-  
10 jectory of emissions from affected units.

11 “(c) DUTY TO CORRECT.—If the Secretary of Agri-  
12 culture or the Administrator determines that offset credits  
13 under the respective jurisdictions of the agency head have  
14 been awarded under this subtitle in excess of real and ad-  
15 ditional sequestration of greenhouse gases or reductions  
16 in emissions of greenhouse gases, the Secretary of Agri-  
17 culture or the Administrator shall—

18 “(1) promptly correct on a prospective basis the  
19 sources of the errors, including correcting leakage  
20 factors, region-specific discount factors, default rates  
21 of sequestration flow, and other relevant information  
22 for the offset practices involved; and

23 “(2) quantify and publicly disclose the quantity  
24 of offset credits that have been awarded in excess of

1 real and additional sequestration or emissions reduc-  
2 tions.

3 **“Subtitle C—National Registry for**  
4 **Credits**

5 **“SEC. 741. ESTABLISHMENT AND OPERATION OF NATIONAL**  
6 **REGISTRY.**

7 “(a) IN GENERAL.—Except as provided in subsection  
8 (b), not later than July 1 of the year immediately prior  
9 to the first calendar year in which an annual tonnage limi-  
10 tation on the emission of greenhouse gases applies under  
11 section 711(b), the Administrator shall promulgate regula-  
12 tions to establish, operate, and maintain a national reg-  
13 istry through which the Administrator shall—

14 “(1) record allocations of allowances, the  
15 issuance of offset credits or early reduction credits,  
16 and the recognition of international credits;

17 “(2) track transfers of credits;

18 “(3) retire all credits used for compliance;

19 “(4) subject to subsection (b), maintain trans-  
20 parent availability of registry information to the  
21 public, including the quarterly reports submitted  
22 under section 742(a);

23 “(5) prepare an annual assessment of the emis-  
24 sion data in the quarterly reports submitted under  
25 section 742(a); and

1           “(6) take such action as is necessary to main-  
2           tain the integrity of the registry, including adjust-  
3           ments to correct for—

4                   “(A) errors or omissions in the reporting  
5                   of data; and

6                   “(B) the prevention of counterfeiting, dou-  
7                   ble-counting, multiple registrations, multiple  
8                   sales, and multiple retirements of credits.

9           “(b) EXCEPTION TO PUBLIC AVAILABILITY OF  
10 DATA.—

11                   “(1) IN GENERAL.—Subsection (a)(4) shall not  
12                   apply in any case in which the Administrator, in  
13                   consultation with the Secretary of Defense, deter-  
14                   mines that publishing or otherwise making available  
15                   information in accordance with that paragraph poses  
16                   a risk to national security.

17                   “(2) STATEMENT OF REASONS.—In a case de-  
18                   scribed in paragraph (1), the Administrator shall  
19                   publish a description of the determination and the  
20                   reasons for the determination.

21 **“SEC. 742. MONITORING AND REPORTING.**

22                   “(a) REQUIREMENTS.—Each owner or operator of an  
23                   affected unit, or to the extent applicable, the greenhouse  
24                   gas authorized account representative for the affected  
25                   unit, shall—



1           “(1) IN GENERAL.—The Administrator shall”;  
2                   (iii) in paragraph (1) (as designated  
3           by clause (ii)), in the matter preceding  
4           subparagraph (A) (as redesignated by  
5           clause (i)), by striking “or a major sta-  
6           tionary source” and inserting “a major  
7           stationary source, or an affected unit  
8           under title VII”; and  
9                   (iv) in subparagraph (B) (as redesi-  
10          gnated by clause (i)), by striking “or title  
11          VI” and inserting “title VI, or title VII”;  
12                   (v) in the matter following subpara-  
13          graph (C) of paragraph (1) (as designated  
14          by clauses (i) and (ii))—  
15                   (I) by striking “Any action” and  
16                   inserting the following:  
17          “(2) JUDICIAL ENFORCEMENT.—  
18                   “(A) IN GENERAL.—Any action”;  
19                   (II) by striking “Notice” and in-  
20                   serting the following:  
21                   “(B) NOTICE.—Notice”; and  
22                   (III) by striking “In the case”  
23                   and inserting the following:  
24                   “(C) ACTIONS BROUGHT BY ADMINIS-  
25                   TRATOR.—In the case”;

