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Introduced: Jan 17, 2007

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[Sen. Dianne Feinstein \[D-CA\]](#)

[Legislation](#) > [S. 317](#) (110th U.S. Congress: 2007-2008)



## S. 317: Electric Utility Cap and Trade Act of 2007

S 317 IS

110th CONGRESS

1st Session

S. 317

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

IN THE SENATE OF THE UNITED STATES

**January 17, 2007**

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

A BILL

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

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

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

(a) Short Title- This Act may be cited as the `Electric Utility Cap and Trade Act of 2007'.

(b) Table of Contents- The table of contents of 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.

### **TITLE I--GLOBAL CLIMATE CHANGE**

#### **SEC. 101. GLOBAL CLIMATE CHANGE.**

(a) In General- The Clean Air Act ([42 U.S.C. 7401](#) et seq.) is amended by adding at the end the following:

### **^TITLE VII--GLOBAL CLIMATE CHANGE**

#### **^SEC. 701. DEFINITIONS.**

^In this title:

#### **^(1) AFFECTED UNIT-**

^(A) IN GENERAL- The term `affected unit' means an electric generating facility that--

^(i) has a nameplate capacity greater than 25 megawatts;

^(ii) combusts greenhouse gas-emitting fuels; and

^(iii) generates electricity for sale.

`(B) INCLUSIONS- The term `affected unit' includes--

`(i) a cogeneration facility; and

`(ii) a facility owned or operated by any instrumentality of--

`(I) the Federal Government; or

`(II) any State, local, or tribal government.

`(2) AFFORESTATION- The term `afforestation' means the conversion to a forested condition of land that has been in a nonforested condition for at least 15 years.

`(3) ALLOCATION- The term `allocation', with respect to an allowance, means the issuance of an allowance directly to covered units, at no cost, under this title.

`(4) ALLOWANCE- The term `allowance' means an authorization under this title to emit 1 metric ton of carbon dioxide (or a carbon dioxide equivalent), as allocated to a covered unit pursuant to section 716.

`(5) CARBON DIOXIDE EQUIVALENT- The term `carbon dioxide equivalent' means, with respect to a greenhouse gas, the quantity of the greenhouse gas that makes the same contribution to global warming as 1 metric ton of carbon dioxide, as determined by the Administrator.

`(6) COGENERATION FACILITY- The term `cogeneration facility' means a facility that--

`(A) cogenerates steam and electricity; and

`(B) supplies, on a net annual basis, to the electric power grid--

`(i) more than 1/3 of the potential electric output capacity of the facility; and

`(ii) more than 25 megawatts of electrical output from the facility.

`(7) COVERED UNIT- The term `covered unit' means--

`(A) an affected unit;

`(B) a nuclear generating unit (including a facility owned or operated by any instrumentality of the Federal Government or of any State, local, or tribal government), but only to the extent of incremental nuclear generation of the unit; and

`(C) a renewable energy unit (including a facility owned or operated by any instrumentality of the Federal Government or of any State, local, or tribal government).

`(8) CREDIT-

`(A) IN GENERAL- The term `credit' means an authorization under this title to emit greenhouse gases equivalent to 1 metric ton of carbon dioxide.

`(B) INCLUSIONS- The term `credit' includes--

`(i) an allowance;

`(ii) an offset credit;

`(iii) an early reduction credit; or

`(iv) an international credit.

`(9) EARLY REDUCTION CREDIT- The term `early reduction credit' means a credit issued under section 718 for a reduction in the quantity of emissions or an increase in sequestration equivalent to 1 metric ton of carbon dioxide.

`(10) FUND- The term `Fund' means the Climate Action Trust Fund established by section 717(a)(1).

`(11) GREENHOUSE GAS- The term `greenhouse gas' means--

`(A) carbon dioxide;

- `(B) methane;
- `(C) nitrous oxide;
- `(D) hydrofluorocarbons;
- `(E) perfluorocarbons; and
- `(F) sulfur hexafluoride.

`(12) GREENHOUSE GAS AUTHORIZED ACCOUNT REPRESENTATIVE- The term `greenhouse gas authorized account representative' means, for a covered unit, an individual who is authorized by the owner and operator of the covered unit to represent and legally bind the owner and operator in matters pertaining to this title.

`(13) GREENHOUSE GAS-EMITTING FUEL-

`(A) IN GENERAL- The term `greenhouse gas-emitting fuel' means any fuel that produces a greenhouse gas as a combustion product.

`(B) INCLUSIONS- The term `greenhouse gas-emitting fuel' includes--

- `(i) fossil fuels;
- `(ii) municipal waste;
- `(iii) industrial waste;
- `(iv) agricultural waste; and
- `(v) biomass that is not grown using sustainable techniques.

`(C) EXCLUSION- The term `greenhouse gas-emitting fuel' does not include biomass that is grown using sustainable techniques.

`(14) INCREMENTAL NUCLEAR GENERATION- The term `incremental nuclear generation'

means, as determined by the Administrator and measured in megawatt hours, the difference between--

`(A) the quantity of electricity generated by a nuclear generating unit in a calendar year; and

`(B) the quantity of electricity generated by the nuclear generating unit in calendar year 1990.

`(15) INDUSTRY SECTOR- The term `industry sector' means any sector of the economy of a country (including, where applicable, the forestry sector) that is responsible for significant quantities of greenhouse gas emissions.

`(16) INTERNATIONAL CREDIT- The term `international credit' means a credit recognized for a reduction in the quantity of emissions or an increase in sequestration equivalent to 1 metric ton of carbon dioxide that--

`(A) arises from activities outside the United States; and

`(B) is authorized for use under section 719.

`(17) INVASIVE SPECIES- The term `invasive species' means a species (including pathogens, seeds, spores, or any other biological material relating to a species) the introduction of which causes or is likely to cause economic or environmental harm or harm to human health.

`(18) LAND-GRANT COLLEGES AND UNIVERSITIES- The term `land-grant colleges and universities' has the meaning given the term in section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 ([7 U.S.C. 3103](#)).

`(19) LEAKAGE- The term `leakage' means an increase in greenhouse gas emissions or a decrease in sequestration of greenhouse gases that is--

`(A) outside the area of a project; and

`(B) attributable to the project.



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

“(21) NEW AFFECTED UNIT- The term ‘new affected unit’ means an affected unit that has operated for not more than 3 years.

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

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

“(A) characterized by being--

“(i) aggressive and difficult to manage;

“(ii) poisonous, toxic, parasitic, or a carrier or host of insects or disease representing a serious threat to native species or crops; or

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

“(B) otherwise designated as a noxious weed by the Secretary of Agriculture or an appropriate State official.

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

“(25) OFFSET CREDIT- The term ‘offset credit’ means a credit issued for an offset project pursuant to subtitle B certifying a reduction in the quantity of emissions or an increase in sequestration equivalent to 1 metric ton of carbon dioxide.

“(26) OFFSET PRACTICE- The term ‘offset practice’ means a practice that--

“(A) reduces greenhouse gas emissions or increases sequestration other than by reducing the combustion of greenhouse gas-emitting fuel at an affected unit; and

`(B) may be eligible to create an offset credit under this title.

`(27) OFFSET PROJECT- The term `offset project' means a project that reduces greenhouse gas emissions or increases sequestration of carbon dioxide or a carbon dioxide equivalent by a method other than reduction of combustion of greenhouse gas-emitting fuel at an affected unit.

`(28) PANEL- The term `Panel' means the Climate Science Advisory Panel established by section 712(b)(1).

`(29) PLANT MATERIAL- The term `plant material' means--

`(A) a seed;

`(B) a part of a plant; or

`(C) a whole plant.

`(30) RENEWABLE ENERGY- The term `renewable energy' means electricity generated from--

`(A) wind;

`(B) organic waste (excluding incinerated municipal solid waste);

`(C) biomass (including anaerobic digestion from farm systems and landfill gas recovery); or

`(D) a hydroelectric, geothermal, solar thermal, photovoltaic, tidal, wave, or other nonfossil fuel, nonnuclear source.

`(31) RENEWABLE ENERGY UNIT- The term `renewable energy unit' means an electric generating unit that exclusively uses renewable energy to generate electricity for sale.

`(32) RESTORATION-

`(A) IN GENERAL- The term `restoration' means assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.

`(B) INCLUSION- The term `restoration' includes the reestablishment in an ecosystem of preexisting biotic integrity with respect to species composition and community structure.

`(33) SEQUESTRATION- The term `sequestration' means the separation, isolation, or removal of greenhouse gases from the atmosphere.

`(34) SEQUESTRATION FLOW- The term `sequestration flow' means the uptake of greenhouse gases each year from sequestration practices, as calculated under section 732.

`(35) SUSTAINABLE TECHNIQUE- The term `sustainable technique' means an agricultural, forestry, or animal husbandry technique that does not result in--

`(A) a long-term net depletion of natural resources; or

`(B) a net emission of greenhouse gas during the lifecycle of biomass production, harvest, processing, and consumption.

