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101ST CONGRESS
1ST SESSION

S. 324

To establish a national energy policy to reduce global warming, and for other purposes.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 2 (legislative day, JANUARY 3), 1989

Mr. WIRTH (for himself, Mr. BUMPERS, Mr. GORE, Mr. CRANSTON, Mr. HEINZ, Mr. FOWLER, Mr. PELL, Mr. BINGAMAN, Mr. LEAHY, Mr. MATSUNAGA, Mr. HOLLINGS, Mr. INOUYE, Mr. ADAMS, Mr. BREAUX, Mr. SANFORD, Mr. DASCHLE, Mr. JEFFORDS, Mr. D'AMATO, Mr. DODD, Ms. MIKULSKI, Mr. GORTON, Mr. SARBANES, Mr. MOYNIHAN, Mr. LIEBERMAN, Mr. SIMON, Mrs. KASSEBAUM, Mr. DECONCINI, Mr. SPECTER, Mr. BRYAN, Mr. BOSCHWITZ, and Mr. RIEGLE) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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A BILL

To establish a national energy policy to reduce global warming, and for other purposes.

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

SHORT TITLE AND TABLE OF CONTENTS

SECTION 1. SHORT TITLE.—(a) This Act may be referred to as the "National Energy Policy Act of 1989".

(b) TABLE OF CONTENTS.—

FINDINGS AND PURPOSES

SEC. 2. (a) FINDINGS.—The Congress finds that—

(1) the Earth's atmosphere is being altered by the generation of carbon dioxide and other trace gases (methane, tropospheric ozone, chlorofluorocarbons, and nitrous oxide);

(2) these gases are, in large part, the result of human activities including the widespread use of fossil fuels, population growth, deforestation, agricultural practices, and use of chlorofluorocarbons;

(3) current scientific understanding predicts that continued alteration of the global atmosphere will cause widespread temperature extremes and sea level rise which will, in turn, have serious implications for

the Earth's ecosystems, agricultural production, water supply, human health, wetlands, and climate;

(4) shifts in regional precipitation, growing seasons, sea level, and possible increases in the severity and frequency of storms and hurricanes will cause major disruptions in the economic, political, social, and ecological systems of all nations;

(5) energy and natural resources policies must be designed to reduce carbon dioxide and trace gas generation including reduction in the combustion of fossil fuels through energy efficiency, fuel switching, and conservation; use of safe nuclear, innovative clean coal and renewable energy technologies; and reforestation policies;

(6) in the near-term, increasing the Nation's energy efficiency can make the largest and least costly contribution to reducing carbon dioxide and trace gas production and reliance on imported oil;

(7) development of affordable solar energy technologies, particularly solar photovoltaics, promises to provide major new means of energy production and use that can reduce dependence on fossil fuels;

(8) policies are urgently needed for reducing deforestation and increasing reforestation; and for promoting economic growth and development through sus-

tainable development at the national and international levels;

(9) in so far as some degree of further atmospheric change is inevitable, the Federal Government must take immediate steps to devise and implement adaptive strategies for coping with the environmental and economic impacts of climate change; and

(10) adoption and implementation of these energy and natural resources policies will help promote national and international economic growth and development, achieve a secure energy supply, and protect the national and global environment.

(b) PURPOSES.—The overall purpose of this Act is to establish a national energy policy that will reduce generation of carbon dioxide and trace gases as quickly as is feasible in order to reduce to the maximum extent practicable, risks associated with an atmospheric warming and global climate change. The specific purposes are—

(1) to require the Secretary of Energy, hereinafter referred to as the "Secretary", to prepare a least-cost National Energy Plan;

(2) to establish an Office of Climate Protection in the Department of Energy;

(3) to provide for the establishment and financing of energy efficiency research and development projects;

(4) to establish criteria to be used by the Secretary to determine priorities in energy research and development and, to consider global climate change in all research and development policies;

(5) to require States to update their energy conservation plans and establish new targets for conservation;

(6) to commercially develop solar, fuel cell, hydrogen, and other renewable energy technologies;

(7) to provide for the establishment and financing of an advanced passively safe nuclear reactor research program;

