105TH CONGRESS
2D SESSION

S. 2636

To promote economically sound modernization of electric power generation capacity in the United States, to establish requirements to improve the combustion heat rate efficiency of fossil fuel-fired electric utility generating units, to reduce emissions of mercury, carbon dioxide, nitrogen oxides, and sulfur dioxide, to require that all fossil fuel-fired electric utility generating units operating in the United States meet new source review requirements, and to promote alternative energy sources such as solar, wind, and biomass.

IN THE SENATE OF THE UNITED STATES

OCTOBER 15 (legislative day, OCTOBER 2), 1998

Mr. LEAHY introduced the following bill; which was read twice and referred to the Committee on Finance

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A BILL

To promote economically sound modernization of electric power generation capacity in the United States, to establish requirements to improve the combustion heat rate efficiency of fossil fuel-fired electric utility generating units, to reduce emissions of mercury, carbon dioxide, nitrogen oxides, and sulfur dioxide, to require that all fossil fuel-fired electric utility generating units operating in the United States meet new source review requirements, and to promote alternative energy sources such as solar, wind, and biomass.

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 ''Clean Power Plant and Modernization Act of 1998''.

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

Sec. 1. Short title; table of contents.
Sec. 2. Findings and purposes.
Sec. 3. Definitions.
Sec. 4. Combustion heat rate efficiency standards for fossil fuel-fired generating units.
Sec. 5. Air emission standards for fossil fuel-fired generating units.
Sec. 6. Accelerated depreciation for investor-owned generating units.
Sec. 7. Grants for publicly owned generating units.
Sec. 8. Clean Air Trust Fund.
Sec. 9. Carbon dioxide emission fees.
Sec. 10. Extension of renewable energy production credit.
Sec. 11. Recognition of permanent emission reductions in future climate change implementation programs.
Sec. 12. Renewable power generation technologies.
Sec. 13. Evaluation of implementation of this Act and other statutes.
Sec. 14. Assistance for workers adversely affected by reduced consumption of coal.
Sec. 15. Community economic development incentives for communities adversely affected by reduced consumption of coal.
Sec. 16. Carbon sequestration.

SEC. 2. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress finds that—

(1) the United States is relying increasingly on old, needlessly inefficient, and highly polluting powerplants to provide electricity;

(2) the pollution from those powerplants causes a wide range of health and environmental damage, including—

(A) fine particulate matter that is associated with the deaths of approximately 50,000 Americans annually;

(B) urban ozone, commonly known as ''smog'', that impairs normal respiratory functions and is of special concern to individuals afflicted with asthma, emphysema, and other respiratory ailments;

(C) rural ozone that obscures visibility and damages forests and wildlife;

(D) acid deposition that damages estuaries, lakes, rivers, and streams (and the plants and animals that depend on them for survival) and leaches heavy metals from the soil;

(E) mercury and heavy metal contamination that renders fish unsafe to eat, with especially serious consequences for pregnant women and their fetuses;

(F) eutrophication of estuaries, lakes, rivers, and streams; and

(G) global climate change that may fundamentally and irreversibly alter human, animal, and plant life;

(3) tax laws and environmental laws—

(A) provide a very strong incentive for electric utilities to keep old, dirty, and inefficient generating units in operation; and

(B) provide a strong disincentive to investing in new, clean, and efficient generating technologies;

(4) fossil fuel-fired power plants, consisting of plants fueled by coal, fuel oil, and natural gas, produce nearly two-thirds of the electricity generated in the United States;

(5) since, according to the Department of Energy, the average combustion heat rate efficiency of fossil fuel-fired power plants in the United States is 33 percent, 67 percent of the heat generated by burning the fuel is wasted;

(6) technology exists to increase the combustion heat rate efficiency of coal combustion from 35 percent to 50 percent above current levels, and technological advances are possible that would boost the net combustion heat rate efficiency even more;