`(36) UNFCCC- The term `UNFCCC' means the United Nations Framework Convention on Climate Change, done at New York on May 9, 1992.

### **`Subtitle A--Stopping and Reversing Greenhouse Gas Emissions**

#### **`SEC. 711. REGULATIONS; GREENHOUSE GAS TONNAGE LIMITATION.**

`(a) Regulations- Not later than 18 months after the date of enactment of this title, the Administrator shall promulgate regulations to establish an allowance trading program to address emissions of greenhouse gases from affected units in the United States.

`(b) Greenhouse Gas Tonnage Limitation- Beginning in calendar year 2011, the annual tonnage limitation for the aggregate quantity of emissions of greenhouse gases from affected units in the United States shall be equal to--

`(1) for each of calendar years 2011 through 2014, the aggregate quantity of emissions emitted from affected units in calendar year 2006, as determined by the Administrator based on certified and quality-assured continuous emissions monitoring data for greenhouse gases, or data that the Administrator determines to be of similar reliability for affected units without continuous monitoring systems, reported to the Administrator by affected units in accordance with this subtitle;

`(2) for calendar year 2015, the aggregate quantity of emissions emitted from affected units in calendar year 2001, as determined by the Administrator based on certified and quality-assured continuous emissions monitoring data for greenhouse gases, or data that the Administrator determines to be of similar reliability for affected units without continuous monitoring systems, reported to the Administrator by affected units in accordance with this subtitle;

`(3) for each of calendar years 2016 through 2019, the aggregate quantity of emissions emitted from affected units during the calendar year that is 1 percent less than the aggregate quantity of emissions from affected units allowed pursuant to this section during the preceding calendar year; and

`(4) for calendar year 2020 and each calendar year thereafter, the aggregate quantity of emissions emitted during the calendar year that is 1.5 percent less than the aggregate quantity of emissions from affected units allowed pursuant to this section during the preceding calendar year, except as modified by the Administrator pursuant to section 713.

## **`SEC. 712. SCIENTIFIC REVIEW OF THE SAFE CLIMATE LEVEL.**

`(a) Definition and Objective of Maintaining the Safe Climate Level-

`(1) FINDING- Congress finds that ratification by the Senate in 1992 of the UNFCCC, commitments which were affirmed by the President in 2002, established for the United States an objective of `stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'.

`(2) DEFINITION OF SAFE CLIMATE LEVEL- In this section, the term `safe climate level'

means the climate level referred to in paragraph (1).

“(b) Climate Science Advisory Panel-

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

“(2) DUTIES- The Panel shall--

“(A) inform Congress and the Administrator of the state of climate science;

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

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

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

“(3) COMPOSITION-

“(A) IN GENERAL- The Panel shall be composed of 8 climate scientists and 3 former Federal officials, as described in subparagraphs (B) through (D).

“(B) CLIMATE SCIENTISTS- Not later than 270 days after the date of enactment of this title, the President of the National Academy of Sciences shall appoint to serve on the Panel 8 climate scientists from among individuals who--

“(i) have earned doctorate degrees;

“(ii) have performed research in physical, biological, or social sciences,

mathematics, economics, or related fields, with a particular focus on or link to 1 or more aspects of climate science;

^(iii) have records of peer-reviewed publications that include--

^(I) publications in main-stream, high-quality scientific journals (such as journals associated with respected scientific societies or those with a high impact factor, as determined by the Institute for Scientific Information);

^(II) recent publications relating to earth systems, and particularly relating to the climate system; and

^(III) a high publication rate, typically at least 2 or 3 papers per year; and

^(iv) have participated in high-level committees, such as those formed by the National Academy of Sciences or by leading scientific societies.

^(C) RESTRICTION- A majority of climate scientists appointed to the Panel under subparagraph (B) shall be participating, as of the date of appointment to the Panel, in active research in the physical or biological sciences, with a particular focus on or link to 1 or more aspects of climate science.

^(D) FEDERAL OFFICIALS-

^(i) IN GENERAL- Subject to clause (ii), the Administrator shall appoint as members of the Panel, the longest-serving former Administrators of the Environmental Protection Agency for each of the 3 most recent former Presidents.

^(ii) TIMING- The 3 most recent former Presidents described in clause (i) shall be identified as of the deadline for appointments to the Panel under subparagraph (B) or (E)(ii), whichever is applicable.

^(iii) SUBSTITUTES- If a former Administrator described in clause (i) declines

appointment, or is unable to serve, as a member of the Panel, the Administrator shall appoint in place of the former Administrator--

^(I) the longest-serving former Administrator for the applicable President who agrees to serve; or

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

^(E) TERMS OF SERVICE AND VACANCIES-

^(i) TERMS- The initial term of a member of the Panel shall be--

^(I) to the maximum extent practicable, the period covered by, and extending through the date of issuance of, each report under paragraph (2)(B); but

^(II) not longer than 4 years.

^(ii) SUBSEQUENT PANELS AND REPORTS- On the issuance of each report under paragraph (2)(B)--

^(I) the Panel that submitted the report shall terminate; and

^(II)(aa) pursuant to subparagraphs (B) and (C), the President of the National Academy of Sciences shall appoint climate scientists (including at least 3 climate scientists who served as members of the preceding Panel) to serve as members of a new Panel by not later than 15 months after the deadline for issuance of the report under paragraph (2)(B); and

^(bb) pursuant to subparagraph (D), the Administrator shall appoint 3 Federal officials as members of the new Panel by the deadline described in item (aa).

^(iii) VACANCIES- Vacancies in the membership of the Panel-

^(I) shall not affect the power of the remaining members to execute the functions of the Panel; and

^(II) shall be filled in the same manner in which the original appointment was made.

^(F) CHAIRPERSON AND VICE CHAIRPERSON- The Panel shall elect a Chairperson and Vice Chairperson as soon as practicable.

^(G) COMPENSATION OF MEMBERS- A member of the Panel shall be compensated at a rate equal to the daily equivalent of the annual rate of basic pay prescribed for level IV of the Executive Schedule under section 5315 of title 5, United States Code, for each day (including travel time) during which the member is engaged in the performance of the duties of the Panel.

^(H) TRAVEL EXPENSES- A member of the Panel shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for an employee of an agency under subchapter I of chapter 57 of title 5, United States Code, while away from the home or regular place of business of the member in the performance of the duties of the Panel.

^(4) STAFF-

^(A) IN GENERAL- The Chairperson of the Panel may, without regard to the civil service laws (including regulations), appoint and terminate an executive director and such other additional personnel as are necessary to enable the Panel to perform the duties of the Panel.

^(B) CONFIRMATION OF EXECUTIVE DIRECTOR- The employment of an executive director shall be subject to confirmation by the Panel.

^(C) COMPENSATION-

^(i) IN GENERAL- Except as provided in clause (ii), the Chairperson of the



Panel may fix the compensation of the executive director and other personnel without regard to the provisions of chapter 51 and subchapter III of chapter 53 of title 5, United States Code, relating to classification of positions and General Schedule pay rates.

^(ii) EXCEPTION- The rate of pay for the executive director and other personnel shall not exceed the rate payable for level V of the Executive Schedule under section 5316 of title 5, United States Code.

^(D) DETAIL OF FEDERAL GOVERNMENT EMPLOYEES-

^(i) IN GENERAL- An employee of the Federal Government may be detailed to the staff of the Panel without reimbursement.

^(ii) TREATMENT OF DETAILEES- The detail of the employee shall be without interruption or loss of civil service status or privilege.

^(E) PROCUREMENT OF TEMPORARY AND INTERMITTENT SERVICES- The Chairperson or executive director of the Panel may procure temporary and intermittent services in accordance with section 3109(b) of title 5, United States Code, at rates for individuals that do not exceed the daily equivalent of the annual rate of basic pay prescribed for level V of the Executive Schedule under section 5316 of that title.

^(5) HEARINGS- The Panel may hold such hearings, meet and act at such times and places, take such testimony, and receive such evidence as the Panel considers advisable to carry out this section.

^(6) INFORMATION FROM FEDERAL AGENCIES-

^(A) IN GENERAL- The Panel may secure directly from a Federal agency such information as the Panel considers necessary to carry out this section.

^(B) PROVISION OF INFORMATION- On request of the Chairperson of the Panel, the head of the agency shall provide the information to the Panel.

^(7) POSTAL SERVICES- The Panel may use the United States mail in the same manner and under the same conditions as other agencies of the Federal Government.

**^SEC. 713. REQUIRED REVIEW OF EMISSION REDUCTIONS NEEDED TO MAINTAIN THE SAFE CLIMATE LEVEL.**

^(a) Review and Determination Regarding Reduction Rate- Not later than December 31, 2015, the Administrator, after providing public notice and opportunity to comment, shall promulgate a final rule pursuant to which the Administrator shall review the reduction rate for greenhouse gas emissions required under section 711(b)(4) and determine--

^(1) whether to--

^(A) accept the recommendations of the Panel under section 712(b)(2)(B) regarding the safe climate level and the timeframe for achieving the safe climate level; or

^(B) establish a different safe climate level or timeframe, together with a detailed explanation of the justification of the Administrator for rejection of the recommendations of the Panel; and

^(2) whether, in order to achieve the safe climate level within the timeframe described in paragraph (1), the reduction rate under section 711(b)(4) is most accurately characterized as requiring--

^(A) the appropriate level of emission reductions;

^(B) lesser emission reductions than are necessary; or

^(C) greater emission reductions than are necessary.

