109TH CONGRESS
1ST SESSION

S. 342

To provide for a program of scientific research on abrupt climate change, to accelerate the reduction of greenhouse gas emissions in the United States by establishing a market-driven system of greenhouse gas tradeable allowances, to limit greenhouse gas emissions in the United States and reduce dependence upon foreign oil, and ensure benefits to consumers from the trading in such allowances.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 10, 2005

Mr. MCCAIN (for himself, Mr. LIEBERMAN, Ms. SNOWE, Mrs. FEINSTEIN, Mr. CHAFEE, Mr. DURBIN, Mr. LAUTENBERG, Mrs. MURRAY, Mr. NELSON of Florida, Mr. CORZINE, Ms. CANTWELL, Mr. KERRY, and Mr. DAYTON) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

---

A BILL

To provide for a program of scientific research on abrupt climate change, to accelerate the reduction of greenhouse gas emissions in the United States by establishing a market-driven system of greenhouse gas tradeable allowances, to limit greenhouse gas emissions in the United States and reduce dependence upon foreign oil, and ensure benefits to consumers from the trading in such allowances.

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

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Climate Stewardship Act of 2005''.

SEC. 2. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

SEC. 3. DEFINITIONS.

In this Act:

(1) ADMINISTRATOR.—The term ''Administrator'' means the Administrator of the Environmental Protection Agency.

(2) BASELINE.—The term ''baseline'' means the historic greenhouse gas emission levels of an entity, as adjusted upward by the Administrator to reflect actual reductions that are verified in accordance with—

(A) regulations promulgated under section 201(c)(1); and

(B) relevant standards and methods developed under this title.

(3) CARBON DIOXIDE EQUIVALENTS.—The term ''carbon dioxide equivalents'' means, for each greenhouse gas, the amount of each such greenhouse gas that makes the same contribution to global warming as one metric ton of carbon dioxide, as determined by the Administrator.

(4) COVERED SECTORS.—The term ''covered sectors'' means the electricity, transportation, indus-

try, and commercial sectors, as such terms are used in the Inventory.

(5) COVERED ENTITY.—The term ''covered entity'' means an entity (including a branch, department, agency, or instrumentality of Federal, State, or local government) that—

(A) owns or controls a source of greenhouse gas emissions in the electric power, industrial, or commercial sectors of the United States economy (as defined in the Inventory), refines or imports petroleum products for use in transportation, or produces or imports hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride; and

(B) emits, from any single facility owned by the entity, over 10,000 metric tons of greenhouse gas per year, measured in units of carbon dioxide equivalents, or produces or imports—

(i) petroleum products that, when combusted, will emit,

(ii) hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride that, when used, will emit, or

(iii) other greenhouse gases that, when used, will emit,

over 10,000 metric tons of greenhouse gas per year, measured in units of carbon dioxide equivalents.

(6) DATABASE.—The term ''database'' means the national greenhouse gas database established under section 201.

(7) DIRECT EMISSIONS.—The term ''direct emissions'' means greenhouse gas emissions by an entity from a facility that is owned or controlled by that entity.

(8) FACILITY.—The term ''facility'' means a building, structure, or installation located on any 1 or more contiguous or adjacent properties of an entity in the United States.

(9) GREENHOUSE GAS.—The term ''greenhouse gas'' means—

(A) carbon dioxide;

(B) methane;

(C) nitrous oxide;

(D) hydrofluorocarbons;

(E) perfluorocarbons; and

(F) sulfur hexafluoride.

(10) INDIRECT EMISSIONS.—The term ''indirect emissions'' means greenhouse gas emissions that are—

(A) a result of the activities of an entity; but

(B) emitted from a facility owned or controlled by another entity.

(11) INVENTORY.—The term ''Inventory'' means the Inventory of U.S. Greenhouse Gas Emissions and Sinks, prepared in compliance with the United Nations Framework Convention on Climate Change Decision 3/CP.5).

(12) LEAKAGE.—The term ''leakage'' means—

(A) an increase in greenhouse gas emissions by one facility or entity caused by a reduction in greenhouse gas emissions by another facility or entity; or

(B) a decrease in sequestration that is caused by an increase in sequestration at another location.

(13) PERMANENCE.—The term ''permanence'' means the extent to which greenhouse gases that are sequestered will not later be returned to the atmosphere.

(14) REGISTRY.—The term ''registry'' means the registry of greenhouse gas emission reductions established under section 201(b)(2).

(15) SECRETARY.—The term ''Secretary'' means the Secretary of Commerce.

(16) SEQUESTRATION.—

(A) IN GENERAL.—The term ''sequestration'' means the capture, long-term separation, isolation, or removal of greenhouse gases from the atmosphere.

(B) INCLUSIONS.—The term ''sequestration'' includes—

(i) agricultural and conservation practices;

(ii) reforestation;

(iii) forest preservation; and

(iv) any other appropriate method of capture, long-term separation, isolation, or removal of greenhouse gases from the atmosphere, as determined by the Administrator.

(C) EXCLUSIONS.—The term ''sequestration'' does not include—

(i) any conversion of, or negative impact on, a native ecosystem; or

(ii) any introduction of non-native species.

(17) SOURCE CATEGORY.—The term ''source category'' means a process or activity that leads to direct emissions of greenhouse gases, as listed in the Inventory.

(18) STATIONARY SOURCE.—The term ''stationary source'' means generally any source of greenhouse gases except those emissions resulting directly from an engine for transportation purposes.

TITLE I—FEDERAL CLIMATE CHANGE RESEARCH AND RELATED ACTIVITIES

SEC. 101. NATIONAL SCIENCE FOUNDATION FELLOWSHIPS.

The Director of the National Science Foundation shall establish a fellowship program for students pursuing graduate studies in global climate change, including capability in observation, analysis, modeling, paleoclimatology, consequences, and adaptation.

SEC. 102. COMMERCE DEPARTMENT STUDY OF TECHNOLOGY TRANSFER BARRIERS.

(a) STUDY.—The Assistant Secretary of Technology Policy at Department of Commerce shall conduct a study of technology transfer barriers, best practices, and outcomes of technology transfer activities at Federal laboratories related to the licensing and commercialization of energy efficient technologies, and other technologies that,

compared to similar technology in commercial use, result in reduced emissions of greenhouse gases or increased sequestration of greenhouse gases. The study shall be submitted to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science within 6 months after the date of enactment of this Act. The Assistant Secretary shall work with the existing interagency working group to address identified barriers.