(7) coal-fired power plants are the leading source of mercury emissions in the United States, releasing an estimated 52 tons of this potent neurotoxin each year;

(8) in 1996, fossil fuel-fired power plants in the United States produced over 2,000,000,000 tons of carbon dioxide, the primary greenhouse gas;

(9) on average—

(A) fossil fuel-fired power plants emit 1,999 pounds of carbon dioxide for every megawatt hour of electricity produced;

(B) coal-fired power plants emit 2,110 pounds of carbon dioxide for every megawatt hour of electricity produced; and

(C) coal-fired power plants emit 205 pounds of carbon dioxide for every million British thermal units of fuel consumed;

(10) the average fossil fuel-fired generating unit in the United States commenced operation in 1964, 6 years before the Clean Air Act (42 U.S.C. 7401 et seq.) was amended to establish requirements for stationary sources;

(11)(A) according to the Department of Energy, only 23 percent of the 1,000 largest emitting units are subject to stringent new source performance standards under section 111 of the Clean Air Act (42 U.S.C. 7411); and

(B) the remaining 77 percent, commonly referred to as ''grandfathered'' power plants, are subject to much less stringent requirements;

(12) on the basis of scientific and medical evidence, exposure to mercury and mercury compounds is of concern to human health and the environment;

(13) pregnant women and their developing fetuses, women of childbearing age, and children are most at risk for mercury-related health impacts such as neurotoxicity;

(14) although exposure to mercury and mercury compounds occurs most frequently through consumption of mercury-contaminated fish, such exposure can also occur through—

(A) ingestion of breast milk;

(B) ingestion of drinking water, and foods other than fish, that are contaminated with methyl mercury; and

(C) dermal uptake through contact with soil and water;

(15) the report entitled ''Mercury Study Report to Congress'' and submitted by the Environmental Protection Agency under section 112(n)(1)(B) of the Clean Air Act (42 U.S.C. 7412(n)(1)(B)), in conjunction with other scientific knowledge, supports a

plausible link between mercury emissions from combustion of coal and other fossil fuels and mercury concentrations in air, soil, water, and sediments;

(16)(A) the Environmental Protection Agency report described in paragraph (15) supports a plausible link between mercury emissions from combustion of coal and other fossil fuels and methyl mercury concentrations in freshwater fish;

(B) in 1997, 39 States issued health advisories that warned the public about consuming mercury-tainted fish, as compared to 27 States that issued such advisories in 1993; and

(C) the number of mercury advisories nationwide increased from 899 in 1993 to 1,675 in 1996, an increase of 86 percent;

(17) pollution from powerplants can be reduced and possibly eliminated through adoption of modern technologies and practices, including—

(A) methods of combusting coal that are intrinsically more efficient and less polluting, such as pressurized fluidized bed combustion and an integrated gasification combined cycle system;

(B) methods of combusting cleaner fuels, such as gases from fossil and biological resources and combined cycle turbines;

(C) treating flue gases through application of pollution controls;

(D) methods of extracting energy from natural, renewable resources of energy, such as solar and wind sources;

(E) methods of producing electricity and thermal energy from fuels without conventional combustion, such as fuel cells; and

(F) methods of extracting and using heat that would otherwise be wasted, for the purpose of heating or cooling office buildings, providing steam to processing facilities, or otherwise increasing total efficiency; and

(18) adopting the technologies and practices described in paragraph (17) would increase competitiveness and productivity, secure employment, save lives, and preserve the future.