(8) to provide for the preparation of a comprehensive report on research, development, and demonstration technology for the production of electricity from thermonuclear fusion;

(9) to provide for the preparation of a comprehensive report on the clean coal program's implications for global climate change;

(10) to provide financial assistance for demonstration projects for natural gas-powered vehicles;

(11) to study the natural resources that would be affected by global climate change;

(12) to expand financial support for ongoing and new research initiatives at NOAA, NASA, NSF, USGS, and NIST;

(13) to require an interagency study of the contribution international deforestation and reforestation play in global climate change;

(14) to call for the convening of international conferences on nuclear power, a strengthening of the Montreal Protocol, and a special office at UNEP and WMO to monitor global carbon dioxide production; and

(15) to address world population growth by establishing a policy and providing financial assistance for international family planning and information services.

SEC. 3. NATIONAL GOAL.—The Congress hereby establishes as national goals—

(a) that the introduction into the atmosphere of CO_2 from the United States of America shall be reduced from 1988 levels by at least 20 percent by the year 2000 through a mix of Federal and State energy policies that are designed to mitigate the costs and risks, both economic and environmental, associated with meeting national energy needs while reducing the generation of carbon dioxide and trace gases and sustaining economic growth and development; and

(b) the establishment of an international global agreement on the atmosphere by 1992.

TITLE I—NATIONAL ENERGY PLAN

(a) Not later than 18 months after the enactment of this Act, the Secretary, and the Administrator of the Environmental Protection Agency, in consultation with the Secretary of the Interior, the National Academy of Sciences and other agencies, shall prepare and after public review and comment, transmit to Congress a "least-cost national energy plan" for meeting the national goal set out in section 3 of this Act.

For purposes of the plan, (1) "energy resources" shall be defined as those sources of additional energy supply involving either the production of additional energy or additional improvements in the efficiency of energy processing and end use.

(2) "Cost-effective" shall be defined as those resources projected to be reliable and available within a needed time frame, and that could be used to meet anticipated energy needs at an estimated incremental system cost no greater than that of the least-cost similarly reliable and available alternative measure of resource, or any combination thereof.

(3) "System costs" shall be defined as all direct costs of a resource over its effective life, including, if applicable, the cost of distribution and transmission to the consumer and, also including among other factors, waste disposal costs and

fuel costs (including projected increase), and such quantifiable environmental and national security costs and benefits as the Secretary and the Administrator determine are directly attributable to such resources.

(4) "Estimated incremental system cost" of any conservation resource shall not be treated as greater than that of any other resource unless the incremental system cost of such conservation resources is in excess of at least 110 percent of the incremental system cost of the other resource.

(b) The plan shall include—

(1) an assignment of the priorities among energy resources that the Secretary determines to be cost-effective, according to their impact on the global climate;

(2) a range of national energy demand forecasts for the short-, medium-, and long-term (at least 50 years), reflecting plausible high and low economic growth scenarios, and assuming no improvements in current average efficiencies of energy use in new buildings, machines, and vehicles;

(3) a comprehensive inventory of resources availability and system cost, taking into account all sectors of energy use and production which shall include but not be limited to—

(i) coal, including clean coal technologies and underground coal gasification;

(ii) energy efficiency, including existing technologies for increased efficiency and end use, as well as the potential of further research and development;

(iii) efficiency improvements and technological gains in electrical energy generation and transmission and energy extraction;

(iv) other alternative energy sources such as renewable resources, solar, nuclear fission, nuclear fusion geothermal, fuel cells, and hydroelectric power; and

(v) improvements in the fuel efficiency of automobiles and light trucks.

(4) targets for the cost-effective resource acquisitions that will be needed to ensure that the Nation can meet short-, medium-, and long-term energy needs without exceeding the national goal for carbon dioxide generation;

(5) a 2-year action plan for meeting the plan's resource acquisition targets, including, but not limited to, all practicable actions within the Secretary's and other Federal agencies' current legislative authority;

(6) a research and development plan for investigating promising but unproven technologies identified in the planning process as potentially significant future contributors to meeting the plan's goals;

(7) recommendations for any new Federal legislation that may be needed to meet the plan's goals, including estimates of accompanying carbon dioxide and trace gases generation; and

(8) recommendations for any new State agency or legislative actions that are needed to meet the plan's goals, and for any new Federal policies that are needed to encourage such actions, including estimates of accompanying carbon dioxide and costs impacts of such actions.