^(b) Modification of Reduction Rate-

^(1) IN GENERAL- If the Administrator makes a determination described in subparagraph (B) or (C) of subsection (a)(2), the final rule promulgated pursuant to subsection (a) shall establish a required level of emissions reductions for each calendar

year, beginning with calendar year 2020, based on the considerations described in paragraph (2).

“(2) CONSIDERATIONS-

“(A) PRIMARY CONSIDERATION- In establishing the required level of emission reductions pursuant to paragraph (1), the Administrator shall take into consideration primarily the emission reductions necessary to stabilize atmospheric greenhouse gas concentrations at the safe climate level within the timeframe specified under section 712(b)(2)(B).

“(B) SECONDARY CONSIDERATIONS- In establishing the required level of emission reductions pursuant to paragraph (1), in addition to the primary consideration described in paragraph (1), the Administrator shall take into consideration--

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

“(ii) the progress that foreign countries have made toward reducing their greenhouse gas emissions;

“(iii) the economic impacts within the United States of implementing this subtitle, including impacts on the major emitting sectors; and

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

“(c) Enforcement Provision-

“(1) IN GENERAL- If the Administrator fails to meet a deadline for promulgation of any regulation under subsection (a), the Administrator shall withhold from allocation to covered units that would otherwise be entitled to an allocation of allowances under this subtitle a total of 10 percent of the allowances for each covered unit for each year after the deadline until the Administrator promulgates the applicable regulation.

“(2) RETURN OF ALLOWANCES- On promulgation of a delayed regulation described in paragraph (1), the Administrator shall distribute any allowances withheld under that paragraph--

`(A) among the covered units from which the allowances were withheld; and

`(B) in accordance with the applicable formula under section 716.

`(d) Subsequent Rulemakings-

`(1) IN GENERAL- Not later than December 31, 2019, and every 4 years thereafter, the Administrator shall promulgate a new final rule described in subsection (a) in accordance with this section.

`(2) EFFECTIVE DATE- If a new final rule promulgated pursuant to paragraph (1) changes a level of emission reductions required under the preceding final rule, the effective date of the new final rule shall be January 1 of the calendar year that is 5 years after the deadline for promulgation of the new final rule under paragraph (1).

**`SEC. 714. DISTRIBUTION OF ALLOWANCES BETWEEN AUCTIONS AND ALLOCATIONS; NATURE OF ALLOWANCES.**

`(a) Distribution of Allowances Between Auctions and Allocations-

`(1) IN GENERAL- For each calendar year, the total quantity of allowances to be auctioned and allocated under this subtitle shall be equal to the annual tonnage limitation for emissions of greenhouse gases from affected units specified in section 711 for the calendar year.

`(2) DISTRIBUTION- The proportion of allowances to be auctioned pursuant to section 715 and allocated pursuant to section 716 for each calendar year beginning in calendar year 2011 shall be as follows:

`Percentages of Allowances To Be Auctioned and Allocated

	Percentage to be auctioned	Percentage to be allocated
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

.....

`(b) Nature of Allowances- An allowance-

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

`(2) may be terminated or limited by the Administrator.

`(c) No Judicial Review- An auction or allocation of an allowance by the Administrator shall not be subject to judicial review.

**`SEC. 715. AUCTION OF ALLOWANCES.**

`(a) In General- Not later than 2 years after the date of enactment of this title, the Administrator shall promulgate regulations establishing a procedure for the auction of the quantity of allowances specified in section 714(a) for each calendar year.

`(b) Deposit of Proceeds- The Administrator shall deposit all proceeds from auctions conducted under this section in the Fund for use in accordance with section 717.

#### **`SEC. 716. ALLOCATION OF ALLOWANCES.**

`(a) Allocation to New Covered Units-

`(1) ESTABLISHMENT- For each calendar year, the Administrator, in consultation with the Secretary of Energy, shall, based on projections of electricity output for new covered units, promulgate regulations establishing--

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

`(B) the methodology for allocating those allowances among new covered units.

`(2) LIMITATION- The number of allowances allocated under paragraph (1) during a calendar year shall be not more than 3 percent of the total number of allowances allocated among covered units for the calendar year.

`(3) UNUSED ALLOWANCES- For each calendar year, the Administrator shall reallocate to each covered unit any unused allowances from the new unit reserve established under paragraph (1) in the proportion that--

`(A) the number of allowances allocated to each covered unit for the calendar year; bears to

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

`(b) Allocation to Covered Units That Are Not New Covered Units-

`(1) TIMING OF ALLOCATIONS- Subject to subsection (c), the Administrator shall

allocate allowances among covered units that are not new covered units--

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

`(B) not later than December 31 of calendar year 2008 and of each calendar year thereafter, for each fourth calendar year that begins after that December 31.

`(2) ALLOCATIONS-

`(A) IN GENERAL- Subject to subsection (c), the Administrator shall allocate to each covered unit that is not a new covered unit a quantity of allowances that is equal to the product obtained by multiplying--

`(i) the quantity of allowances available for allocation under this subsection; and

`(ii) the quotient obtained by dividing--

`(I) the annual average quantity of electricity generated by the unit (including only incremental nuclear generation for nuclear generating units) during the most recent 3-calendar year period for which data is available, updated each calendar year and measured in megawatt hours; by

`(II) the difference between--

`(aa) the total of the average quantities calculated under subclause (I) for all covered units; and

`(bb) the quantity of electricity generated by all affected units and new affected units that, pursuant to subsection (c), do not receive any allowances.

`(B) QUANTITY TO BE ALLOCATED- For each calendar year, the quantity of allowances allocated under subparagraph (A) to covered units that are not new covered units shall be equal to the difference between--

`(i) the annual tonnage limitation for emissions of greenhouse gases from

affected units specified in section 711 for the calendar year, as modified, if applicable, under section 713; and

“(ii) the quantity of allowances reserved under subsection (a) for the calendar year.

“(c) Coal-Fired Affected Units and New Affected Units-

“(1) IN GENERAL- Notwithstanding any other provision of this subtitle, no allowance shall be allocated under this subtitle to a coal-fired affected unit or a coal-fired new affected unit unless the affected unit or new affected unit--

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

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

“(2) DEFINITION OF QUALIFYING ADVANCED CLEAN COAL TECHNOLOGY-

“(A) IN GENERAL- Not later than 18 months after the date of enactment of this title, the Administrator, by regulation, shall define the term ‘qualifying advanced clean coal technology’ with respect to electric power generation.

“(B) REQUIREMENT- In promulgating a definition pursuant to subparagraph (A), the Administrator shall ensure that the term ‘qualifying advanced clean coal technology’ reflects advances in available technology, taking into consideration--

“(i) net thermal efficiency;

“(ii) measures to capture and sequester carbon dioxide; and

“(iii) output-based emission rates for--

“(I) carbon dioxide;

“(II) sulfur dioxide;



`(III) oxides of nitrogen;

`(IV) filterable and condensable particulate matter; and

`(V) mercury.

`(C) REVIEW AND REVISION-

`(i) IN GENERAL- Not later than July 1, 2009, and each July 1 of every second year thereafter, the Administrator shall review and, if appropriate, revise the definition under subparagraph (A) based on technological advances during the preceding 2 calendar years.

`(ii) NOTICE AND COMMENT REQUIRED- Subject to clause (iii), after the initial definition is established under subparagraph (A), no subsequent review or revision under this subparagraph shall be subject to the notice and comment provisions of section 307 of this Act or of section 553 of title 5, United States Code.

`(iii) EFFECT- Nothing in clause (ii) precludes the application of the notice and comment provisions of section 307 of this Act or of section 553 of title 5, United States Code, as the Administrator determines to be practicable.

**`SEC. 717. CLIMATE ACTION TRUST FUND.**

`(a) Establishment and Administration-

`(1) IN GENERAL- There is established in the general fund of the Treasury a fund, to be known as the `Climate Action Trust Fund', consisting of--

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

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

`(2) TRANSFERS TO FUND- The Secretary of the Treasury shall deposit in the Fund

amounts equivalent to the proceeds received by the Administrator as a result of the conduct of auctions of allowances under section 715.

^(3) EXPENDITURES FROM FUND-

^(A) IN GENERAL- Subject to subparagraphs (B) and (C), the Administrator shall use amounts in the Fund to carry out the programs described in this section.