1 (C) in subsection (c)—

2 (i) in the first sentence of paragraph  
3 (1), by striking “or title VI (relating to  
4 stratospheric ozone control),” and insert-  
5 ing “title VI (relating to stratospheric  
6 ozone control), or title VII (relating to  
7 global warming pollution emission reduc-  
8 tions),”; and

9 (ii) in the first sentence of paragraph  
10 (3), by striking “or VI” and inserting “VI,  
11 or VII”;

12 (D) in subsection (d)(1)(B), by striking  
13 “or VI” and inserting “VI, or VII”; and

14 (E) in subsection (f), in the first sentence,  
15 by striking “or VI” and inserting “VI, or VII”.

16 (2) INSPECTIONS, MONITORING, AND ENTRY.—  
17 Section 114(a) of the Clean Air Act (42 U.S.C.  
18 7414(a)) is amended by striking “section 112,” and  
19 all that follows through “(ii)” and inserting the fol-  
20 lowing: “section 112, any regulation of solid waste  
21 combustion under section 129, or any regulation of  
22 greenhouse gas emissions under title VII, (ii)”.

23 (3) ADMINISTRATIVE PROCEEDINGS AND JUDI-  
24 CIAL REVIEW.—Section 307 of the Clean Air Act  
25 (42 U.S.C. 7607) is amended—

1 (A) in subsection (a), by striking “, or sec-  
2 tion 306” and inserting “section 306, or title  
3 VII”;

4 (B) in subsection (b)(1)—

5 (i) by striking “section 111,,” and in-  
6 serting “section 111,”;

7 (ii) by striking “section 120,” each  
8 place it appears and inserting “section  
9 120, any action under title VII,”; and

10 (iii) by striking “112,,” and inserting  
11 “112,”; and

12 (C) in subsection (d)(1)—

13 (i) by striking subparagraph (S);

14 (ii) by redesignating the second sub-  
15 paragraph (N) and subparagraphs (O)  
16 through (R) as subparagraphs (O), (P),  
17 (Q), (R), and (S), respectively;

18 (iii) by redesignating subparagraphs  
19 (T) and (U) as subparagraphs (U) and  
20 (V), respectively; and

21 (iv) by inserting after subparagraph  
22 (S) (as redesignated by clause (ii)) the fol-  
23 lowing:

24 “(T) the promulgation or revision of any  
25 regulation under title VII.”.

1 (4) UNAVAILABILITY OF EMISSIONS DATA.—  
2 Section 412(d) of the Clean Air Act (42 U.S.C.  
3 7651k(d)) is amended in the first sentence—

4 (A) by inserting “or title VII” after  
5 “under subsection (a)”; and

6 (B) by inserting “or title VII” after “this  
7 title”.

## 8 **TITLE II—CLIMATE CHANGE** 9 **RESEARCH INITIATIVES**

### 10 **SEC. 201. RESEARCH GRANTS THROUGH NATIONAL** 11 **SCIENCE FOUNDATION.**

12 Section 105 of the Global Change Research Act of  
13 1990 (15 U.S.C. 2935) is amended—

14 (1) by redesignating subsection (c) as sub-  
15 section (d); and

16 (2) by inserting after subsection (b) the fol-  
17 lowing:

18 “(c) RESEARCH GRANTS.—

19 “(1) LIST OF PRIORITY RESEARCH AREAS.—  
20 The Committee shall develop a list of priority areas  
21 for research and development on climate change that  
22 are not being adequately addressed by Federal agen-  
23 cies.

24 “(2) TRANSMISSION OF LIST.—The Director of  
25 the Office of Science and Technology Policy shall

1 submit the list developed under paragraph (1) to the  
2 National Science Foundation.