(b) AGENCY REPORT TO INCLUDE INFORMATION ON TECHNOLOGY TRANSFER INCOME AND ROYALTIES.—Paragraph (2)(B) of section 11(f) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(f)) is amended—

(1) by striking ''and'' after the semicolon in clause (vi);

(2) by redesignating clause (vii) as clause (ix); and

(3) by inserting after clause (vi) the following:

''(vii) the number of fully-executed licenses which received royalty income in the preceding fiscal year for climate-change or energy-efficient technology;

''(viii) the total earned royalty income for climate-change or energy-efficient technology; and''.

(c) INCREASED INCENTIVES FOR DEVELOPMENT OF CLIMATE-CHANGE OR ENERGY-EFFICIENT TECHNOLOGY.—Section 14(a) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710c(a)) is amended—

(1) by striking ''15 percent,'' in paragraph (1)(A) and inserting ''15 percent (25 percent for climate change-related technologies),''; and

(2) by inserting ''($250,000 for climate change-related technologies)'' after ''$150,000'' each place it appears in paragraph (3).

SEC. 103. REPORT ON UNITED STATES IMPACT OF KYOTO PROTOCOL.

Within 6 months after the date of enactment of this Act, the Secretary shall execute a contract with the National Academy of Science for a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science on the effects that the entry into force of the Kyoto Protocol without United States participation will have on—

(1) United States industry and its ability to compete globally;

(2) international cooperation on scientific research and development; and

(3) United States participation in international environmental climate change mitigation efforts and technology deployment.

SEC. 104. RESEARCH GRANTS.

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) COMMITTEE TO DEVELOP 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 addressed by Federal agencies.

''(2) DIRECTOR OF OSTP TO TRANSMIT LIST TO NSF.—The Director of the Office of Science and Technology Policy shall transmit the list to the National Science Foundation.

''(3) FUNDING THROUGH NSF.—

''(A) BUDGET REQUEST.—The National Science Foundation shall include, as part of the

annual request for appropriations for the Science and Technology Policy Institute, a request for appropriations to fund research in the priority areas on the list developed under paragraph (1).

''(B) AUTHORIZATION.—For fiscal year 2005 and each fiscal year thereafter, there are authorized to be appropriated to the National Science Foundation not less than $25,000,000, to be made available through the Science and Technology Policy Institute, for research in those priority areas.''.

SEC. 105. ABRUPT CLIMATE CHANGE RESEARCH.

(a) IN GENERAL.—The Secretary, through the National Oceanic and Atmospheric Administration, shall carry out a program of scientific research on potential abrupt climate change designed—

(1) to develop a global array of terrestrial and oceanographic indicators of paleoclimate in order sufficiently to identify and describe past instances of abrupt climate change;

(2) to improve understanding of thresholds and nonlinearities in geophysical systems related to the mechanisms of abrupt climate change;

(3) to incorporate these mechanisms into advanced geophysical models of climate change; and

(4) to test the output of these models against an improved global array of records of past abrupt climate changes.

(b) ABRUPT CLIMATE CHANGE DEFINED.—In this section, the term ''abrupt climate change'' means a change in climate that occurs so rapidly or unexpectedly that human or natural systems may have difficulty adapting to it.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for fiscal year 2005 $60,000,000 to carry out this section, such sum to remain available until expended.

SEC. 106. IMPACT ON LOW-INCOME POPULATIONS RESEARCH.

(a) IN GENERAL.—The Secretary shall conduct research on the impact of climate change on low-income populations everywhere in the world. The research shall—

(1) include an assessment of the adverse impact of climate change on developing countries and on low-income populations in the United States;

(2) identify appropriate climate change adaptation measures and programs for developing countries and low-income populations and assess the impact of

those measures and programs on low-income populations;

(3) identify appropriate climate change mitigation strategies and programs for developing countries and low-income populations and assess the impact of those strategies and programs on developing countries and on low-income populations in the United States; and

(4) include an estimate of the costs of developing and implementing those climate change adaptation and mitigation programs.

(b) REPORT.—Within 1 year after the date of enactment of this Act, the Secretary shall transmit a report on the research conducted under subsection (a) to the Senate Committee on Commerce, Science, and Transportation, the Senate Committee on Environment and Public Works, the House of Representatives Committee on Science, and the House of Representatives Committee on Energy and Commerce.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary $2,000,000 to carry out the research required by subsection (a).

SEC. 107. NIST GREENHOUSE GAS FUNCTIONS.

Section 2(c) of the National Institute of Standards and Technology Act (15 U.S.C. 272(c)) is amended—

(1) by striking ''and'' after the semicolon in paragraph (21);

(2) by redesignating paragraph (22) as paragraph (23); and

(3) by inserting after paragraph (21) the following:

''(22) perform research to develop enhanced measurements, calibrations, standards, and technologies which will facilitate activities that reduce emissions of greenhouse gases or increase sequestration of greenhouse gases, including carbon dioxide, methane, nitrous oxide, ozone, perfluorocarbons, hydrofluorocarbons, and sulfur hexafluoride; and''.

SEC. 108. DEVELOPMENT OF NEW MEASUREMENT TECHNOLOGIES.

To facilitate implementation of section 204, the Secretary shall initiate 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 or reliable measurement technology exists. The program shall include—

(1) technologies (including remote sensing technologies) to measure carbon changes and other greenhouse gas emissions and reductions from agriculture, forestry, and other land use practices; and

(2) technologies to calculate non-carbon dioxide greenhouse gas emissions from transportation.

SEC. 109. ENHANCED ENVIRONMENTAL MEASUREMENTS AND STANDARDS.

The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended—

(1) by redesignating sections 17 through 32 as sections 18 through 33, respectively; and

(2) by inserting after section 16 the following:

"SEC. 17. CLIMATE CHANGE STANDARDS AND PROCESSES.

"(a) IN GENERAL.—The Director shall establish within the Institute a program to perform and support research on global climate change standards and processes, with the goal of providing scientific and technical knowledge applicable to the reduction of greenhouse gases (as defined in section 3(8) of the Climate Stewardship Act of 2005) and of facilitating implementation of section 204 of that Act.

"(b) RESEARCH PROGRAM.—

"(1) IN GENERAL.—The Director is authorized to conduct, directly or through contracts or grants,

a global climate change standards and processes research program.

''(2) RESEARCH PROJECTS.—The specific contents and priorities of the research program shall be determined in consultation with appropriate Federal agencies, including the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the National Aeronautics and Space Administration. The program generally shall include basic and applied research—

''(A) to develop and provide the enhanced measurements, calibrations, data, models, and reference material standards which will enable the monitoring of greenhouse gases;

''(B) to assist in establishing a baseline reference point for future trading in greenhouse gases and the measurement of progress in emissions reduction;

''(C) that will be exchanged internationally as scientific or technical information which has the stated purpose of developing mutually recognized measurements, standards, and procedures for reducing greenhouse gases; and

''(D) to assist in developing improved industrial processes designed to reduce or eliminate greenhouse gases.