^(B) ADMINISTRATIVE EXPENSES- Of amounts in the Fund, there shall be made available to pay the administrative expenses necessary to carry out this title, as adjusted for changes beginning on January 1, 2007, in accordance with the Consumer Price Index for All-Urban Consumers published by the Department of Labor--

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

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

^(C) PANEL- Of amounts in the Fund, there shall be made available to pay the expenses of the Panel under section 712 \$7,000,000 for each fiscal year, as adjusted for changes beginning on January 1, 2007, in accordance with the Consumer Price Index for All-Urban Consumers published by the Department of Labor.

^(4) INVESTMENT OF AMOUNTS-

^(A) IN GENERAL- The Secretary of Treasury shall invest such portion of the Fund as is not, in the judgment of the Administrator, required to meet current withdrawals.

^(B) INTEREST-BEARING OBLIGATIONS- Investments may be made only in interest-bearing obligations of the United States.

^(C) ACQUISITION OF OBLIGATIONS- For the purpose of investments under paragraph (1), obligations may be acquired--

`(i) on original issue at the issue price; or

`(ii) by purchase of outstanding obligations at the market price.

`(D) SALE OF OBLIGATIONS- Any obligation acquired by the Fund may be sold by the Administrator at the market price.

`(E) RETURN OF PROCEEDS TO FUND- The interest on, and the proceeds from the sale or redemption of, any obligations held in the Fund shall be credited to, and form a part of, the Fund.

`(5) REGULATIONS- Not later than 2 years after the date of enactment of this title, the Administrator, in consultation with the Secretary of Energy, shall promulgate such regulations as are necessary to administer the Fund in accordance with this section.

`(b) Uses of Fund-

`(1) NO FURTHER APPROPRIATION- The Administrator shall distribute amounts in the Fund for use in accordance with this section, without further appropriation.

`(2) REGULATIONS-

`(A) IN GENERAL- Not later than 3 years after the date of enactment of this title, the Administrator, in consultation with the Secretary of Energy, shall promulgate regulations establishing an innovative low- and zero-emitting carbon technologies program, a clean coal technologies program, and an energy efficiency technology program that include--

`(i) the funding mechanisms that will be available to support the development and deployment of the technologies addressed by each program, including low-interest loans, loan guarantees, grants, and financial awards; and

`(ii) the criteria for the methods by which proposals will be funded to develop and deploy the technologies.

`(B) REVISION OF CRITERIA- Not later than January 1, 2014, and every 3 years

thereafter, the Administrator shall review and, if appropriate, revise, based on technological advances, the criteria referred to in subparagraph (A)(ii).

“(C) ADAPTATION ASSISTANCE FOR WORKERS AND COMMUNITIES- Not later than 3 years after the date of enactment of this title, the Administrator, in consultation with the Secretary of Energy, shall promulgate regulations governing the distribution of funds pursuant to subsection (g).

“(c) Innovative Low- and Zero-Emitting Carbon Electricity Generation Technologies Program-

“(1) IN GENERAL- For each calendar year, of amounts remaining in the Fund after making the expenditures described in subparagraphs (B) and (C) of subsection (a)(3), the Administrator shall use not more than 35 percent to support the development and deployment of low- and zero-emitting carbon electricity generation technologies.

“(2) REGULATIONS- The regulations establishing the innovative low- and zero-emitting carbon electricity generation technologies program referred to in subsection (b)(2)(A) shall establish the areas of technology development that will qualify for funding under that program, including technologies for the generation of electricity from renewable energy sources.

“(d) Clean Coal Technologies Program-

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

“(2) REGULATIONS- The regulations establishing the clean coal technologies program referred to in subsection (b)(2)(A) shall establish the criteria for use in defining qualifying clean coal technologies for electric power generation, while ensuring that those technologies represent an advance in available technology, taking into consideration net thermal efficiency and measures to capture and sequester carbon dioxide.

“(e) Energy Efficiency Technology Program-

“(1) IN GENERAL- For each calendar year, of amounts remaining in the Fund after making the expenditures described in subparagraphs (B) and (C) of subsection (a)(3), the Administrator shall use not more than 15 percent to support the development and deployment of technologies for increasing the efficiency of energy end use in buildings and industry.

“(2) REGULATIONS- The regulations establishing the energy efficiency program referred to in subsection (b)(2)(A) shall establish the areas of technology development that will qualify for funding under the energy efficiency program.

“(f) Federal Funding of Research Into and Development of Energy and Efficiency Technologies- For each calendar year, the Administrator shall use not more than 10 percent of the amounts in the Fund to support research into and development of energy and efficiency technologies.

“(g) Adaptation Assistance for Workers and Communities Negatively Affected by Climate Change and Greenhouse Gas Regulation- For each calendar year, of amounts remaining in the Fund after making the expenditures described in subparagraphs (B) and (C) of subsection (a) (3), the Administrator shall use at least 10 percent to provide adaptation assistance for workers and communities--

“(1) to address local or regional impacts of climate change and the impacts, if any, from greenhouse gas regulation, including by providing assistance to displaced workers and disproportionately affected communities; and

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

“(h) Fish and Wildlife Habitat-

“(1) IN GENERAL- For each calendar year, of amounts remaining in the Fund after making the expenditures described in subparagraphs (B) and (C) of subsection (a)(3), the Administrator shall use at least 10 percent to mitigate the impacts of climate change on fish and wildlife habitat in accordance with this subsection.

“(2) WILDLIFE RESTORATION FUND-

^(A) IN GENERAL- For each calendar year, the Administrator shall transfer not less than 70 percent of the amounts made available under paragraph (1) to the Federal aid to wildlife restoration fund established under section 3(a)(1) of the Pittman-Robertson Wildlife Restoration Act (16 U.S.C. 669b(a)(1))--

^(i) to carry out climate change impact mitigation actions pursuant to comprehensive wildlife conservation strategies; and

^(ii) to provide relevant information, training, monitoring, and other assistance to develop climate change impact mitigation and adaptation plans and integrate the plans into State comprehensive wildlife conservation strategies.

^(B) AVAILABILITY- Amounts transferred to the Federal aid to wildlife restoration fund under this paragraph shall--

^(i) be available, without further appropriation, for obligation and expenditure; and

^(ii) remain available until expended.

### ^(3) PROTECTION OF NATURAL RESOURCES-

^(A) IN GENERAL- For each calendar year, the Administrator, in consultation with the Secretary of Agriculture, the Secretary of Commerce, the Chief of Engineers, and State and national wildlife conservation organizations, shall transfer not more than 30 percent of the funds made available under paragraph (1) to the Secretary of the Interior for use in carrying out Federal and State programs and projects--

^(i) to protect natural communities that are most vulnerable to climate change;

^(ii) to restore and protect natural resources that directly guard against damages from climate change events; and

^(iii) to restore and protect ecosystem services that are most vulnerable to

climate change.

^(B) ADMINISTRATION- Amounts transferred to the Secretary of the Interior under this paragraph shall--

^(i) be available, without further appropriation, for obligation and expenditure;

^(ii) remain available until expended;

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

^(II) if the amounts are not obligated in accordance with subclause (I), be transferred to the Federal aid to wildlife restoration fund for use in accordance with paragraph (2); and

^(iv) supplement, and not supplant, the amount of Federal, State, and local funds otherwise expended to carry out programs and projects described in subparagraph (A).

^(C) PROGRAMS AND PROJECTS- Programs and projects for which funds may be used under this paragraph include--

^(i) Federal programs and projects--

^(I) to identify Federal land and water at greatest risk of being damaged or depleted by climate change;

^(II) to monitor Federal land and water to allow for early detection of impacts;

^(III) to develop adaptation strategies to minimize the damage; and

^(IV) to restore and protect Federal land and water at the greatest risk of being damaged or depleted by climate change;

`(ii) Federal programs and projects to identify climate change risks and develop adaptation strategies for natural grassland, wetlands, migratory corridors, and other habitats vulnerable to climate change on private land enrolled in--

`(I) the wetlands reserve program established under subchapter C of chapter 1 of subtitle D of title XII of the Food Security Act of 1985 ([16 U.S.C. 3837](#) et seq.);

`(II) the grassland reserve program established under subchapter C of chapter 2 of subtitle D of title XII of that Act ([16 U.S.C. 3838](#)n et seq.); and

`(III) the wildlife habitat incentive program established under section 1240N of that Act ([16 U.S.C. 3839](#)bb-1);

`(iii) programs and projects under the North American Wetlands Conservation Act ([16 U.S.C. 4401](#) et seq.), the North American Bird Conservation Initiative, and the Neotropical Migratory Bird Conservation Act ([16 U.S.C. 6101](#) et seq.) to protect habitat for migratory birds that are vulnerable to climate change impacts;

`(iv) programs and projects--

`(I) to identify coastal and marine resources (such as coastal wetlands, coral reefs, submerged aquatic vegetation, shellfish beds, and other coastal or marine ecosystems) at the greatest risk of being damaged by climate change;

`(II) to monitor those resources to allow for early detection of impacts;

`(III) to develop adaptation strategies;