(b) PURPOSES.—The purposes of this Act are—

(1) to protect and preserve the environment while safeguarding health by ensuring that each fossil fuel-fired generating unit minimizes air pollution

to levels that are technologically feasible through modernization and application of pollution controls;

(2) to greatly reduce the quantities of mercury, carbon dioxide, sulfur dioxide, and nitrogen oxides entering the environment from combustion of fossil fuels;

(3) to permanently reduce emissions of those pollutants by increasing the combustion heat rate efficiency of fossil fuel-fired generating units to levels achievable through use of commercially available combustion technology, installation of pollution controls, and expanded use of renewable energy sources such as biomass, geothermal, solar, and wind sources;

(4)(A) to create financial and regulatory incentives to retire thermally inefficient generating units and replace them with new units that employ high-thermal-efficiency combustion technology; and

(B) to increase use of renewable energy sources such as biomass, geothermal, solar, and wind sources;

(5) to establish the Clean Air Trust Fund for the purpose of encouraging and facilitating the modernization of fossil fuel-fired generating units in the United States;

(6) to eliminate the ''grandfather'' loophole in the Clean Air Act relating to sources in operation before the promulgation of standards under section 111 of that Act (42 U.S.C. 7411);

(7) to express the sense of Congress that permanent reductions in emissions of greenhouse gases that are accomplished through the retirement of old units and replacement by new units that meet the combustion heat rate efficiency and emission standards specified in this Act should be credited to the utility sector in any climate change implementation program;

(8) to promote permanent and safe disposal of mercury recovered through coal cleaning, flue gas control systems, and other methods of mercury pollution control;

(9) to increase public knowledge of the sources of mercury exposure and the threat to public health from mercury, particularly the threat to the health of pregnant women and their fetuses, women of childbearing age, and children;

(10) to decrease significantly the threat to human health and the environment posed by mercury;

(11) to promote energy efficiency in homes, including major appliances;

(12) to provide worker retraining for workers adversely affected by reduced consumption of coal; and

(13) to provide economic development incentives for communities adversely affected by reduced consumption of coal.

SEC. 3. DEFINITIONS.

In this Act:

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

(2) GENERATING UNIT.—The term ''generating unit'' means an electric utility generating unit.

SEC. 4. COMBUSTION HEAT RATE EFFICIENCY STANDARDS FOR FOSSIL FUEL-FIRED GENERATING UNITS.

(a) STANDARDS.—

(1) IN GENERAL.—Not later than the day that is 10 years after the date of enactment of this Act, each fossil fuel-fired generating unit that commences operation on or before that day shall achieve and maintain, at all operating levels, a combustion heat

rate efficiency of not less than 45 percent (based on the higher heating value of the fuel).

(2) FUTURE GENERATING UNITS.—Each fossil fuel-fired generating unit that commences operation more than 10 years after the date of enactment of this Act shall achieve and maintain, at all operating levels, a combustion heat rate efficiency of not less than 50 percent (based on the higher heating value of the fuel), unless granted a waiver under subsection (d).

(b) TEST METHODS.—Not later than 2 years after the date of enactment of this Act, the Administrator, in consultation with the Secretary of Energy, shall promulgate methods for determining initial and continuing compliance with this section.

(c) PERMIT REQUIREMENT.—Not later than 10 years after the date of enactment of this Act, each generating unit shall have a permit issued under title V of the Clean Air Act (42 U.S.C. 7661 et seq.) that requires compliance with this section.

(d) WAIVER OF COMBUSTION HEAT RATE EFFICIENCY STANDARD.—

(1) APPLICATION.—The owner or operator of a generating unit that commences operation more than 10 years after the date of enactment of this Act may

apply to the Administrator for a waiver of the combustion heat rate efficiency standard specified in subsection (a)(2) that is applicable to that type of generating unit.

(2) ISSUANCE.—The Administrator may grant the waiver only if—

(A)(i) the owner or operator of the generating unit demonstrates that the technology to meet the combustion heat rate efficiency standard is not commercially available; or

(ii) the owner or operator of the generating unit demonstrates that, despite best technical efforts and willingness to make the necessary level of financial commitment, the combustion heat rate efficiency standard is not achievable at the generating unit; and

(B) the owner or operator of the generating unit enters into an agreement with the Administrator to offset by a factor of 1.5 to 1, using a method approved by the Administrator, the emission reductions that the generating unit does not achieve because of the failure to achieve the combustion heat rate efficiency standard specified in subsection (a)(2).