''(c) NATIONAL MEASUREMENT LABORATORIES.—

''(1) IN GENERAL.—In carrying out this section, the Director shall utilize the collective skills of the National Measurement Laboratories of the National Institute of Standards and Technology to improve the accuracy of measurements that will permit better understanding and control of these industrial chemical processes and result in the reduction or elimination of greenhouse gases.

''(2) MATERIAL, PROCESS, AND BUILDING RESEARCH.—The National Measurement Laboratories shall conduct research under this subsection that includes—

''(A) developing material and manufacturing processes which are designed for energy efficiency and reduced greenhouse gas emissions into the environment;

''(B) developing chemical processes to be used by industry that, compared to similar processes in commercial use, result in reduced emissions of greenhouse gases or increased sequestration of greenhouse gases; and

''(C) enhancing building performance with a focus in developing standards or tools which will help incorporate low- or no-emission technologies into building designs.

''(3) STANDARDS AND TOOLS.—The National Measurement Laboratories shall develop standards and tools under this subsection that include software to assist designers in selecting alternate building materials, performance data on materials, artificial intelligence-aided design procedures for building subsystems and 'smart buildings', and improved test methods and rating procedures for evaluating the energy performance of residential and commercial appliances and products.

''(d) NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM.—The Director shall utilize the National Voluntary Laboratory Accreditation Program under this section to establish a program to include specific calibration or test standards and related methods and protocols assembled to satisfy the unique needs for accreditation in measuring the production of greenhouse gases. In carrying out this subsection the Director may cooperate with other departments and agencies of the Federal Government, State and local governments, and private organizations.''.

SEC. 110. TECHNOLOGY DEVELOPMENT AND DIFFUSION.

The Director of the National Institute of Standards and Technology, through the Manufacturing Extension Partnership Program, may develop a program to promote the use, by the more than 380,000 small manufacturers, of technologies and techniques that result in reduced emissions of greenhouse gases or increased sequestration of greenhouse gases.

SEC. 111. AGRICULTURAL OUTREACH PROGRAM.

(a) IN GENERAL.—The Secretary of Agriculture, acting through the Global Change Program Office and in consultation with the heads of other appropriate departments and agencies, shall establish the Climate Change Education and Outreach Initiative Program to educate, and reach out to, agricultural organizations and individual farmers on global climate change.

(b) PROGRAM COMPONENTS.—The program—

(1) shall be designed to ensure that agricultural organizations and individual farmers receive detailed information about—

(A) the potential impact of climate change on their operations and well-being;

(B) market-driven economic opportunities that may come from storing carbon in soils and vegetation, including emerging private sector markets for carbon storage; and

(C) techniques for measuring, monitoring, verifying, and inventorying such carbon capture efforts;

(2) may incorporate existing efforts in any area of activity referenced in paragraph (1) or in related areas of activity;

(3) shall provide—

(A) outreach materials to interested parties;

(B) workshops; and

(C) technical assistance; and

(4) may include the creation and development of regional centers on climate change or coordination with existing centers (including such centers within NRCS and the Cooperative State Research Education and Extension Service).

TITLE II—NATIONAL GREENHOUSE GAS DATABASE

SEC. 201. NATIONAL GREENHOUSE GAS DATABASE AND REGISTRY ESTABLISHED.

(a) ESTABLISHMENT.—As soon as practicable after the date of enactment of this Act, the Administrator, in coordination with the Secretary, the Secretary of Energy, the Secretary of Agriculture, and private sector and non-governmental organizations, shall establish, operate, and

maintain a database, to be known as the ''National Greenhouse Gas Database'', to collect, verify, and analyze information on greenhouse gas emissions by entities.

(b) NATIONAL GREENHOUSE GAS DATABASE COMPONENTS.—The database shall consist of—

(1) an inventory of greenhouse gas emissions; and

(2) a registry of greenhouse gas emission reductions and increases in greenhouse gas sequestrations.

(c) COMPREHENSIVE SYSTEM.—

(1) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Administrator shall promulgate regulations to implement a comprehensive system for greenhouse gas emissions reporting, inventorying, and reductions registration.

(2) REQUIREMENTS.—The Administrator shall ensure, to the maximum extent practicable, that—

(A) the comprehensive system described in paragraph (1) is designed to—

(i) maximize completeness, transparency, and accuracy of information reported; and

(ii) minimize costs incurred by entities in measuring and reporting greenhouse gas emissions; and

(B) the regulations promulgated under paragraph (1) establish procedures and protocols necessary—

(i) to prevent the double-counting of greenhouse gas emissions or emission reductions reported by more than 1 reporting entity;

(ii) to provide for corrections to errors in data submitted to the database;

(iii) to provide for adjustment to data by reporting entities that have had a significant organizational change (including mergers, acquisitions, and divestiture), in order to maintain comparability among data in the database over time;

(iv) to provide for adjustments to reflect new technologies or methods for measuring or calculating greenhouse gas emissions;

(v) to account for changes in registration of ownership of emission reductions

resulting from a voluntary private transaction between reporting entities; and

(vi) to clarify the responsibility for reporting in the case of any facility owned or controlled by more than 1 entity.

(3) SERIAL NUMBERS.—Through regulations promulgated under paragraph (1), the Administrator shall develop and implement a system that provides—

(A) for the verification of submitted emissions reductions registered under section 204;

(B) for the provision of unique serial numbers to identify the registered emission reductions made by an entity relative to the baseline of the entity;

(C) for the tracking of the registered reductions associated with the serial numbers; and

(D) for such action as may be necessary to prevent counterfeiting of the registered reductions.

SEC. 202. INVENTORY OF GREENHOUSE GAS EMISSIONS FOR COVERED ENTITIES.

(a) IN GENERAL.—Not later than July 1st of each calendar year after 2008, each covered entity shall submit

to the Administrator a report that states, for the preceding calendar year, the entity-wide greenhouse gas emissions (as reported at the facility level), including—

(1) the total quantity of direct greenhouse gas emissions from stationary sources, expressed in units of carbon dioxide equivalents, except those reported under paragraph (3);

(2) the amount of petroleum products sold or imported by the entity and the amount of greenhouse gases, expressed in units of carbon dioxide equivalents, that would be emitted when these products are used for transportation in the United States, as determined by the Administrator under section 301(b);

(3) the amount of hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride, expressed in units of carbon dioxide equivalents, that are sold or imported by the entity and will ultimately be emitted in the United States, as determined by the Administrator under section 301(d); and

(4) such other categories of emissions as the Administrator determines in the regulations promulgated under section 201(c)(1) may be practicable and useful for the purposes of this Act, such as—

(A) indirect emissions from imported electricity, heat, and steam;

(B) process and fugitive emissions; and

(C) production or importation of greenhouse gases.