(c) Immediately following submission to Congress of the least-cost national energy plan, the Department of Energy shall implement the provisions of its action plan to the maximum extent practicable.

(d) The plan, its action plan, and its research and development plan shall be revised and resubmitted to the Congress every 2 years.

TITLE II—OFFICE OF CLIMATE PROTECTION

SEC. 201. In order to elevate the priority attached to climate change considerations within the Department of Energy, there is hereby established the Office of Climate

Protection. The Director of the Office shall be appointed by the President, by and with the consent of the Senate, and shall report directly to the Deputy Secretary. This Office shall be responsible for—

(a) the Department of Energy's participation in studies, environmental assessments and other work being conducted by the various domestic and international agencies involved in global climate change analysis; and

(b) monitoring United States' energy policies for atmospheric and global warming effects and providing an annual report on these effects to Congress.

TITLE III—ENERGY EFFICIENCY

Subtitle A

SEC. 301. The Secretary in conjunction with appropriate Federal agencies shall—

(a) give a high priority to improvements in energy efficiency in departmental planning, research and development programs, private assistance programs, and to improvements in buildings and equipment of the Department;

(b) submit to Congress within 1 year after the enactment of this title, and every 3 years thereafter, a report evaluating the policy options that would be necessary to produce a decrease of 2 through 4 percent

per year in the energy use per unit of gross national product in the United States through the year 2005. These policy options and programs shall be ranked according to their cost effectiveness.

SEC. 302. (a) The President's budget request for fiscal years 1991 through 1993 shall include the Secretary's recommendations of amounts to be set aside for new initiatives in energy efficiency research, development, and demonstration. Funds made available for new initiatives shall supplement and not supplant funds available to complete on-going energy efficiency research and development projects supported in whole or in part by the Secretary during the fiscal year 1990. Funds made available for new initiative shall be used by the Secretary to support the most promising and deserving new ideas in energy efficiency research and development brought to the attention of the Secretary during the previous fiscal year.

(b)(1) There is hereby authorized to be appropriated to the Secretary for the energy efficiency research, development, and demonstration programs of the Secretary, an amount not to exceed $209,181,000 in fiscal year 1991, of which $6,000,000 shall be available for new initiatives, as set forth below—

(A) for transportation energy efficiency research, development, and demonstration there is authorized to

be appropriated to the Secretary an amount not to exceed $65,460,000 of which $2,000,000 shall be made available for new initiatives;

(B) for industrial energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $46,740,000, of which $1,000,000 shall be available for new initiatives;

(C) for buildings and community systems energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $58,100,000 of which $2,000,000 shall be available for new initiatives;

(D) for multisector energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $37,050,000, of which $1,000,000 shall be available for new initiatives; and

(E) for energy efficiency research, development, and demonstration policy and management, there is authorized to be appropriated to the Secretary an amount not to exceed $1,797,000.

(2) There is hereby authorized to be appropriated to the Secretary for the energy efficiency research, development, and demonstration programs of the Secretary, an amount not

to exceed $253,000,000 in fiscal year 1992, of which $7,000,000 shall be available for new initiatives as set forth below:

(A) for transportation energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $84,000,000, of which $3,000,000 shall be made available for new initiatives;

(B) for industrial energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $45,000,000 of which $1,000,000 shall be available for new initiatives;

(C) for buildings and community systems energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $55,000,000 of which $2,000,000 shall be available for new initiatives;

(D) for multisector energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $64,000,000, of which $1,000,000 shall be available for new initiatives; and

(E) for energy efficiency research, development, and demonstration policy and management, there is au-

thorized to be appropriated to the Secretary an amount not to exceed $5,000,000.