(3) EFFECT OF WAIVER.—If the Administrator grants a waiver under paragraph (1), the generating unit shall be required to achieve and maintain, at all operating levels, the combustion heat rate efficiency standard specified in subsection (a)(1).

SEC. 5. AIR EMISSION STANDARDS FOR FOSSIL FUEL-FIRED GENERATING UNITS.

(a) ALL FOSSIL FUEL-FIRED GENERATING UNITS.—Not later than 10 years after the date of enactment of this Act, each fossil fuel-fired generating unit, regardless of its date of construction or commencement of operation, shall be subject to, and operating in physical and operational compliance with, the new source review requirements under section 111 of the Clean Air Act (42 U.S.C. 7411).

(b) EMISSION RATES FOR SOURCES REQUIRED TO MAINTAIN 45 PERCENT EFFICIENCY.—Not later than 10 years after the date of enactment of this Act, each fossil fuel-fired generating unit subject to section 4(a)(1) shall be in compliance with the following emission limitations:

(1) MERCURY.—Each coal-fired or fuel oil-fired generating unit shall be required to remove 95 percent of the mercury contained in the fuel, calculated in accordance with subsection (e).

(2) CARBON DIOXIDE.—

(A) NATURAL GAS-FIRED GENERATING UNITS.—Each natural gas-fired generating unit shall be required to achieve an emission rate of not more than 0.9 pounds of carbon dioxide per kilowatt hour of net electric power output.

(B) FUEL OIL-FIRED GENERATING UNITS.—Each fuel oil-fired generating unit shall be required to achieve an emission rate of not more than 1.3 pounds of carbon dioxide per kilowatt hour of net electric power output.

(C) COAL-FIRED GENERATING UNITS.—Each coal-fired generating unit shall be required to achieve an emission rate of not more than 1.55 pounds of carbon dioxide per kilowatt hour of net electric power output.

(3) SULFUR DIOXIDE.—Each fossil fuel-fired generating unit shall be required—

(A) to remove 95 percent of the sulfur dioxide that would otherwise be present in the flue gas; and

(B) to achieve an emission rate of not more than 0.3 pounds of sulfur dioxide per million British thermal units of fuel consumed.

(4) NITROGEN OXIDES.—Each fossil fuel-fired generating unit shall be required—

(A) to remove 90 percent of nitrogen oxides that would otherwise be present in the flue gas; and

(B) to achieve an emission rate of not more than 0.15 pounds of nitrogen oxides per million British thermal units of fuel consumed.

(c) EMISSION RATES FOR SOURCES REQUIRED TO MAINTAIN 50 PERCENT EFFICIENCY.—Each fossil fuel-fired generating unit subject to section 4(a)(2) shall be in compliance with the following emission limitations:

(1) MERCURY.—Each coal-fired or fuel oil-fired generating unit shall be required to remove 95 percent of the mercury contained in the fuel, calculated in accordance with subsection (e).

(2) CARBON DIOXIDE.—

(A) NATURAL GAS-FIRED GENERATING UNITS.—Each natural gas-fired generating unit shall be required to achieve an emission rate of not more than 0.8 pounds of carbon dioxide per kilowatt hour of net electric power output.

(B) FUEL OIL-FIRED GENERATING UNITS.—Each fuel oil-fired generating unit shall be required to achieve an emission rate of not more than 1.2 pounds of carbon dioxide per kilowatt hour of net electric power output.

(C) COAL-FIRED GENERATING UNITS.—Each coal-fired generating unit shall be required to achieve an emission rate of not more than 1.4 pounds of carbon dioxide per kilowatt hour of net electric power output.