(b) COLLECTION AND ANALYSIS OF DATA.—The Administrator shall collect and analyze information reported under subsection (a) for use under title III.

SEC. 203. GREENHOUSE GAS REDUCTION REPORTING.

(a) IN GENERAL.—Subject to the requirements described in subsection (b)—

(1) a covered entity may register greenhouse gas emission reductions achieved after 1990 and before 2010 under this section; and

(2) an entity that is not a covered entity may register greenhouse gas emission reductions achieved at any time since 1990 under this section.

(b) REQUIREMENTS.—

(1) IN GENERAL.—The requirements referred to in subsection (a) are that an entity (other than an entity described in paragraph (2)) shall—

(A) establish a baseline; and

(B) submit the report described in subsection (c)(1).

(2) REQUIREMENTS APPLICABLE TO ENTITIES ENTERING INTO CERTAIN AGREEMENTS.—An entity that enters into an agreement with a participant in the registry for the purpose of a carbon sequestration project shall not be required to comply with the requirements specified in paragraph (1) unless that entity is required to comply with the requirements by reason of an activity other than the agreement.

(c) REPORTS.—

(1) REQUIRED REPORT.—Not later than July 1st of the each calendar year beginning more than 2 years after the date of enactment of this Act, but subject to paragraph (3), an entity described in subsection (a) shall submit to the Administrator a report that states, for the preceding calendar year, the entity-wide greenhouse gas emissions (as reported at the facility level), including—

(A) the total quantity of direct greenhouse gas emissions from stationary sources, expressed in units of carbon dioxide equivalents;

(B) the amount of petroleum products sold or imported by the entity and the amount of greenhouse gases, expressed in units of carbon dioxide equivalents, that would be emitted when these products are used for transportation in

the United States, as determined by the Administrator under section 301(b);

(C) the amount of hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride, expressed in units of carbon dioxide equivalents, that are sold or imported by the entity and will ultimately be emitted in the United States, as determined by the Administrator under section 301(d); and

(D) such other categories of emissions as the Administrator determines in the regulations promulgated under section 201(c)(1) may be practicable and useful for the purposes of this Act, such as—

(i) indirect emissions from imported electricity, heat, and steam;

(ii) process and fugitive emissions; and

(iii) production or importation of greenhouse gases.

(2) VOLUNTARY REPORTING.—An entity described in subsection (a) may (along with establishing a baseline and reporting emissions under this section)—

(A) submit a report described in paragraph (1) before the date specified in that paragraph for the purposes of achieving and commoditizing greenhouse gas reductions through use of the registry and for other purposes; and

(B) submit to the Administrator, for inclusion in the registry, information that has been verified in accordance with regulations promulgated under section 201(c)(1) and that relates to—

(i) any activity that resulted in the net reduction of the greenhouse gas emissions of the entity or a net increase in sequestration by the entity that were carried out during or after 1990 and before the establishment of the database, verified in accordance with regulations promulgated under section 201(c)(1), and submitted to the Administrator before the date that is 4 years after the date of enactment of this Act; and

(ii) with respect to the calendar year preceding the calendar year in which the information is submitted, any project or

activity that resulted in the net reduction of the greenhouse gas emissions of the entity or a net increase in net sequestration by the entity.

(3) PROVISION OF VERIFICATION INFORMATION BY REPORTING ENTITIES.—Each entity that submits a report under this subsection shall provide information sufficient for the Administrator to verify, in accordance with measurement and verification methods and standards developed under section 204, that the greenhouse gas report of the reporting entity—

(A) has been accurately reported; and

(B) in the case of each voluntary report under paragraph (2), represents—

(i) actual reductions in direct greenhouse gas emissions—

(I) relative to historic emission levels of the entity; and

(II) after accounting for any increases in indirect emissions described in paragraph (1)(C)(i); or

(ii) actual increases in net sequestration.

(4) FAILURE TO SUBMIT REPORT.—An entity that participates or has participated in the registry

and that fails to submit a report required under this subsection shall be prohibited from using, or allowing another entity to use, its registered emissions reductions or increases in sequestration to satisfy the requirements of section 301.

(5) INDEPENDENT THIRD-PARTY VERIFICATION.—To meet the requirements of this section and section 203, an entity that is required to submit a report under this section may—

(A) obtain independent third-party verification; and

(B) present the results of the third-party verification to the Administrator.

(6) AVAILABILITY OF DATA.—

(A) IN GENERAL.—The Administrator shall ensure that information in the database is—

(i) published; and

(ii) accessible to the public, including in electronic format on the Internet.

(B) EXCEPTION.—Subparagraph (A) shall not apply in any case in which the Administrator determines that publishing or otherwise making available information described in that subparagraph poses a risk to national security

or discloses confidential business information that can not be derived from information that is otherwise publicly available and that would cause competitive harm if published.

(7) DATA INFRASTRUCTURE.—The Administrator shall ensure, to the maximum extent practicable, that the database uses, and is integrated with, Federal, State, and regional greenhouse gas data collection and reporting systems in effect as of the date of enactment of this Act.

(8) ADDITIONAL ISSUES TO BE CONSIDERED.—In promulgating the regulations under section 201(c)(1) and implementing the database, the Administrator shall take into consideration a broad range of issues involved in establishing an effective database, including—

(A) the data and information systems and measures necessary to identify, track, and verify greenhouse gas emissions in a manner that will encourage private sector trading and exchanges;

(B) the greenhouse gas reduction and sequestration measurement and estimation methods and standards applied in other countries, as applicable or relevant;

(C) the extent to which available fossil fuels, greenhouse gas emissions, and greenhouse gas production and importation data are adequate to implement the database; and

(D) the differences in, and potential uniqueness of, the facilities, operations, and business and other relevant practices of persons and entities in the private and public sectors that may be expected to participate in the database.

(d) ANNUAL REPORT.—The Administrator shall publish an annual report that—

(1) describes the total greenhouse gas emissions and emission reductions reported to the database during the year covered by the report;

(2) provides entity-by-entity and sector-by-sector analyses of the emissions and emission reductions reported;

(3) describes the atmospheric concentrations of greenhouse gases;

(4) provides a comparison of current and past atmospheric concentrations of greenhouse gases; and

(5) describes the activity during the year covered by the period in the trading of greenhouse gas emission allowances.

SEC. 204. MEASUREMENT AND VERIFICATION.