`(IV) to protect and restore those resources; and

`(V) to integrate climate change adaptation requirements into State



plans developed under the coastal zone management program established under the Coastal Zone Management Act of 1972 ([16 U.S.C. 1451](#) et seq.), the national estuary program established under section 320 of the Federal Water Pollution Control Act ([33 U.S.C. 1330](#)), the Coastal and Estuarine Land Conservation Program established under the fourth proviso of the matter under the heading 'PROCUREMENT, ACQUISITION, AND CONSTRUCTION (INCLUDING TRANSFERS OF FUNDS)' of title II of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2002 ([16 U.S.C. 1456d](#)), or other comparable State programs;

`(v) programs and projects to conserve habitat for endangered species and species of conservation concern that are vulnerable to the impact of climate change;

`(vi) programs and projects under the Forest Legacy Program established under section 7 of the Cooperative Forestry Assistance Act ([16 U.S.C. 2103c](#)), to support State efforts to protect environmentally sensitive forest land through conservation easements to provide refuges for wildlife;

`(vii) other Federal or State programs and projects identified by the heads of agencies described in subparagraph (A) as high priorities--

    `(I) to protect natural communities that are most vulnerable to climate change;

    `(II) to restore and protect natural resources that directly guard against damages from climate change events; and

    `(III) to restore and protect ecosystem services that are most vulnerable to climate change;

`(viii) to address climate change in Federal land use planning and plan implementation and to integrate climate change adaptation strategies into--

    `(I) comprehensive conservation plans prepared under section 4(e) of

the National Wildlife Refuge System Administration Act of 1966 ([16 U.S.C. 668dd\(e\)](#));

`(II) general management plans for units of the National Park System;

`(III) resource management plans of the Bureau of Land Management; and

`(IV) land and resource management plans under the Forest and Rangeland Renewable Resources Planning Act of 1974 ([16 U.S.C. 1600 et seq.](#)) and the National Forest Management Act of 1976 ([16 U.S.C. 1600 et seq.](#)); and

`(ix) projects to promote sharing of information on climate change wildlife impacts and mitigation strategies across agencies, including funding efforts to strengthen and restore habitat that improves the ability of fish and wildlife to adapt successfully to climate change through the Wildlife Conservation and Restoration Account established by section 3(a)(2) of the Pittman-Robertson Wildlife Restoration Act ([16 U.S.C. 669b\(a\)\(2\)](#)).

#### **`SEC. 718. EARLY REDUCTION CREDITS.**

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

`(b) Eligible Projects- A greenhouse gas reduction or sequestration project shall be eligible for early reduction credits if the project--

`(1) is carried out in the United States;

`(2) meets the standards contained in regulations promulgated by the Administrator under subsection (a) that the Administrator determines to be applicable to the project, including consistency with the requirements of--

`(A) paragraphs (2) through (5) of section 736(a), with respect to greenhouse gas reduction projects; and

`(B) section 732(a), with respect to sequestration projects; and

`(3) was reported--

`(A) under section 1605(b) of the Energy Policy Act of 1992 ([42 U.S.C. 13385\(b\)](#));  
or

`(B) to a State or regional greenhouse gas registry.

`(c) Limitation-

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

`(2) NO OTHER EXCEEDANCE OF TONNAGE LIMITATION- No provision of this subtitle (other than paragraph (1)) or any regulation promulgated under this subtitle authorizes the issuance or use of a quantity of credits greater than the annual tonnage limitation for emissions of greenhouse gases from affected units for a calendar year.

#### **`SEC. 719. RECOGNITION AND USE OF INTERNATIONAL CREDITS.**

`(a) Use of International Credits-

`(1) IN GENERAL- Except as provided in this section and section 720, the owner of each affected unit may satisfy the obligation of the affected unit under section 722 to surrender a quantity of credits associated with the greenhouse gas emissions of the affected unit by submitting international credits representing up to 25 percent of the total annual submission requirements of the affected unit.

`(2) NEW AFFECTED UNITS- The owner of a new affected unit may satisfy up to 50 percent of the obligation of the new affected unit under section 722 to surrender a

quantity of credits associated with the greenhouse gas emissions of the new affected unit by submitting international credits.

`(b) Facility Certification- The owner of an affected unit who submits an international credit under this section shall certify that the international credit--

`(1) has not been retired from use in the registry of the applicable foreign country; and

`(2) satisfies the requirements of subsection (c) or (d).

`(c) International Credits From Countries With Mandatory Greenhouse Gas Limits- The owner of an affected unit may submit an international credit under this subsection if--

`(1) the international credit is issued by a foreign country pursuant to a governmental program that imposes mandatory absolute tonnage limits on greenhouse gas emissions from the country or 1 or more industry sectors pursuant to protocols adopted through the UNFCCC process; and

`(2) the Administrator has promulgated regulations, taking into consideration applicable UNFCCC protocols, approving for use under this subsection international credits from such categories of countries as the regulations establish, and the regulations permit the use of international credits from the foreign country that issued the credit.

`(d) International Credits From Countries Without Mandatory Greenhouse Gas Limits-

`(1) IN GENERAL- Subject to paragraph (2), the owner of an affected unit may submit an international credit under this subsection if--

`(A) the international credit is issued by a foreign country that has not imposed mandatory absolute tonnage limits on greenhouse gas emissions from the country or 1 or more industry sectors pursuant to protocols adopted through the UNFCCC process;

`(B) the international credit is issued pursuant to protocols adopted through the UNFCCC process; and

`(C) the Administrator has promulgated regulations, taking into consideration applicable UNFCCC protocols, approving for use under this subsection international credits from such categories of countries as the regulations establish, and the regulations permit the use of international credits from the foreign country that issued the credit.

`(2) DECISION ON CONTINUED APPROVAL- Not later than December 31, 2015, the Administrator shall determine, pursuant to the regulations promulgated under paragraph (1)(C), whether to continue to approve for use under this subsection international credits from any country that--

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

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

#### **`SEC. 720. AVOIDING SIGNIFICANT ECONOMIC HARM.**

`(a) In General- Pursuant to the regulations promulgated under this section, the Administrator may permit affected units--

`(1) to use allowances in a calendar year before the calendar year for which the allowances were allocated; and

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

`(b) Regulations-

`(1) IN GENERAL- Not later than 3 years after the date of enactment of this title, the Administrator, in coordination with the Secretary of the Treasury, shall promulgate regulations requiring the continuous monitoring of the operation of the carbon market and the effect of that market on the economy of the United States.

“(2) REQUIREMENTS- The regulations shall--

“(A) establish the criteria for determining whether allowance prices have reached and sustained a level that is causing or will cause significant harm to the economy of the United States; and

“(B) take into consideration--

“(i) the obligation of the United States under this subtitle to stabilize greenhouse gas concentrations in the atmosphere at the safe climate level; and

“(ii) the costs of the anticipated impacts of climate change in the United States.

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

“(A) a program under which an affected unit may use allowances in a calendar year before the calendar year for which the allowances were allocated, including--

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

“(ii) a requirement for payment of interest on borrowed allowances requiring the submission of additional credits upon repayment of the allowances equal to the product obtained by multiplying--

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

“(II) the sum obtained by adding--

`(aa) the Federal short-term rate, as defined pursuant to section 1274(d)(1)(C)(i) of the Internal Revenue Code of 1986; and

`(bb) 2 percent; and

`(iii) a limitation that in no event may an affected unit--

`(I) satisfy more than 10 percent of the obligation of the affected unit under section 722 to surrender allowances by submitting allowances in a calendar year before the calendar year for which the allowances were allocated; and

`(II) use allowances in a calendar year that is more than 5 years before the calendar year for which the allowances were allocated; and

`(B) a program under which the owner of an affected unit may satisfy the obligation of the affected unit under section 722 to surrender allowances for the calendar year in which the determination is made by submitting international credits representing up to 50 percent of the total annual submission requirements of the affected unit.

#### **`SEC. 721. USE AND TRANSFER OF CREDITS.**

`(a) Use in Other Greenhouse Gas Allowance Trading Programs-

`(1) IN GENERAL- A credit obtained under this subtitle may be used in any other greenhouse gas allowance trading program, including a program of 1 or more States or subdivisions of States, that is approved by the Administrator and an authorized official for the other program for use of the allowance.

`(2) RECIPROCIITY- A credit obtained from another greenhouse gas trading program, including a program of 1 or more States or subdivisions of States, that is approved by the Administrator and an authorized official for the other program may be used in the trading program under this title.

`(b) Allowance Use Before Applicable Calendar Year- Except as provided in section 720, an

allowance auctioned or allocated under this subtitle may not be used before the calendar year for which the allowance was auctioned or allocated.

`(c) Transfer-

`(1) IN GENERAL- Except as provided in paragraph (2), the transfer of a credit shall not take effect until receipt and recording by the Administrator of a written certification of the transfer that is executed by an authorized official of the person making the transfer.

`(2) SPECIAL RULE FOR ALLOWANCES- Notwithstanding paragraph (1), the transfer of an allowance auctioned or allocated under this subtitle may take effect before the calendar year for which the allowance was auctioned or allocated.