(3) SULFUR DIOXIDE.—Each fossil fuel-fired generating unit shall be required—

(A) to remove 95 percent of the sulfur dioxide that would otherwise be present in the flue gas; and

(B) to achieve an emission rate of not more than 0.3 pounds of sulfur dioxide per million British thermal units of fuel consumed.

(4) NITROGEN OXIDES.—Each fossil fuel-fired generating unit shall be required—

(A) to remove 90 percent of nitrogen oxides that would otherwise be present in the flue gas; and

(B) to achieve an emission rate of not more than 0.15 pounds of nitrogen oxides per million British thermal units of fuel consumed.

(d) PERMIT REQUIREMENT.—Not later than 10 years after the date of enactment of this Act, each generating unit shall have a permit issued under title V of the

Clean Air Act (42 U.S.C. 7661 et seq.) that requires compliance with this section.

(e) COMPLIANCE DETERMINATION AND MONITORING.—

(1) REGULATIONS.—Not later than 2 years after the date of enactment of this Act, the Administrator, in consultation with the Secretary of Energy, shall promulgate methods for determining initial and continuing compliance with this section.

(2) CALCULATION OF MERCURY EMISSION REDUCTIONS.—Not later than 2 years after the date of enactment of this Act, the Administrator shall promulgate fuel sampling techniques and emission monitoring techniques for use by generating units in calculating mercury emission reductions for the purposes of this section.

(3) REPORTING.—

(A) IN GENERAL.—Not less than often than quarterly, the owner or operator of a generating unit shall submit a pollutant-specific emission report for each pollutant covered by this section.

(B) SIGNATURE.—Each report required under subparagraph (A) shall be signed by a re-

sponsible official of the generating unit, who shall certify the accuracy of the report.

(C) PUBLIC REPORTING.—The Administrator shall annually make available to the public, through 1 or more published reports and 1 or more forms of electronic media, facility-specific emission data for each generating unit and pollutant covered by this section.

(f) DISPOSAL OF MERCURY CAPTURED OR RECOVERED THROUGH EMISSION CONTROLS.—

(1) CAPTURED OR RECOVERED MERCURY.—Not later than 2 years after the date of enactment of this Act, the Administrator shall promulgate regulations to ensure that mercury that is captured or recovered through the use of an emission control, coal cleaning, or another method is disposed of in a manner that ensures that—

(A) the hazards from mercury are not transferred from 1 environmental medium to another; and

(B) there is no release of mercury into the environment.

(2) MERCURY-CONTAINING SLUDGES AND WASTES.—The regulations promulgated by the Administrator under paragraph (1) shall ensure that

mercury-containing sludges and wastes are handled and disposed of in accordance with all applicable Federal and State laws (including regulations).

(g) PUBLIC REPORTING OF FACILITY-SPECIFIC EMISSION DATA.—

(1) IN GENERAL.—The Administrator shall annually make available to the public, through 1 or more published reports and the Internet, facility-specific emission data for each generating unit and for each pollutant covered by this section.

(2) SOURCE OF DATA.—The emission data shall be taken from the emission reports submitted under subsection (e)(3).

SEC. 6. ACCELERATED DEPRECIATION FOR INVESTOR-OWNED GENERATING UNITS.

(a) IN GENERAL.—Section 168(e)(3) of the Internal Revenue Code of 1986 (relating to classification of certain property) is amended—

(1) in subparagraph (D) (relating to 10-year property), by striking ''and'' at the end of clause (i), by striking the period at the end of clause (ii) and inserting '', and'', and by adding at the end the following:

''(iii) any 50-percent efficient fossil fuel-fired generating unit.''; and

(2) in subparagraph (E) (relating to 15-year property), by striking ''and'' at the end of clause (ii), by striking the period at the end of clause (iii) and inserting '', and'', and by adding at the end the following:

''(iv) any 45-percent efficient fossil fuel-fired generating unit.''.