(a) STANDARDS.—

(1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Secretary shall establish by rule, in coordination with the Administrator, the Secretary of Energy, and the Secretary of Agriculture, comprehensive measurement and verification methods and standards to ensure a consistent and technically accurate record of greenhouse gas emissions, emission reductions, sequestration, and atmospheric concentrations for use in the registry.

(2) REQUIREMENTS.—The methods and standards established under paragraph (1) shall include—

(A) a requirement that a covered entity use a continuous emissions monitoring system, or another system of measuring or estimating emissions that is determined by the Secretary to provide information with precision, reliability, accessibility, and timeliness similar to that provided by a continuous emissions monitoring system where technologically feasible;

(B) establishment of standardized measurement and verification practices for reports made by all entities participating in the registry, taking into account—

(i) protocols and standards in use by entities requiring or desiring to participate in the registry as of the date of development of the methods and standards under paragraph (1);

(ii) boundary issues, such as leakage;

(iii) avoidance of double counting of greenhouse gas emissions and emission reductions;

(iv) protocols to prevent a covered entity from avoiding the requirements of this Act by reorganization into multiple entities that are under common control; and

(v) such other factors as the Secretary, in consultation with the Administrator, determines to be appropriate;

(C) establishment of methods of—

(i) estimating greenhouse gas emissions, for those cases in which the Secretary determines that methods of monitoring, measuring or estimating such emissions with precision, reliability, accessibility, and timeliness similar to that provided by a continuous emissions monitoring

system are not technologically feasible at present; and

(ii) reporting the accuracy of such estimations;

(D) establishment of measurement and verification standards applicable to actions taken to reduce, avoid, or sequester greenhouse gas emissions;

(E) in coordination with the Secretary of Agriculture, standards to measure the results of the use of carbon sequestration and carbon recapture technologies, including—

(i) soil carbon sequestration practices; and

(ii) forest preservation and reforestation activities that adequately address the issues of permanence, leakage, and verification;

(E) establishment of such other measurement and verification standards as the Secretary, in consultation with the Secretary of Agriculture, the Administrator, and the Secretary of Energy, determines to be appropriate;

(F) establishment of standards for obtaining the Secretary's approval of the suitability of

geological storage sites that include evaluation of both the geology of the site and the entity's capacity to manage the site; and

(G) establishment of other features that, as determined by the Secretary, will allow entities to adequately establish a fair and reliable measurement and reporting system.

(b) REVIEW AND REVISION.—The Secretary shall periodically review, and revise as necessary, the methods and standards developed under subsection (a).

(c) PUBLIC PARTICIPATION.—The Secretary shall—

(1) make available to the public for comment, in draft form and for a period of at least 90 days, the methods and standards developed under subsection (a); and

(2) after the 90-day period referred to in paragraph (1), in coordination with the Secretary of Energy, the Secretary of Agriculture, and the Administrator, adopt the methods and standards developed under subsection (a) for use in implementing the database.

(d) EXPERTS AND CONSULTANTS.—

(1) IN GENERAL.—The Secretary may obtain the services of experts and consultants in the private and nonprofit sectors in accordance with section

3109 of title 5, United States Code, in the areas of greenhouse gas measurement, certification, and emission trading.

(2) AVAILABLE ARRANGEMENTS.—In obtaining any service described in paragraph (1), the Secretary may use any available grant, contract, cooperative agreement, or other arrangement authorized by law.

TITLE III—MARKET-DRIVEN GREENHOUSE GAS REDUCTIONS

Subtitle A—Emission Reduction Requirements; Use of Tradeable Allowances

SEC. 301. COVERED ENTITIES MUST SUBMIT ALLOWANCES FOR EMISSIONS.

(a) IN GENERAL.—Beginning with calendar year 2010—

(1) each covered entity in the electric generation, industrial, and commercial sectors shall submit to the Administrator one tradeable allowance for every metric ton of greenhouse gases, measured in units of carbon dioxide equivalents, that it emits from stationary sources, except those described in paragraph (2);

(2) each producer or importer of hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride that is a covered entity shall submit to the Administrator one tradeable allowance for every metric ton of hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride, measured in units of carbon dioxide equivalents; that it produces or imports and that will ultimately be emitted in the United States, as determined by the Administrator under subsection (d) and

(3) each petroleum refiner or importer that is a covered entity shall submit one tradeable allowance for every unit of petroleum product it sells that will produce one metric ton of greenhouse gases, measured in units of carbon dioxide equivalents, as determined by the Administrator under subsection (b), when used for transportation.

(b) DETERMINATION OF TRANSPORTATION SECTOR AMOUNT.—For the transportation sector, the Administrator shall determine the amount of greenhouse gases, measured in units of carbon dioxide equivalents, that will be emitted when petroleum products are used for transportation.

(c) EXCEPTION FOR CERTAIN DEPOSITED EMISSIONS.—Notwithstanding subsection (a), a covered entity

is not required to submit a tradeable allowance for any amount of greenhouse gas that would otherwise have been emitted from a facility under the ownership or control of that entity if—

(1) the emission is deposited in a geological storage facility approved by the Administrator under section 204(a)(2)(F); and

(2) the entity agrees to submit tradeable allowances for any portion of the deposited emission that is subsequently emitted from that facility.

(d) DETERMINATION OF HYDROFLUROCARBON, PERFLUOROCARBON, AND SULFUR HEXAFLUORIDE AMOUNT.—The Administrator shall determine the amounts of hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride, measured in units of carbon dioxide equivalents, that will be deemed to be emitted for purposes of this Act.

SEC. 302. COMPLIANCE.

(a) IN GENERAL.—

(1) SOURCE OF TRADEABLE ALLOWANCES USED.—A covered entity may use a tradeable allowance to meet the requirements of this section without regard to whether the tradeable allowance was allocated to it under subtitle B or acquired from an-

other entity or the Climate Change Credit Corporation established under section 351.

(2) VERIFICATION BY ADMINISTRATOR.—At various times during each year, the Administrator shall determine whether each covered entity has met the requirements of this section. In making that determination, the Administrator shall—

(A) take into account the tradeable allowances submitted by the covered entity to the Administrator; and

(B) retire the serial number assigned to each such tradeable allowance.