`(d) Banking of Credits- Any affected unit may use a credit obtained under this subtitle in the calendar year for which the credit was auctioned or allocated, or in a subsequent calendar year, to demonstrate compliance with section 722.

#### **`SEC. 722. COMPLIANCE AND ENFORCEMENT.**

`(a) In General- For calendar year 2011 and each calendar year thereafter, the owner of each affected unit shall surrender to the Administrator a quantity of credits that is equal to the total tons of carbon dioxide or, with respect to other greenhouse gases, tons in carbon dioxide equivalent, associated with the combustion by the affected unit of greenhouse gas-emitting fuels during the calendar year.

`(b) Regulations- Not later than 2 years after the date of enactment of this title, the Administrator shall promulgate regulations establishing the procedures for the surrender of credits.

`(c) Penalty- The owner of an affected unit that emits greenhouse gases associated with the combustion by the affected unit of a greenhouse gas-emitting fuel in excess of the number of credits that the owner of the affected unit holds for use of the affected unit for the calendar year shall--

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



`(2) pay an excess emissions penalty equal to the product obtained by multiplying--

`(A) the number of tons of carbon dioxide, or the carbon dioxide equivalent of other greenhouse gases, emitted in excess of the total quantity of credits held by the affected unit; and

`(B)(i) except as provided in clause (ii), \$100, as adjusted for changes beginning on January 1, 2007, in accordance with the Consumer Price Index for All-Urban Consumers published by the Department of Labor; or

`(ii) if the average market price for a metric ton of carbon dioxide equivalent during a calendar year exceeds \$60, \$200, as adjusted for changes beginning on January 1, 2007, in accordance with the Consumer Price Index for All-Urban Consumers published by the Department of Labor.

#### **`Subtitle B--Offset Credits**

#### **`SEC. 731. OUTREACH INITIATIVE ON REVENUE ENHANCEMENT FOR AGRICULTURAL PRODUCERS.**

`(a) Purposes- The purposes of this subtitle are to achieve climate benefits, reduce overall costs to the United States economy, and enhance revenue for domestic agricultural producers, foresters, and other landowners by--

`(1) establishing procedures by which domestic agricultural producers, foresters, and other landowners can measure and report reductions in greenhouse gas emissions and increases in sequestration; and

`(2) publishing a handbook of guidance for domestic agricultural producers, foresters, and other landowners to market emission reductions to companies.

`(b) Establishment- The Secretary of Agriculture, acting through the Chief of the Natural Resources Conservation Service, the Chief of the Forest Service, the Administrator of the Cooperative State Research, Education, and Extension Service, and land-grant colleges and universities, in consultation with the Administrator and the heads of other appropriate departments and agencies, shall establish an outreach initiative to provide information to

agricultural producers, agricultural organizations, foresters, and other landowners about opportunities under this subtitle to earn new revenue.

`(c) Components- The initiative under this section--

`(1) shall be designed to ensure that, to the maximum extent practicable, agricultural organizations and individual agricultural producers, foresters, and other landowners receive detailed practical information about--

`(A) opportunities to earn new revenue under this subtitle;

`(B) measurement protocols, monitoring, verifying, inventorying, registering, insuring, and marketing offsets under this title;

`(C) emerging domestic and international markets for energy crops, allowances, and offsets; and

`(D) local, regional, and national databases and aggregation networks to facilitate achievement, measurement, registration, and sales of offsets;

`(2) shall provide--

`(A) outreach materials, including the handbook published under subsection (d)(1), to interested parties;

`(B) workshops; and

`(C) technical assistance; and

`(3) may include the creation and development of regional marketing centers or coordination with existing centers (including centers within the Natural Resources Conservation Service or the Cooperative State Research, Education, and Extension Service or at land-grant colleges and universities).

`(d) Handbook-

“(1) IN GENERAL- Not later than 2 years after the date of enactment of this title, the Secretary of Agriculture, in consultation with the Administrator and after public input, shall publish a handbook for use by agricultural producers, agricultural cooperatives, foresters, other landowners, offset buyers, and other stakeholders that provides easy-to-use guidance on achieving, reporting, registering, and marketing offsets.

“(2) DISTRIBUTION- The Secretary of Agriculture shall ensure, to the maximum extent practicable, that the handbook is distributed widely through land-grant colleges and universities and other appropriate institutions.

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

“(a) In General- Not later than 2 years after the date of enactment of this title, the Secretary of Agriculture, in consultation with the Administrator, shall promulgate regulations establishing the requirements regarding the issuance, certification, and use of offset credits for greenhouse gas reductions from agricultural, forestry, wetlands, and other land use-related sequestration projects, including requirements--

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

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

“(3) that address leakage;

“(4) that the reductions are not otherwise required by any law (including a regulation) or other legally binding requirement;

“(5) for the quantification, monitoring, reporting, and verification of the reductions;

“(6) that ensure that offset credits are limited in duration to the period of sequestration of greenhouse gases, and rectify any loss of sequestration other than a loss caused by an error in calculation identified under this subtitle, by requiring the submission of additional credits of an equivalent quantity to the lost sequestration; and

`(7) that quantify sequestration flow.

`(b) Eligibility To Create Offset Credits-

`(1) IN GENERAL- A sequestration project that commences operation on or after January 1, 2011, is eligible to create offset credits under this subtitle if the sequestration project satisfies the other applicable requirements of this subtitle.

`(2) EXCEPTION FOR AGRICULTURAL PROJECTS- Notwithstanding paragraph (1), sequestration flow from an agricultural project that occurs on or after January 1, 2011, may provide the basis for offset credits under this subtitle regardless of the date on which the agricultural sequestration project to which the sequestration flow is attributable commenced, if the project satisfies the other applicable requirements of this subtitle.

`(c) Discounting for Business-as-Usual Practices-

`(1) IN GENERAL- In order to streamline the availability of offset credits for agricultural and other land use-related sequestration projects, the regulations promulgated under subsection (a) shall provide for the calculation and reporting of region-specific discount factors by the Secretary of Agriculture--

`(A) to be used by developers of agricultural projects and other land use-related sequestration projects; and

`(B) to account for business-as-usual practices for specific types of sequestration projects.

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

`(A) the difference between--

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

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

`(B) the quantity of greenhouse gases sequestered in the region as a result of the offset practice under this subtitle.

### `(3) REQUIREMENTS-

`(A) IN GENERAL- The regulations promulgated under this section shall, to the maximum extent practicable--

`(i) define geographic regions with reference to land that has similar agricultural characteristics; and

`(ii) subject to subparagraph (B), define baseline historical reference periods for each category of sequestration practice, using the most recent period of sufficient length for which there are reasonably comprehensive data available.

`(B) EXCEPTION- If the Secretary of Agriculture determines that entities have increased implementation of the relevant offset practice during the most recent period in anticipation of legislation granting credit for the offsets, the regulations described in subparagraph (A)(ii) may define baseline historical reference periods for each category of sequestration practice using an earlier period.

`(d) Quantifying Sequestration Flow- The regulations that quantify sequestration flow shall include--

`(1) a default rate of sequestration flow, regionally specific to the maximum extent practicable, for each offset practice or combination of offset practices, that is estimated conservatively to allow for site-specific variations and data uncertainties;

`(2) a downward adjustment factor for any offset practice or combination of practices for which, in the judgment of the Secretary of Agriculture, there are substantial uncertainties in the sequestration flows estimated in paragraph (1), but still reasonably

sufficient data to calculate a default rate of flow; and

^(3) offset practice- or project-specific measurement, monitoring, and verification requirements for--

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

^(B) projects for which the project proponent chooses to use project-specific requirements.

^(e) Use of Native Plant Species in Offset Projects-

^(1) REGULATIONS- Not later than 18 months after the date of enactment of this title, the Administrator, in consultation with the Secretary of Agriculture, shall promulgate regulations for selection, use, and storage of native and nonnative plant materials in the offset projects described in paragraph (2)--

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

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

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

^(2) APPLICABILITY- The regulations under paragraph (1) shall apply to qualifying offset projects described in sections 733(b)(2), 734(a)(2), and 734(b)(1).

### ^SEC. 733. CATEGORIES OF AGRICULTURAL OFFSET PRACTICES.

^(a) Regulations- Not later than 2 years after the date of enactment of this title, the Secretary of Agriculture, in consultation with the Administrator, shall promulgate regulations establishing the categories of offset practices that--

`(1) reduce greenhouse gases as a result of agricultural sequestration projects; and

`(2) are eligible to receive offset credits under this subtitle.

`(b) Offset Practices- Offset practices described in subsection (a) shall include--

`(1) agricultural sequestration practices, including--

`(A) no-till agriculture;

`(B) conservation tillage (ridge till or minimum till);

`(C) winter cover cropping;

`(D) switching from a cycle of--

`(i) planting wheat or other crops and then fallowing land; to

`(ii) continuous cropping;

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

`(F) combinations of any of the offset practices described in subparagraphs (A) through (E); and

`(2) conversion of cropland to rangeland or grassland.