(3) There is hereby authorized to be appropriated to the Secretary for the energy efficiency research, development, and demonstration programs of the Secretary, an amount not to exceed $301,000,000 in fiscal year 1993, of which $8,000,000 shall be available for new initiatives, as set forth below—

(A) for transportation energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $98,000,000 of which $3,000,000 shall be made available for new initiatives;

(B) for industrial energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $50,000,000 of which $2,000,000 shall be available for new initiatives;

(C) for buildings and community systems energy efficiency research, development, and demonstration there is authorized to be appropriated to the Secretary an amount not to exceed $65,000,000 of which $2,000,000 shall be available for new initiatives;

(D) for multisector energy efficiency research, development, and demonstration there is authorized to be

appropriated to the Secretary an amount not to e
$83,000,000, of which $1,000,000 shall be avai
for new initiatives; and

(E) for energy efficiency research, developme
and demonstration policy and management, there is a
thorized to be appropriated to the Secretary an amou
not to exceed $5,000,000.

SEC. 303. (a) As used in this section and in section 304
the term "joint research and development venture" has the
meaning given such term in the National Cooperative Re-
search Act of 1984 (98 Stat. 1815).

(b)(1) The Secretary shall solicit proposals in accordance
with the provisions of this section for joint research and de-
velopment ventures for the commercial demonstration of
energy efficiency technologies that show significant promise
for cost-effective commercial application and that can con-
tribute significantly to reducing the rate and scope of carbon
dioxide and trace gas generation. Each joint research and
development venture under this section shall include manu-
facturing firms, investors, and such other participation as the
Secretary deems appropriate to achieve the purposes of this
section.

(2) Not later than 120 days after the date of the enact-
ment of this section the Secretary shall publish plans to im-

plement this section, provide opportunity for public comment on such plans, and report to Congress on the plans.

(3)(A) Not later than 1 year after the date of the enactment of this subsection the Secretary shall issue a general request for proposals under this subsection. Such general request shall contain a description of the criteria the Secretary will use in awarding financial assistance under this subsection. The primary such criterion shall be the probability of significant near-term impact of the proposal on the rate of carbon dioxide and trace gas generation. The secondary criterion shall be the probability of significant near-term impact of the proposal on reduction of oil imports. The Secretary may include such other criteria as the Secretary finds appropriate, including the net cost under the proposal in Federal financial assistance and the likelihood of early commercial application of technology demonstrated under the proposal.

(B) Proposals shall be submitted to the Secretary within 120 days after such general solicitation is published in the Federal Register.

(C) The Secretary shall not provide Federal financial assistance for more than .50 percent of the costs of any proposal under this subsection as estimated by the Secretary at the time of acceptance of such proposal. For purposes of this subsection, other Federal funds, existing facilities, equipment

and supplies, and previously expended research and development funds are not cost sharing.

(4) The Secretary shall issue general requests for proposals under this subsection on the first and second anniversaries of the issuance under paragraph (3).

(5)(A) The Secretary may provide technical assistance to persons developing proposals under this subsection.

(B) The Secretary may provide technical and financial assistance in accordance with this subsection to proposals that have been accepted by the Secretary under this subsection.

(C) There is authorized to be appropriated to the Secretary for purposes of this subsection not more than $50,000,000 for each of the fiscal years 1991, 1992, and 1993, such amounts to remain available until expended.

SEC. 304. (a) The Secretary shall establish and provide financial assistance to joint research and development ventures with such specialized private firms and investors as the Secretary deems appropriate in order to establish at least 5 regional centers for energy-intensive industries. The centers shall conduct basic and applied research and development on common industrial processes. The centers shall focus their efforts on changes to industrial processes that may result in improved energy efficiency. The centers may also conduct research on other improvements of benefit to industry so long

as energy efficiency improvements are an integral part of that research. In locating the regional centers under this section, the Secretary shall consider the regional distribution of energy-intensive industries. The research centers shall be established in the region in which the Secretary determines each energy-intensive industry is located.

(b) The regional centers under this paragraph shall carry out research and development efforts to reduce the production of CO_2 and trace gases into the atmosphere by improving the quality and energy efficiency of industrial processes.