(b) ALTERNATIVE MEANS OF COMPLIANCE.—For the years 2010 and after, a covered entity may satisfy up to 15 percent of its total allowance submission requirement under this section by—

(1) submitting tradeable allowances from another nation's market in greenhouse gas emissions if—

(A) the Secretary determines that the other nation's system for trading in greenhouse gas emissions is complete, accurate, and transparent and reviews that determination at least once every 5 years;

(B) the other nation has adopted enforceable limits on its greenhouse gas emissions which the tradeable allowances were issued to implement; and

(C) the covered entity certifies that the tradeable allowance has been retired unused in the other nation's market;

(2) submitting a registered net increase in sequestration, as registered in the database, adjusted, if necessary, to comply with the accounting standards and methods established under section 372;

(3) submitting a greenhouse gas emissions reduction (other than a registered net increase in sequestration) that was registered in the database by a person that is not a covered entity; or

(4) submitting credits obtained from the Administrator under section 303.

(c) DEDICATED PROGRAM FOR SEQUESTRATION IN AGRICULTURAL SOILS.—If a covered entity chooses to satisfy 15 percent of its total allowance submission requirements under the provisions of subsection (b), it shall satisfy up to 1.5 percent of its total allowance submission requirement by submitting registered net increases in sequestration in agricultural soils, as registered in the data-

base, adjusted, if necessary, to comply with the accounting standards and methods established under section 371.

SEC. 303. BORROWING AGAINST FUTURE REDUCTIONS.

(a) IN GENERAL.—The Administrator shall establish a program under which a covered entity may—

(1) receive a credit in the current calendar year for anticipated reductions in emissions in a future calendar year; and

(2) use the credit in lieu of a tradeable allowance to meet the requirements of this Act for the current calendar year, subject to the limitation imposed by section 302(b).

(b) DETERMINATION OF TRADEABLE ALLOWANCE CREDITS.—The Administrator may make credits available under subsection (a) only for anticipated reductions in emissions that—

(1) are attributable to the realization of capital investments in equipment, the construction, reconstruction, or acquisition of facilities, or the deployment of new technologies—

(A) for which the covered entity has executed a binding contract and secured, or applied for, all necessary permits and operating or implementation authority;

(B) that will not become operational within the current calendar year; and

(C) that will become operational and begin to reduce emissions from the covered entity within 5 years after the year in which the credit is used; and

(2) will be realized within 5 years after the year in which the credit is used.

(c) CARRYING COST.—If a covered entity uses a credit under this section to meet the requirements of this Act for a calendar year (referred to as the use year), the tradeable allowance requirement for the year from which the credit was taken (referred to as the source year) shall be increased by an amount equal to—

(1) 10 percent for each credit borrowed from the source year; multiplied by

(2) the number of years beginning after the use year and before the source year.

(d) MAXIMUM BORROWING PERIOD.—A credit from a year beginning more than 5 years after the current year may not be used to meet the requirements of this Act for the current year.

(e) FAILURE TO ACHIEVE REDUCTIONS GENERATING CREDIT.—If a covered entity that uses a credit under this section fails to achieve the anticipated reduc-

tion for which the credit was granted for the year from which the credit was taken, then—

(1) the covered entity's requirements under this Act for that year shall be increased by the amount of the credit, plus the amount determined under subsection (c);

(2) any tradeable allowances submitted by the covered entity for that year shall be counted first against the increase in those requirements; and

(3) the covered entity may not use credits under this section to meet the increased requirements.

SEC. 304. OTHER USES OF TRADEABLE ALLOWANCES.

(a) IN GENERAL.—Tradeable allowances may be sold, exchanged, purchased, retired, or used as provided in this section.

(b) INTERSECTOR TRADING.—Covered entities may purchase or otherwise acquire tradeable allowances from other covered sectors to satisfy the requirements of section 301.

(c) CLIMATE CHANGE CREDIT ORGANIZATION.—The Climate Change Credit Corporation established under section 351 may sell tradeable allowances allocated to it under section 332(a)(2) to any covered entity or to any investor, broker, or dealer in such tradeable allowances.

The Climate Change Credit Corporation shall use all proceeds from such sales in accordance with the provisions of section 352.

(d) BANKING OF TRADEABLE ALLOWANCES.—Notwithstanding the requirements of section 301, a covered entity that has more than a sufficient amount of tradeable allowances to satisfy the requirements of section 301, may refrain from submitting a tradeable allowance to satisfy the requirements in order to sell, exchange, or use the tradeable allowance in the future.

SEC. 305. EXEMPTION OF SOURCE CATEGORIES.

(a) IN GENERAL.—The Administrator may grant an exemption from the requirements of this Act to a source category if the Administrator determines, after public notice and comment, that it is not feasible to measure or estimate emissions from that source category, until such time as measurement or estimation becomes feasible.

(b) REDUCTION OF LIMITATIONS.—If the Administrator exempts a source category under subsection (a), the Administrator shall also reduce the total tradeable allowances under section 331(a)(1) by the amount of greenhouse gas emissions that the exempted source category emitted in calendar year 2000, as identified in the 2000 Inventory.

(c) LIMITATION ON EXEMPTION.—The Administrator may not grant an exemption under subsection (a) to carbon dioxide produced from fossil fuel.

Subtitle B—Establishment and Allocation of Tradeable Allowances

SEC. 331. ESTABLISHMENT OF TRADEABLE ALLOWANCES.

(a) IN GENERAL.—The Administrator shall promulgate regulations to establish tradeable allowances, denominated in units of carbon dioxide equivalents, for calendar years beginning after 2009, equal to—

(1) 5896 million metric tons, measured in units of carbon dioxide equivalents, reduced by

(2) the amount of emissions of greenhouse gases in calendar year 2000 from non-covered entities.

(b) SERIAL NUMBERS.—The Administrator shall assign a unique serial number to each tradeable allowance established under subsection (a), and shall take such action as may be necessary to prevent counterfeiting of tradeable allowances.

(c) NATURE OF TRADEABLE ALLOWANCES.—A tradeable allowance is not a property right, and nothing in this title or any other provision of law limits the authority of the United States to terminate or limit a tradeable allowance.

(d) NON-COVERED ENTITY.—In this section:

(1) IN GENERAL.—The term ''non-covered entity'' means an entity that—

(A) owns or controls a source of greenhouse gas emissions in the electric power, industrial, or commercial sectors of the United States economy (as defined in the Inventory), refines or imports petroleum products for use in transportation, or produces or imports hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride; and

(B) is not a covered entity.

(2) EXCEPTION.—Notwithstanding paragraph (1), an entity that is a covered entity for any calendar year beginning after 2009 shall not be considered to be a non-covered entity for purposes of subsection (a) only because it emitted, or its products would have emitted, 10,000 metric tons or less of greenhouse gas, measured in units of carbon dioxide equivalents, in the year 2000.

SEC. 332. DETERMINATION OF TRADEABLE ALLOWANCE ALLOCATIONS.

(a) IN GENERAL.—The Secretary shall determine—

(1) the amount of tradeable allowances to be allocated to each covered sector of that sector's allotments; and

(2) the amount of tradeable allowances to be allocated to the Climate Change Credit Corporation established under section 351.