**`SEC. 734. OFFSET CREDITS FROM FOREST MANAGEMENT, GRAZING MANAGEMENT, AND WETLANDS MANAGEMENT.**

`(a) Forest Management Offsets-

`(1) IN GENERAL- Not later than 3 years after the date of enactment of this title, the Secretary of Agriculture, in consultation with the Administrator, shall promulgate regulations providing for the issuance of offset credits for forest management projects

that provide durable, long-term reductions in greenhouse gases as a result of sequestration.

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

“(3) PROHIBITIONS-

“(A) IN GENERAL- In accordance with section 732(e), no afforestation project may involve the planting of invasive species or noxious weeds.

“(B) EXISTING NATIVE GRASSLAND AND ECOSYSTEMS- No afforestation project may involve planting trees on existing native grassland or other existing native non-forested ecosystems that the Secretary of Agriculture determines should be protected in their existing native condition.

“(b) Wetlands Management Offsets-

“(1) IN GENERAL- Not later than 3 years after the date of enactment of this title, the Administrator, in consultation with the Chief of Engineers, shall promulgate regulations providing for the issuance of offset credits for wetlands management projects that provide durable, long-term reductions in greenhouse gases as a result of sequestration.

“(2) PROHIBITIONS-

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

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

“(c) Grazing Management Offsets-

“(1) IN GENERAL- Not later than 3 years after the date of enactment of this title, the



Secretary of Agriculture, in consultation with the Administrator, shall promulgate regulations providing for the issuance of offset credits for grazing management projects that provide durable, long-term reductions in greenhouse gases as a result of sequestration.

“(2) GRAZING MANAGEMENT OFFSETS- Grazing management offset projects under this section may include activities that reduce greenhouse gases as a result of grazing management sequestration projects other than conversion of cropland to grassland or rangeland under section 733.

“(d) Use of Offsets-

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

“(2) EXCEPTIONS- The limitation in paragraph (1) does not apply to grazing management, afforestation, or wetland offset projects.

**“SEC. 735. OFFSET CREDITS FROM THE AVOIDED CONVERSION OF FORESTED LAND OR WETLAND.**

“(a) In General- Offset credits for avoided conversion of forested land or wetland shall be awarded to any State that reduces the conversion below expected levels for all or a significant portion of the State.

“(b) Regulations- Not later than 3 years after the date of enactment of this title, the Administrator, in conjunction with the Secretary of Agriculture, shall promulgate regulations that address the eligibility of offset practices that avoid the conversion of forested land or wetland to nonforested land uses or drained or converted wetland to receive offset credits under this subtitle, including requirements that address--

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

“(A) measurement of presently on-going rates of forest land conversion or wetland

conversion;

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

`(C) comparison of the rates in subparagraph (A) and subparagraph (B); and

`(2) leakage, including--

`(A) adjustments for leakage using standardized regional leakage factors for afforestation and wetland restoration; and

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

`(c) Precondition- For an offset to be creditable under this section, the State must certify that the State has reduced its rate of conversion of forest land or wetland over a period of 5 or more consecutive years for the entire State or a significant forested or wetland region in the State.

`(d) Award by States of Offset Credits- States that participate in the program under this section shall establish transparent and equitable rules by which offset credits will be awarded to owners of forested land or wetland.

`(e) Authorization of Appropriations- There is authorized to be appropriated to the Administrator, in consultation with the Secretary of Agriculture, for use in awarding grants to States to carry out this section \$5,000,000 for each fiscal year.

#### **`SEC. 736. OFFSET CREDITS FROM GREENHOUSE GAS EMISSIONS REDUCTION PROJECTS.**

`(a) In General- Not later than 2 years after the date of enactment of this title, the Administrator shall promulgate regulations establishing the requirements regarding the issuance, certification, and use of offset credits for greenhouse gas emissions reduction offset projects, including requirements--

`(1) for performance standards for specific types of offset projects, which represent significant improvements compared to recent practices in the geographic area, to be reviewed, and updated if the Administrator determines updating is appropriate, every 5 years;

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

`(3) that address leakage;

`(4) that the reductions are not otherwise required by any law (including a regulation) or other legally binding requirement;

`(5) for the quantification, monitoring, reporting, and verification of the reductions; and

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

`(b) Eligibility To Create Offset Credits- Greenhouse gas emissions reduction offset projects that commence operation on or after January 1, 2007, are eligible to create offset credits under this subtitle if the projects satisfy the other applicable requirements of this subtitle.

`(c) Approved Categories of Greenhouse Gas Emissions Reduction Offset Projects- Greenhouse gas emission reductions from the following types of operations shall be eligible to create offsets for use under this section:

`(1) Landfill operations.

`(2) Agricultural manure management projects.

`(3) Wastewater treatment facilities.

`(4) Coal mining operations.

`(5) Natural gas transmission and distribution systems.

`(6) Electrical transmission and distribution systems.

`(7) Elimination or reduction in use of chemicals that substitute for ozone-depleting substances.

`(8) Cement manufacturing.

`(9) Lime manufacturing.

`(10) Iron and steel production.

`(11) Aluminum production.

`(12) Adipic acid production.

`(13) Nitric acid production.

`(14) Semiconductor manufacturing.

`(15) Magnesium production and processing.

`(16) Fossil fuel combustion at commercial and residential buildings.

`(d) Creation of Additional Categories of Greenhouse Gas Emissions Reduction Offset Projects- The Administrator may, by regulation, create additional categories of greenhouse gas emissions reduction offset projects for types of projects for which the Administrator determines that compliance with the regulations promulgated under subsection (a) is feasible.

`(e) Prohibition on Use- Notwithstanding the eligibility of greenhouse gas emission reduction projects to create offset credits in accordance with subsection (c) or (d), greenhouse gas emissions reduction offset projects shall not be eligible to create offset credits for use under this section beginning on the date on which the reductions are required by law (including regulations) or other legally binding requirement.

**`SEC. 737. BORROWING AT PROGRAM START-UP BASED ON CONTRACTS TO PURCHASE**

**OFFSET CREDITS.**

`(a) In General- During calendar years 2011, 2012, and 2013, an affected unit may satisfy not more than 5 percent of the allowance submission requirements of section 722 by submitting to the Administrator contractual commitments to purchase offset credits that will implement an equivalent quantity of emission reductions or sequestration not later than December 31, 2015.

`(b) Approval of Qualifying Offset Projects- Offset projects that may be appropriately carried out under this section shall be approved by the Administrator in accordance with this subtitle.

`(c) Repayment by 2015-

`(1) IN GENERAL- If an affected unit uses subsection (a) to comply with section 722, not later than the deadline in that section for allowance submissions for calendar year 2015, the affected unit shall submit additional credits of a quantity equivalent to the sum obtained by adding--

`(A) the value of credits submitted to comply with credit submission requirements described in subsection (a); and

`(B) interest calculated in accordance with paragraph (2).

`(2) INTEREST- Interest referred to in paragraph (1)(B) shall be equal to the product obtained by multiplying--

`(A) the number of years between--

`(i) the use by an affected unit of the method of compliance described in subsection (a); and

`(ii) the submission by the affected unit of additional credits under this subsection; and

`(B) the sum obtained by adding--

`(i) the Federal short-term rate, as defined pursuant to section 1274(d)(1)(C) (i) of the Internal Revenue Code of 1986; and

`(ii) 2 percent.

**`SEC. 738. REVIEW AND CORRECTION OF ACCOUNTING FOR OFFSET CREDITS.**

`(a) Duty To Monitor- The Secretary of Agriculture and the Administrator shall monitor regularly whether offset credits under the respective jurisdiction of each agency head under this subtitle are being awarded only for real and additional sequestration of greenhouse gases and reductions in greenhouse gas emissions, including--

`(1) the accuracy of default calculations of sequestration flow and greenhouse gas emission reductions achieved by the use of offset practices;

`(2) the calculation of region-specific discount factors; and

`(3) the accuracy of leakage calculations.

`(b) Periodic Review- Not later than December 31, 2013, and every 5 years thereafter, the Secretary of Agriculture and the Administrator shall review the issuance of offset credits under the respective jurisdiction of each agency head under this subtitle to determine--

`(1) whether offset credits are being awarded only for real and additional sequestration of greenhouse gases or reductions in greenhouse gas emissions, as described in subsection (a);

`(2) the amount of excessive award of any offset credits;

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

`(4) the impact of the offset credits on market prices; and

`(5) the impact of the offset credits on the trajectory of emissions from affected units.

`(c) Duty To Correct- If the Secretary of Agriculture or the Administrator determines that offset

credits under the respective jurisdictions of the agency head have been awarded under this subtitle in excess of real and additional sequestration of greenhouse gases or reductions in emissions of greenhouse gases, the Secretary of Agriculture or the Administrator shall--

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

`(2) quantify and publicly disclose the quantity of offset credits that have been awarded in excess of real and additional sequestration or emissions reductions.