(b) DEFINITIONS.—Section 168(i) of the Internal Revenue Code of 1986 (relating to definitions and special rules) is amended by adding at the end the following:

''(15) FOSSIL FUEL-FIRED GENERATING UNITS.—

''(A) 50-PERCENT EFFICIENT FOSSIL FUEL-FIRED GENERATING UNIT.—The term '50-percent efficient fossil fuel-fired generating unit' means any property used in an investor-owned fossil fuel-fired generating unit pursuant to a plan approved by the Secretary, in consultation with the Administrator of the Environmental Protection Agency, to place into service such a unit that is in compliance with sections 4(a)(2) and 5(c) of the Clean Power Plant and Modernization Act of 1998, as in effect on the date of enactment of this paragraph.

''(B) 45-PERCENT EFFICIENT FOSSIL FUEL-FIRED GENERATING UNIT.—The term '45-percent efficient fossil fuel-fired generating unit' means any property used in an investor-owned fossil fuel-fired generating unit pursuant to a plan so approved to place into service such a unit that is in compliance with sections 4(a)(1) and 5(b) of such Act, as so in effect.''.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to property used after the date of enactment of this Act.

SEC. 7. GRANTS FOR PUBLICLY OWNED GENERATING UNITS.

Any capital expenditure made after the date of enactment of this Act to purchase, install, and bring into commercial operation any new publicly owned generating unit that—

(1) is in compliance with sections 4(a)(1) and 5(b) shall, for a 15-year period, be eligible for partial reimbursement through annual grants made by the Secretary of the Treasury, in consultation with the Administrator, in an amount equal to the monetary value of the depreciation deduction that would be realized by reason of section 168(c)(3)(E) of the Internal Revenue Code of 1986 by a similarly-situ-

ated investor-owned generating unit over that period; and

(2) is in compliance with sections 4(a)(2) and 5(c) shall, over a 10-year period, be eligible for partial reimbursement through annual grants made by the Secretary of the Treasury, in consultation with the Administrator, in an amount equal to the monetary value of the depreciation deduction that would be realized by reason of section 168(c)(3)(D) of such Code by a similarly-situated investor-owned generating unit over that period.

SEC. 8. CLEAN AIR TRUST FUND.

(a) IN GENERAL.—Subchapter A of chapter 98 of the Internal Revenue Code of 1986 (relating to trust fund code) is amended by adding at the end the following:

"SEC. 9511. CLEAN AIR TRUST FUND.

''(a) CREATION OF TRUST FUND.—There is established in the Treasury of the United States a trust fund to be known as the 'Clean Air Trust Fund' (hereafter referred to in this section as the 'Trust Fund'), consisting of such amounts as may be appropriated or credited to the Trust Fund as provided in this section or section 9602(b).

''(b) TRANSFERS TO TRUST FUND.—

''(1) IN GENERAL.—There are hereby appropriated to the Trust Fund amounts equivalent to the taxes received in the Treasury under section 4691.

''(2) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Trust Fund such additional sums as are necessary to carry out the activities described in subsection (c).

''(c) EXPENDITURES FROM TRUST FUND.—Amounts in the Trust Fund shall be available, as provided by appropriation Acts, upon request by the head of the appropriate Federal agency in such amounts as the agency head determines are necessary—

''(1) to offset reductions of revenues to the Treasury resulting from the amendments made by section 6 of the Clean Power Plant and Modernization Act of 1998;

''(2) to provide grants under section 7 of such Act, as in effect on the date of enactment of this section;

''(3) to provide assistance under section 14 of such Act, as so in effect;

''(4) to provide community economic development incentives under section 15, as so in effect; and

''(5) to provide funding under section 16 of such Act, as so in effect.''.

(b) CONFORMING AMENDMENT.—The table of sections for such subchapter A is amended by adding at the end the following:

''Sec. 9511. Clean Air Trust Fund.''.

SEC. 9. CARBON DIOXIDE EMISSION FEES.