(c) The research and development strategy under this paragraph shall be guided by—

(1) a detailed characterization of the needs of domestic manufacturing industries;

(2) a close working relationship with all sectors of the domestic manufacturing industry; and

(3) coordination among the centers to pool and conserve resources.

(d) There is authorized to be appropriated to the Secretary $5,000,000 for fiscal year 1991, $15,000,000 for fiscal year 1992, and $25,000,000 for fiscal year 1993. Industries for which the centers are established shall contribute matching funds starting in 1992.

SEC. 305. (a) As used in this section, the term "Federal building" has the meaning given such term in section 521 of

the National Energy Conservation Policy Act and includes facilities used in connection with such Federal building.

(b)(1) The Secretary shall establish a Federal energy analysis team to analyze, and make recommendations with respect to energy efficiency and the use of renewable energy in, specific Federal buildings selected by the Secretary under this section. The team shall be made up of individuals—

(A) engaged in research on energy efficiency or the use of renewable energy in buildings at the National Laboratories of the Department of Energy; and

(B) nominated by the Secretary of Defense, the Administrator of the General Services Administration and the Director of the National Institute of Standards and Technology, respectively, on the basis of their expertise in energy efficiency and the use of renewable forms of energy in buildings. Persons who serve on the team shall be transferred to the team for purposes of this section without loss of salary or benefits.

(2) The team shall conduct an analysis of energy use in Federal buildings designated by the Secretary under paragraph (3) to determine the potential for the use of renewable forms of energy and for improved energy efficiency in such buildings and make recommendations for cost-effective renewable energy and energy efficiency improvements in such buildings. For purposes of this section an improvement shall

be considered cost effective if the cost of the energy saved or displaced by the improvement exceeds the cost of the improvement over the life or remaining term of lease of the building.

(3) The Secretary shall designate buildings to be analyzed by the team so as to obtain a sample of buildings of the types and in the climates that is representative of the Federal buildings owned or leased by Federal agencies in the United States that consume the major fraction of the energy consumed in Federal buildings.

(4) The Secretary shall submit a plan for implementing this subsection to Congress within 6 months after the date of the enactment of this section.

(5) The team shall report its findings and recommendations based on the analyses carried out under paragraph (2) to the Secretary and to the head of the agency owning or leasting each building analyzed within 18 months after the date of the enactment of this section.

(b)(1) The Secretary shall use the results of the analyses under subsection (a) to develop goals for 1995 for energy efficiency and the use of renewable energy in Federal buildings generally and in the categories identified by the Secretary under subsection (a)(3). Goals developed under this subsection shall be submitted to Congress within 24 months after the date of the enactment of this section.

(2) Any agency that chooses not to implement promptly the recommendations of the team with respect to a Federal building analyzed under subsection (a)(2) shall provide Congress with a written explanation of the reasons for such choice.

(3) Any agency that implements the recommendations of the team with respect to a Federal building analyzed under subsection (a)(2) may retain for purposes of furthering the objectives of the agency one-half of the dollar savings realized as a result of such recommendations. The Secretary shall consult with the heads of the appropriate Federal agencies to insure that the maximum dollar savings under this section are realized.

(c) There is hereby authorized to be appropriated to the Secretary for purposes of carrying out this section $2,500,000.

SEC. 306. REPEAL OF PROHIBITIONS ON SUPPLY AND INSTALLATION OF RESIDENTIAL ENERGY CONSERVATION MEASURES BY UTILITIES.—Section 216 of the National Energy Conservation Policy Act (42 U.S.C. 8217) is repealed and subsequent sections are renumbered accordingly.

SEC. 307. HOME ENERGY EFFICIENCY RATINGS.—Title II of the National Energy Conservation Policy Act is amended by adding a new part 6 as follows:

"PART 6—RESIDENTIAL ENERGY EFFICIENCY RATINGS

"SEC. 271. (a) Within 12 months after the date of the enactment of this section the Secretary in consultation with the Secretary of Housing and Urban Development and State governments shall by rule promulgate guidelines for regulations to be formulated and implemented by State governments that would require the assignment of an energy efficiency rating to residential buildings.