(b) ALLOCATION FACTORS.—In making the determination required by subsection (a), the Secretary shall consider—

(1) the distributive effect of the allocations on household income and net worth of individuals;

(2) the impact of the allocations on corporate income, taxes, and asset value;

(3) the impact of the allocations on income levels of consumers and on their energy consumption;

(4) the effects of the allocations in terms of economic efficiency;

(5) the ability of covered entities to pass through compliance costs to their customers;

(6) the degree to which the amount of allocations to the covered sectors should decrease over time; and

(7) the need to maintain the international competitiveness of United States manufacturing and

avoid the additional loss of United States manufacturing jobs.

(c) ALLOCATION RECOMMENDATIONS AND IMPLEMENTATION.—Before allocating or providing tradeable allowances under subsection (a) and within 24 months after the date of enactment of this Act, the Secretary shall submit the determinations under subsection (a) to the Senate Committee on Commerce, Science, and Transportation, the Senate Committee on Environment and Public Works, the House of Representatives Committee on Science, and the House of Representatives Committee on Energy and Commerce. The Secretary's determinations under paragraph (1), including the allocations and provision of tradeable allowances pursuant to that determination, are deemed to be a major rule (as defined in section 804(2) of title 5, United States Code), and subject to the provisions of chapter 8 of that title.

SEC. 333. ALLOCATION OF TRADEABLE ALLOWANCES.

(a) IN GENERAL.—Beginning with calendar year 2010 and after taking into account any initial allocations under section 334, the Administrator shall—

(1) allocate to each covered sector that sector's allotments determined by the Administrator under section 332 (adjusted for any such initial allocations

and the allocation to the Climate Change Credit Corporation established under section 351); and

(2) allocate to the Climate Change Credit Corporation established under section 351 the tradeable allowances allocable to that Corporation.

(b) INTRASECTORIAL ALLOTMENTS.—The Administrator shall, by regulation, establish a process for the allocation of tradeable allowances under this section, without cost to covered entities, that will—

(1) encourage investments that increase the efficiency of the processes that produce greenhouse gas emissions;

(2) minimize the costs to the government of allocating the tradeable allowances;

(3) not penalize a covered entity for emissions reductions made before 2010 and registered with the database; and

(4) provide sufficient allocation for new entrants into the sector.

(c) POINT SOURCE ALLOCATION.—The Administrator shall allocate the tradeable allowances for the electricity generation, industrial, and commercial sectors to the entities owning or controlling the point sources of greenhouse gas emissions within that sector.

(d) HYDROFLUOROCARBONS, PERFLUOROCARBONS, AND SULFUR HEXAFLUORIDE.—The Administrator shall allocate the tradeable allowances for producers or importers of hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride to such producers or importers.

(e) SPECIAL RULE FOR ALLOCATION WITHIN THE TRANSPORTATION SECTOR.—The Administrator shall allocate the tradeable allowances for the transportation sector to petroleum refiners or importers that produce or import petroleum products that will be used as fuel for transportation.

(f) ALLOCATIONS TO RURAL ELECTRIC COOPERATIVES.—For each electric generating unit that is owned or operated by a rural electric cooperative, the Administrator shall allocate each year, at no cost, allowances in an amount equal to the greenhouse gas emissions of each such unit in 2000, plus an amount equal to the average emissions growth expected for all such units. The allocations shall be offset from the allowances allocated to the Climate Change Credit Corporation.

SEC. 334. ENSURING TARGET ADEQUACY.

(a) IN GENERAL.—Beginning 2 years after the date of enactment of this Act, the Under Secretary of Commerce for Oceans and Atmosphere shall review the allow-

ances established by section 331 no less frequently than biennially—

(1) to re-evaluate the levels established by that subsection, after taking into account the best available science and the most currently available data, and

(2) to re-evaluate the environmental and public health impacts of specific concentration levels of greenhouse gases,

to determine whether the allowances established by subsection (a) continue to be consistent with the objective of the United Nations' Framework Convention on Climate Change of stabilizing levels of greenhouse gas emissions at a level that will prevent dangerous anthropogenic interference with the climate system.

(b) REVIEW OF 2010 LEVELS.—The Under Secretary shall specifically review in 2008 the level established under section 331(a)(1), and transmit a report on his reviews, together with any recommendations, including legislative recommendations, for modification of the levels, to the Senate Committee on Commerce, Science, and Transportation, the Senate Committee on Environment and Public Works, the House of Representatives Committee on Science, and the House of Representatives Committee on Energy and Commerce.

SEC. 335. INITIAL ALLOCATIONS FOR EARLY PARTICIPATION AND ACCELERATED PARTICIPATION.

Before making any allocations under section 333, the Administrator shall allocate—

(1) to any covered entity an amount of tradeable allowances equivalent to the amount of greenhouse gas emissions reductions registered by that covered entity in the national greenhouse gas database if—

(A) the covered entity has requested to use the registered reduction in the year of allocation;

(B) the reduction was registered prior to 2010; and

(C) the Administrator retires the unique serial number assigned to the reduction under section 201(c)(3); and

(2) to any covered entity that has entered into an accelerated participation agreement under section 336, such tradeable allowances as the Administrator has determined to be appropriate under that section.

SEC. 336. BONUS FOR ACCELERATED PARTICIPATION.

(a) IN GENERAL.—If a covered entity executes an agreement with the Administrator under which it agrees to reduce its level of greenhouse gas emissions to a level no greater than the level of its greenhouse gas emissions

for calendar year 1990 by the year 2010, then, for the 6-year period beginning with calendar year 2010, the Administrator shall—

(1) provide additional tradeable allowances to that entity when allocating allowances under section 334 in order to recognize the additional emissions reductions that will be required of the covered entity; and

(2) allow that entity to satisfy 20 percent of its requirements under section 301 by—

(A) submitting tradeable allowances from another nation's market in greenhouse gas emissions under the conditions described in section 312(b)(1);

(B) submitting a registered net increase in sequestration, as registered in the National Greenhouse Gas Database established under section 201, and as adjusted by the appropriate sequestration discount rate established under section 371; or

(C) submitting a greenhouse gas emission reduction (other than a registered net increase in sequestration) that was registered in the National Greenhouse Gas Database by a person that is not a covered entity.

(b) TERMINATION.—An entity that executes an agreement described in subsection (a) may terminate the agreement at any time.

(c) FAILURE TO MEET COMMITMENT.—If an entity that executes an agreement described in subsection (a) fails to achieve the level of emissions to which it committed by calendar year 2010—

(1) its requirements under section 301 shall be increased by the amount of any tradeable allowances provided to it under subsection (a)(1); and

(2) any tradeable allowances submitted thereafter shall be counted first against the increase in those requirements.