(a) IN GENERAL.—Chapter 38 of subtitle D of the Internal Revenue Code of 1986 (relating to miscellaneous excise taxes) is amended by inserting after subchapter D the following:

''Subchapter E—Carbon Dioxide Emission Fees

''Sec. 4691. Imposition of fees.

''SEC. 4691. IMPOSITION OF FEES.

''(a) TAX IMPOSED.—There is hereby imposed on each fossil fuel-fired generating unit with a generating capacity of 5 or more megawatts a tax equal to $50 per ton of carbon dioxide emitted by such generating unit.

''(b) PHASED-IN RATE.—In the case of—

''(1) calendar years 2003 through 2006, subsection (a) shall be applied by substituting '$25' for '$50'; and

''(2) calendar years 2007 through 2009, subsection (a) shall be applied by substituting '$37.50' for '$50'.

''(c) ADJUSTMENT OF RATES.—Not less often than once every 2 years beginning after 2002, the Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall evaluate the rate of the tax imposed by subsection (a) and increase the rate if necessary for the calendar year—

''(1) to ensure that emissions of carbon dioxide are reduced to levels that are adequate to protect sensitive populations, with an adequate margin of safety, against adverse health effects;

''(2) to ensure that emissions of carbon dioxide are reduced to levels (including, if necessary, a level of zero emissions) that preclude any reasonable possibility that the environment, including sensitive species or ecosystems, will be seriously or permanently altered on a global, continental, or subcontinental scale;

''(3) to provide adequate incentives for generating units to minimize emissions of carbon dioxide to levels that are technologically feasible, including a level of zero emissions; and

''(4) to eliminate any economic benefit that a generating unit may derive from the emission of carbon dioxide.

''(d) PAYMENT OF TAX.—The tax imposed by this section—

''(1) shall be paid quarterly by the owner or operator of each fossil fuel-fired generating unit; and

''(2) shall be based on the measured emissions of the generating unit.

''(e) FOSSIL FUEL-FIRED GENERATING UNIT.—The term 'fossil fuel-fired generating unit' means a generating unit (as defined in section 3(2) of the Clean Power Plant and Modernization Act of 1998) powered by fossil fuels.''.

(b) CONFORMING AMENDMENT.—The table of subchapters for chapter 38 of such Code is amended by inserting after the item relating to subchapter D the following:

''SUBCHAPTER E. Carbon dioxide emission fees.''.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to emissions in calendar years beginning after December 31, 2002.

SEC. 10. EXTENSION OF RENEWABLE ENERGY PRODUCTION CREDIT.

Section 45(c) of the Internal Revenue Code of 1986 (relating to definitions) is amended—

(1) in paragraph (1)—

(A) in subparagraph (A), by striking ''and'';

(B) in subparagraph (B), by striking the period and inserting ", and"; and

(C) by adding at the end the following:

"(C) solar power.";

(2) in paragraph (3)—

(A) by inserting ", and December 31, 1998, in the case of a facility using solar power to produce electricity" after "electricity"; and

(B) by striking "1999" and inserting "2010"; and

(3) by adding at the end the following:

"(4) SOLAR POWER.—The term 'solar power' means solar power harnessed through—

"(A) photovoltaic systems,

"(B) solar boilers that provide process heat, and

"(C) any other means.".

SEC. 11. RECOGNITION OF PERMANENT EMISSION REDUCTIONS IN FUTURE CLIMATE CHANGE IMPLEMENTATION PROGRAMS.

It is the sense of Congress that permanent reductions in emissions of carbon dioxide and nitrogen oxides that are accomplished through the retirement of old generating units and replacement by new generating units that meet the combustion heat rate efficiency and emission stand-

ards specified in this Act, or through replacement of old generating units with nonpolluting renewable power generation technologies, should be credited to the utility sector, and to the owner or operator that retires or replaces the old generating unit, in any climate change implementation program enacted by Congress.

SEC. 12. RENEWABLE POWER GENERATION TECHNOLOGIES.