"(b) The rule under subsection (a) shall—

"(1) provide for a numerical rating of the efficiency with which any residential building may be supplied with heating and cooling energy on an annual basis, and evaluate the practicality of including major energy consuming appliances in such rating;

"(2) provide that all residential buildings receive a rating at time of sale;

"(3) ensure that the rating is prominently communicated to potential buyers and renters; and

"(4) ensure that the rating system is designed to facilitate its use by the secondary mortgate markets to promote energy efficiency.

"(c) Within 12 months of the date of enactment of this Act, the Secretary shall establish a program to provide technical and managerial support for State and local governments adopting energy efficiency rating systems or building codes.

The program shall utilize the Federal Government's e
ence in developing Federal building energy perform
standards and shall provide compliance methods, educati
materials for builders and code officials, and other techn
support.

"(d) For purposes of the rule under subsection (a) supp
of energy to any residential building from the level of the
contribution of renewable sources shall not result in a reduc-
tion in the energy efficiency rating of such building.".

SEC. 308. ENERGY EFFICIENCY LABELS FOR MAJOR APPLICATIONS OF INCANDESCENT AND FLUORESCENT LAMPS.—Part B of title III of the Energy Policy and Conservation Act, as amended, is further amended—

(a) in section 322(a) by striking paragraph (14) and inserting in lieu thereof new paragraphs (14), (15) and (16) as follows:

"(14) Incandescent lamps which are the predominant consumers of energy used for lighting in the commercial, industrial, and residential sectors.

"(15) Fluorescent lamps which are the predominant consumers of energy used for lighting in the commercial, industrial, and residential sectors.

"(16) Any other type of consumer product that the Secretary classifies as a covered product under subsection (b).".

(b)(1) in section 324(a)(1) by inserting after the phrase "through (12)", "(14) and (15)"; and

(2) in the remaining provisions of section 324 by striking the phrase "paragraph (14)" everywhere it appears and inserting in lieu thereof the phrase "paragraph (16)";

(c)(1) in section 325(i) by striking the phrase "paragraph (14)" everywhere it appears and inserting in lieu thereof the phrase "paragraph (16)"; and

(2) by adding at the end of subsection 325(i) a new paragraph (4) as follows:

"(4) The Secretary, before January 1, 1990, shall prescribe an energy conservation standard for each of the covered products specified in paragraphs (13) and (14) of section 322(a). Concurrent with the Secretary's prescription of such standards the Secretary shall also prescribe test procedures.".

SEC. 309. ENERGY EFFICIENCY LABELS FOR WINDOWS.—Within 18 months of the date of enactment of this Act, the Secretary, after consultation with the National Institute of Standards and Technology, shall establish labels for thermal and optical properties and performance for windows and window systems.

SEC. 310. REVIEW.—The Secretary shall periodically review standards and labels established under sections 308

and 309 at least every 3 years and strengthen the standard for the products or any other energy-consuming device that the Secretary deems justified.

Subtitle B

AMENDMENTS TO PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978

SEC. 311. ENCOURAGEMENT OF LEAST COST INVESTMENT.—The Public Utility Regulatory Policies Act of 1978, Public Law 95–617 (November 9, 1978), as amended, is further amended by inserting the following new section after section 113 and renumbering the sections accordingly:

"SEC 114. LEAST COST INVESTMENT.

"(a) ADOPTION OF STANDARDS.—Not later than 2 years after the date of enactment of this section, each State regulatory authority (with respect to each gas utility and electric utility for which it has ratemaking authority) shall provide public notice and conduct a hearing respecting the standard established by subsection (b) and, on the basis of such hearing, shall adopt and implement the standard established by subsection (b) if, and to the extent, such authority determines that such adoption and implementation is appropriate and consistent with otherwise applicable State law. For purposes of any determination made on the basis of such hearing and any review of such determination in any court in

accordance with section 125, the purposes of this title supplement otherwise applicable State law.