3 “(3) AUTHORIZATION OF APPROPRIATIONS.—

4 There are authorized to be appropriated to the Na-  
5 tional Science Foundation such sums as are nec-  
6 essary to carry out this subsection, to be made avail-  
7 able through the Science and Technology Policy In-  
8 stitute, for research in the priority areas.”.

9 **SEC. 202. ABRUPT CLIMATE CHANGE RESEARCH.**

10 (a) IN GENERAL.—The Secretary of Commerce, act-  
11 ing through the National Oceanic and Atmospheric Ad-  
12 ministration, shall carry out a program of scientific re-  
13 search on abrupt climate change designed to provide time-  
14 ly warnings of the potential likelihood, magnitude, and  
15 consequences of, and measures to avoid, abrupt human-  
16 induced climate change.

17 (b) AUTHORIZATION OF APPROPRIATIONS.—There  
18 are authorized to be appropriated to the Secretary of Com-  
19 merce such sums as are necessary to carry out this sec-  
20 tion.

21 **SEC. 203. DEVELOPMENT OF NEW MEASUREMENT TECH-**  
22 **NOLOGIES.**

23 (a) IN GENERAL.—The Administrator of the Envi-  
24 ronmental Protection Agency shall carry out a program  
25 to develop, with technical assistance from appropriate

1 Federal agencies, innovative standards and measurement  
2 technologies to calculate greenhouse gas emissions or re-  
3 ductions for which no accurate, reliable, low-cost measure-  
4 ment technology exists.

5 (b) ADMINISTRATION.—The program shall include  
6 technologies (including remote sensing technologies) to  
7 measure carbon changes and other greenhouse gas emis-  
8 sions and reductions from agriculture, forestry, wetlands,  
9 and other land use practices.

10 (c) AUTHORIZATION OF APPROPRIATIONS.—There  
11 are authorized to be appropriated to the Administrator  
12 such sums as are necessary to carry out this section.

13 **SEC. 204. TECHNOLOGY DEVELOPMENT AND DIFFUSION.**

14 (a) IN GENERAL.—The Director of the National In-  
15 stitute of Standards and Technology, acting through the  
16 Manufacturing Extension Partnership program, may de-  
17 velop a program to promote the use, by small manufactur-  
18 ers, of technologies and techniques that result in reduced  
19 emissions of greenhouse gases or increased sequestration  
20 of greenhouse gases.

21 (b) AUTHORIZATION OF APPROPRIATIONS.—There  
22 are authorized to be appropriated to the Director of the  
23 National Institute of Standards and Technology such  
24 sums as are necessary to carry out this section.

1 **SEC. 205. PUBLIC LAND.**

2 (a) IN GENERAL.—Not later than 3 years after the  
3 date of enactment of this Act, the Secretary of Agriculture  
4 and the Secretary of the Interior shall prepare a joint as-  
5 sessment or separate assessments setting forth rec-  
6 ommendations for increased sequestration of greenhouse  
7 gases and reduction of greenhouse gas emissions on public  
8 land that is—

9 (1) managed forestland;

10 (2) managed rangeland or grassland; or

11 (3) protected land, including national parks and  
12 designated wilderness areas.

13 (b) AUTHORIZATION OF APPROPRIATIONS.—There  
14 are authorized to be appropriated to the Secretary of Agri-  
15 culture and the Secretary of the Interior such sums as  
16 are necessary to carry out this section.

17 **SEC. 206. SEA LEVEL RISE FROM POLAR ICE SHEET MELT-**  
18 **ING.**

19 (a) IN GENERAL.—The Secretary of Commerce, act-  
20 ing through the National Oceanic and Atmospheric Ad-  
21 ministration and in cooperation with the Administrator of  
22 the National Aeronautics and Space Administration, shall  
23 carry out a program of scientific research to support mod-  
24 eling and observations into the potential role of the Green-  
25 land, west Antarctic, and east Antarctic ice sheets in any  
26 future increase in sea levels.

1           (b) AUTHORIZATION OF APPROPRIATIONS.—There  
2 are authorized to be appropriated to the Secretary of Com-  
3 merce and the Administrator of the National Aeronautics  
4 and Space Administration such sums as are necessary to  
5 carry out this section.