Subtitle C—Climate Change Credit Corporation

SEC. 351. ESTABLISHMENT.

(a) IN GENERAL.—The Climate Change Credit Corporation is established as a nonprofit corporation without stock. The Corporation shall not be considered to be an agency or establishment of the United States Government.

(b) APPLICABLE LAWS.—The Corporation shall be subject to the provisions of this title and, to the extent consistent with this title, to the District of Columbia Business Corporation Act.

(c) BOARD OF DIRECTORS.—The Corporation shall have a board of directors of 5 individuals who are citizens of the United States, of whom 1 shall be elected annually by the board to serve as chairman. No more than 3 members of the board serving at any time may be affiliated with the same political party. The members of the board shall be appointed by the President of the United States, by and with the advice and consent of the Senate and shall serve for terms of 5 years.

SEC. 352. PURPOSES AND FUNCTIONS.

(a) TRADING.—The Corporation—

(1) shall receive and manage tradeable allowances allocated to it under section 333(a)(2); and

(2) shall buy and sell tradeable allowances, whether allocated to it under that section or obtained by purchase, trade, or donation from other entities; but

(3) may not retire tradeable allowances unused.

(b) USE OF TRADEABLE ALLOWANCES AND PROCEEDS.—

(1) IN GENERAL.—The Corporation shall use the tradeable allowances, and proceeds derived from its trading activities in tradeable allowances, to reduce costs borne by consumers as a result of the

greenhouse gas reduction requirements of this Act. The reductions—

(A) may be obtained by buy-down, subsidy, negotiation of discounts, consumer rebates, or otherwise;

(B) shall be, as nearly as possible, equitably distributed across all regions of the United States; and

(C) may include arrangements for preferential treatment to consumers who can least afford any such increased costs.

(2) TRANSITION ASSISTANCE TO DISLOCATED WORKERS AND COMMUNITIES.—The Corporation shall allocate a percentage of the proceeds derived from its trading activities in tradeable allowances to provide transition assistance to dislocated workers and communities. Transition assistance may take the form of—

(A) grants to employers, employer associations, and representatives of employees—

(i) to provide training, adjustment assistance, and employment services to dislocated workers; and

(ii) to make income-maintenance and needs-related payments to dislocated workers; and

(B) grants to State and local governments to assist communities in attracting new employers or providing essential local government services.

(3) PHASE-OUT OF TRANSITION ASSISTANCE.—The percentage allocated by the Corporation under paragraph (2)—

(A) shall be 20 percent for 2010;

(B) shall be reduced by 2 percentage points each year thereafter; and

(C) may not be reduced below zero.

(4) ADAPTATION AND MITIGATION ASSISTANCE FOR LOW-INCOME PERSONS AND COMMUNITIES.—The Corporation shall allocate a portion of the proceeds derived from its trading activities to funding climate change adaptation and mitigation programs to assist low-income populations identified in the report submitted under section 106(b) as having particular needs in addressing the impact of climate change.

(5) TECHNOLOGY DEPLOYMENT PROGRAMS.—The Corporation shall establish and carry out a pro-

gram, through direct grants, revolving loan programs, or other financial measures, to provide support for the deployment of technology to assist in compliance with this Act by distributing the proceeds from no less than 10 percent of the total allowances allocated to it. The support shall include the following:

(A) COAL GASIFICATION COMBINED-CYCLE AND GEOLOGICAL CARBON STORAGE PROGRAM.—The Corporation shall establish and carry out a program, through direct grants, to provide incentives for the repowering of existing facilities or construction of new facilities producing electricity or other products from coal gasification combined-cycle plants that capture and geologically store at least 90 percent of the carbon dioxide produced at the facility in accordance with requirements established by the Administrator to ensure the permanence of the storage and that such storage will not cause or contribute to significant adverse effects on public health or the environment. The Corporation shall ensure that no less than 20 percent of the funding under this program is distributed to rural electric cooperatives.

(B) AGRICULTURAL PROGRAMS.—The Corporation shall establish and carry out a program, through direct grants, revolving loan programs, or other financial measures, to provide incentives for greenhouse gas emissions reductions or net increases in greenhouse gas sequestration on agricultural lands. The program shall include incentives for—

(i) production of wind energy on agricultural lands;

(ii) agricultural management practices that achieve verified, incremental increases in net carbon sequestration, in accordance with the requirements established by the Administrator under section 371; and

(iii) production of renewable fuels that, after consideration of the energy needed to produce such fuels, result in a net reduction in greenhouse gas emissions.

Subtitle D—Sequestration Accounting; Penalties

SEC. 371. SEQUESTRATION ACCOUNTING.

(a) SEQUESTRATION ACCOUNTING.—If a covered entity uses a registered net increase in sequestration to satisfy the requirements of section 301 for any year, that

covered entity shall submit information to the Administrator every 5 years thereafter sufficient to allow the Administrator to determine, using the methods and standards created under section 204, whether that net increase in sequestration still exists. Unless the Administrator determines that the net increase in sequestration continues to exist, the covered entity shall offset any loss of sequestration by submitting additional tradeable allowances of equivalent amount in the calender year following that determination.

(b) REGULATIONS REQUIRED.—The Secretary, acting through the Under Secretary of Commerce for Science and Technology, in coordination with the Secretary of Agriculture, the Secretary of Energy, and the Administrator, shall issue regulations establishing the sequestration accounting rules for all classes of sequestration projects.

(c) CRITERIA FOR REGULATIONS.—In issuing regulations under this section, the Secretary shall use the following criteria:

(1) If the range of possible amounts of net increase in sequestration for a particular class of sequestration project is not more than 10 percent of the median of that range, the amount of sequestration awarded shall be equal to the median value of that range.

(2) If the range of possible amounts of net increase in sequestration for a particular class of sequestration project is more than 10 percent of the median of that range, the amount of sequestration awarded shall be equal to the fifth percentile of that range.

(3) The regulations shall include procedures for accounting for potential leakage from sequestration projects and for ensuring that any registered increase in sequestration is in addition that which would have occurred if this Act had not been enacted.

(d) UPDATES.—The Secretary shall update the sequestration accounting rules for every class of sequestration project at least once every 5 years.

SEC. 372. PENALTIES.

Any covered entity that fails to meet the requirements of section 301 for a year shall be liable for a civil penalty, payable to the Administrator, equal to thrice the market value (determined as of the last day of the year at issue) of the tradeable allowances that would be necessary for that covered entity to meet those requirements on the date of the emission that resulted in the violation.

○