### **`Subtitle C--National Registry for Credits**

#### **`SEC. 741. ESTABLISHMENT AND OPERATION OF NATIONAL REGISTRY.**

`(a) In General- Except as provided in subsection (b), not later than July 1 of the year immediately prior to the first calendar year in which an annual tonnage limitation on the emission of greenhouse gases applies under section 711(b), the Administrator shall promulgate regulations to establish, operate, and maintain a national registry through which the Administrator shall--

`(1) record allocations of allowances, the issuance of offset credits or early reduction credits, and the recognition of international credits;

`(2) track transfers of credits;

`(3) retire all credits used for compliance;

`(4) subject to subsection (b), maintain transparent availability of registry information to the public, including the quarterly reports submitted under section 742(a);

`(5) prepare an annual assessment of the emission data in the quarterly reports submitted under section 742(a); and

`(6) take such action as is necessary to maintain the integrity of the registry, including adjustments to correct for--

`(A) errors or omissions in the reporting of data; and

`(B) the prevention of counterfeiting, double-counting, multiple registrations, multiple sales, and multiple retirements of credits.

`(b) Exception to Public Availability of Data-

`(1) IN GENERAL- Subsection (a)(4) shall not apply in any case in which the Administrator, in consultation with the Secretary of Defense, determines that publishing or otherwise making available information in accordance with that paragraph poses a risk to national security.

`(2) STATEMENT OF REASONS- In a case described in paragraph (1), the Administrator shall publish a description of the determination and the reasons for the determination.

#### **`SEC. 742. MONITORING AND REPORTING.**

`(a) Requirements- Each owner or operator of an affected unit, or to the extent applicable, the greenhouse gas authorized account representative for the affected unit, shall--

`(1) comply with the monitoring, recordkeeping, and reporting requirements of part 75 of title 40, Code of Federal Regulations (or successor regulations); and

`(2) submit to the Administrator electronic quarterly reports that describe the greenhouse gas mass emission data, fuel input data, and electricity output data for the affected unit.

`(b) Biomass Cofiring- Not later than 18 months after the date of enactment of this title, the Administrator shall promulgate regulations that provide monitoring, recordkeeping, and reporting requirements for biomass cofiring at affected units.'

(b) Conforming Amendments-

(1) FEDERAL ENFORCEMENT- Section 113 of the Clean Air Act ([42 U.S.C. 7413](#)) is amended--



(A) in subsection (a)(3), by striking `or title VI,' and inserting `title VI, or title VII,';

(B) in subsection (b)--

(i) by redesignating paragraphs (1) through (3) as subparagraphs (A) through (C), respectively, and indenting the subparagraphs appropriately;

(ii) by striking `The Administrator shall' and inserting the following:

`(1) IN GENERAL- The Administrator shall';

(iii) in paragraph (1) (as designated by clause (ii)), in the matter preceding subparagraph (A) (as redesignated by clause (i)), by striking `or a major stationary source' and inserting `a major stationary source, or an affected unit under title VII'; and

(iv) in subparagraph (B) (as redesignated by clause (i)), by striking `or title VI' and inserting `title VI, or title VII';

(v) in the matter following subparagraph (C) of paragraph (1) (as designated by clauses (i) and (ii))--

(I) by striking `Any action' and inserting the following:

`(2) JUDICIAL ENFORCEMENT-

`(A) IN GENERAL- Any action';

(II) by striking `Notice' and inserting the following:

`(B) NOTICE- Notice'; and

(III) by striking `In the case' and inserting the following:

`(C) ACTIONS BROUGHT BY ADMINISTRATOR- In the case';

(C) in subsection (c)--

(i) in the first sentence of paragraph (1), by striking `or title VI (relating to stratospheric ozone control),' and inserting `title VI (relating to stratospheric ozone control), or title VII (relating to global warming pollution emission reductions),'; and

(ii) in the first sentence of paragraph (3), by striking `or VI' and inserting `VI, or VII';

(D) in subsection (d)(1)(B), by striking `or VI' and inserting `VI, or VII'; and

(E) in subsection (f), in the first sentence, by striking `or VI' and inserting `VI, or VII'.

(2) INSPECTIONS, MONITORING, AND ENTRY- Section 114(a) of the Clean Air Act ([42 U.S.C. 7414](#)(a)) is amended by striking `section 112,' and all that follows through `(ii)' and inserting the following: `section 112, any regulation of solid waste combustion under section 129, or any regulation of greenhouse gas emissions under title VII, (ii)'.

(3) ADMINISTRATIVE PROCEEDINGS AND JUDICIAL REVIEW- Section 307 of the Clean Air Act ([42 U.S.C. 7607](#)) is amended--

(A) in subsection (a), by striking `, or section 306' and inserting `section 306, or title VII';

(B) in subsection (b)(1)--

(i) by striking `section 111,,' and inserting `section 111,';

(ii) by striking `section 120,' each place it appears and inserting `section 120, any action under title VII,'; and

(iii) by striking `112,,' and inserting `112,'; and

(C) in subsection (d)(1)--

(i) by striking subparagraph (S);

(ii) by redesignating the second subparagraph (N) and subparagraphs (O) through (R) as subparagraphs (O), (P), (Q), (R), and (S), respectively;

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

(iv) by inserting after subparagraph (S) (as redesignated by clause (ii)) the following:

“(T) the promulgation or revision of any regulation under title VII,”

(4) UNAVAILABILITY OF EMISSIONS DATA- Section 412(d) of the Clean Air Act ([42 U.S.C. 7651k\(d\)](#)) is amended in the first sentence--

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

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

## **TITLE II--CLIMATE CHANGE RESEARCH INITIATIVES**

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

Section 105 of the Global Change Research Act of 1990 ([15 U.S.C. 2935](#)) is amended--

(1) by redesignating subsection (c) as subsection (d); and

(2) by inserting after subsection (b) the following:

“(c) Research Grants-

“(1) LIST OF PRIORITY RESEARCH AREAS- The Committee shall develop a list of priority areas for research and development on climate change that are not being adequately addressed by Federal agencies.

“(2) TRANSMISSION OF LIST- The Director of the Office of Science and Technology Policy shall submit the list developed under paragraph (1) to the National Science Foundation.

“(3) AUTHORIZATION OF APPROPRIATIONS- There are authorized to be appropriated to the National Science Foundation such sums as are necessary to carry out this subsection, to be made available through the Science and Technology Policy Institute, for research in the priority areas.’.

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

(a) In General- The Secretary of Commerce, acting through the National Oceanic and Atmospheric Administration, shall carry out a program of scientific research on abrupt climate change designed to provide timely warnings of the potential likelihood, magnitude, and consequences of, and measures to avoid, abrupt human-induced climate change.

(b) Authorization of Appropriations- There are authorized to be appropriated to the Secretary of Commerce such sums as are necessary to carry out this section.

#### **SEC. 203. DEVELOPMENT OF NEW MEASUREMENT TECHNOLOGIES.**

(a) In General- The Administrator of the Environmental Protection Agency shall carry out a program to develop, with technical assistance from appropriate Federal agencies, innovative standards and measurement technologies to calculate greenhouse gas emissions or reductions for which no accurate, reliable, low-cost measurement technology exists.

(b) Administration- The program shall include technologies (including remote sensing technologies) to measure carbon changes and other greenhouse gas emissions and reductions from agriculture, forestry, wetlands, and other land use practices.

(c) Authorization of Appropriations- There are authorized to be appropriated to the Administrator such sums as are necessary to carry out this section.

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

(a) In General- The Director of the National Institute of Standards and Technology, acting

through the Manufacturing Extension Partnership program, may develop a program to promote the use, by small manufacturers, of technologies and techniques that result in reduced emissions of greenhouse gases or increased sequestration of greenhouse gases.

(b) Authorization of Appropriations- There are authorized to be appropriated to the Director of the National Institute of Standards and Technology such sums as are necessary to carry out this section.

#### **SEC. 205. PUBLIC LAND.**

(a) In General- Not later than 3 years after the date of enactment of this Act, the Secretary of Agriculture and the Secretary of the Interior shall prepare a joint assessment or separate assessments setting forth recommendations for increased sequestration of greenhouse gases and reduction of greenhouse gas emissions on public land that is--

- (1) managed forestland;
- (2) managed rangeland or grassland; or
- (3) protected land, including national parks and designated wilderness areas.

(b) Authorization of Appropriations- There are authorized to be appropriated to the Secretary of Agriculture and the Secretary of the Interior such sums as are necessary to carry out this section.

#### **SEC. 206. SEA LEVEL RISE FROM POLAR ICE SHEET MELTING.**

(a) In General- The Secretary of Commerce, acting through the National Oceanic and Atmospheric Administration and in cooperation with the Administrator of the National Aeronautics and Space Administration, shall carry out a program of scientific research to support modeling and observations into the potential role of the Greenland, west Antarctic, and east Antarctic ice sheets in any future increase in sea levels.

(b) Authorization of Appropriations- There are authorized to be appropriated to the Secretary of Commerce and the Administrator of the National Aeronautics and Space Administration such sums as are necessary to carry out this section.

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