(a) IN GENERAL.—Under the Renewable Energy and Energy Efficiency Technology Act of 1989 (42 U.S.C. 12001 et seq.), the Secretary of Energy shall fund research and development programs and commercial demonstration projects and partnerships to demonstrate the commercial viability and environmental benefits of electric power generation from biomass, geothermal, solar, and wind technologies.

(b) TYPES OF PROJECTS.—Demonstration projects may include solar power tower plants, solar dishes and engines, co-firing of biomass with coal, biomass modular systems, next-generation wind turbines and wind turbine verification projects, and geothermal energy conversion.

(c) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts made available under any other law, there is authorized to be appropriated to carry out this section $75,000,000 for each of fiscal years 2003 through 2015.

SEC. 13. EVALUATION OF IMPLEMENTATION OF THIS ACT AND OTHER STATUTES.

(a) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Secretary of Energy, in consultation with the Chairman of the Federal Energy Regulatory Commission and the Administrator, shall submit to Congress a report on the implementation of this Act.

(b) IDENTIFICATION OF CONFLICTING LAW.—The report shall identify any provision of the Energy Policy Act of 1992 (Public Law 102–486), the Energy Supply and Environmental Coordination Act of 1974 (15 U.S.C. 791 et seq.), the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.), or the Powerplant and Industrial Fuel Use Act of 1978 (42 U.S.C. 8301 et seq.), or the amendments made by those Acts, that conflicts with the intent or efficient implementation of this Act.

(c) RECOMMENDATIONS.—The report shall include recommendations from the Secretary of Energy, the Chairman of the Federal Energy Regulatory Commission, and the Administrator for legislative or administrative measures to harmonize and streamline the statutes specified in subsection (b) and the regulations implementing those statutes.

SEC. 14. ASSISTANCE FOR WORKERS ADVERSELY AFFECTED BY REDUCED CONSUMPTION OF COAL.

In addition to amounts made available under any other law, there is authorized to be appropriated $75,000,000 for each of fiscal years 2003 through 2010, and $50,000,000 for each of fiscal years 2011 through 2015, to provide assistance, under the economic dislocation and worker adjustment assistance program of the Department of Labor authorized by title III of the Job Training Partnership Act (29 U.S.C. 1651 et seq.), to coal industry workers who are terminated from employment as a result of reduced consumption of coal by the electric power generation industry.

SEC. 15. COMMUNITY ECONOMIC DEVELOPMENT INCENTIVES FOR COMMUNITIES ADVERSELY AFFECTED BY REDUCED CONSUMPTION OF COAL.

In addition to amounts made available under any other law, there is authorized to be appropriated $75,000,000 for each of fiscal years 2003 through 2010, and $50,000,000 for each of fiscal years 2011 through 2015, to provide assistance, under the economic adjustment program of the Department of Commerce authorized by the Public Works and Economic Development Act of 1965 (42 U.S.C. 3121 et seq.), to assist communities ad-

versely affected by reduced consumption of coal by the electric power generation industry.

SEC. 16. CARBON SEQUESTRATION.

(a) CARBON SEQUESTRATION STRATEGY.—In addition to amounts made available under any other law, there is authorized to be appropriated to the Environmental Protection Agency and the Department of Energy for each of fiscal years 2003 through 2005 a total of $15,000,000 to conduct research and development activities in basic and applied science in support of development by January 1, 2005, of a carbon sequestration strategy that is designed to offset all growth in carbon dioxide emissions in the United States after 2010.

(b) METHODS FOR BIOLOGICALLY SEQUESTERING CARBON DIOXIDE.—In addition to amounts made available under any other law, there is authorized to be appropriated to the Environmental Protection Agency and the Department of Agriculture for each of fiscal years 2003 through 2015 a total of $15,000,000 to carry out soil restoration, tree planting, wetland protection, and other methods of biologically sequestering carbon dioxide.

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