"(b) ESTABLISHMENT.—The following Federal standard is hereby established:

"The rates permitted to be charged by a gas utility or electric utility shall be such that the implementation of least cost supply measures permits the utility to realize higher earnings than would be realized from the implementation of other supply measures. For purposes of this standard, the term 'implementation of least cost supply measures' shall mean actions (including, but not limited to, conservation and other means of demand reduction) taken to provide adequate and reliable service to consumers with the incurrence of lowest total costs to society, such costs to include costs incurred by the utility and its customers, and environmental costs.

"(c) PROCEDURAL REQUIREMENTS.—Each State regulatory authority (with respect to each gas utility and electric utility for which it has ratemaking authority) within the 2-year period specified in subsection (a), shall (1) adopt and implement, pursuant to subsection (a), the standard established by subsection (b) or, (2) if the standard is not adopted and implemented, such authority shall state in writing that it has determined not to adopt and implement such standard,

together with the reasons for such determination. Such statement of reasons shall be available to the public.

"(d) DEFINITIONS.—(1) For purposes of this section, the term 'gas utility' means any person who is engaged in the local distribution and sale of natural gas to any ultimate consumer and over whom a State regulatory authority has ratemaking authority.

"(2) for purposes of this section, the term 'electric utility' means any person who is engaged in the local distribution and sale of electricity to any ultimate consumer and over whom a State regulatory authority has ratemaking authority.

"SEC. 115. LEAST COST INVESTMENT FOR NONREGULATED UTILITIES.

"(a) ADOPTION OF STANDARDS.—Not later than two years after the date of enactment of this section, each nonregulated electric utility and nonregulated gas utility shall provide public notice and conduct a hearing respecting the standard established by subsection (b) and, on the basis of such hearing, shall adopt and implement the standard established by subsection (b) if, and to the extent, such utility determines that such adoption and implementation is appropriate and consistent with otherwise applicable State law. For purposes of any determination made on the basis of such hearing and any review of such determination in any court in

accordance with section 125, the purposes of this title supplement otherwise applicable State law.

"(b) ESTABLISHMENT.—The following Federal standard is hereby established:

"Each nonregulated gas utility and nonregulated electric utility shall implement least cost supply measures. For purposes of this standard, the phrase 'implement least cost supply measures' shall mean actions (including, but not limited to, conservation and other means of demand reduction) taken to provide adequate and reliable service to consumers with the incurrence of lowest total costs to society, such costs to include costs incurred by the utility and its customers, and environmental costs.

"(c) PROCEDURAL REQUIREMENTS.—Each nonregulated electric utility and nonregulated gas utility shall, within the 2-year period specified in subsection (a), (1) adopt and implement, pursuant to subsection (a), the standard established by subsection (b) or, (2) if the standard is not adopted and implemented, such utility shall state in writing that it has determined not to adopt and implement such standard, together with the reasons for such determination. Such statement of reasons shall be available to the public.

"(d) DEFINITIONS.—(1) For purposes of this section, the term 'nonregulated gas utility' means any person who is

engaged in the local distribution and sale of natural gas to any ultimate consumer and over whom a State regulatory authority does not have ratemaking authority.

"(2) For purposes of this section the term 'nonregulated electric utility' means any person who is engaged in the local distribution and sale of electricity to any ultimate consumer and over whom a State regulatory authority does not have ratemaking authority.".

SEC. 312. DEFINITIONS.—Section 3 of the Federal Power Act, as amended (16 U.S.C. 796 et seq.), is further amended by inserting the following definitions after the definition of "qualifying cogenerator" and renumbering the definitions accordingly:

"(19)(A) 'qualifying conservation' means any reduction at any time in the demand for electric energy by the customers of a utility, which reduction—

"(i) would not occur but for payments received by a qualifying conservation entity; and

"(ii) the Commission determines, by rule, meets such requirements as the Commission may, by rule, prescribe;

"(B) 'qualifying conservation entity' means a person who—

"(i) the Commission determines, by rule meets such requirements as the Commission may, by rule, prescribe;

"(ii) is not primarily engaged in the generation or sale of electric power (other than electric power from cogeneration facilities or small power production facilities)."

SEC. 313. PURCHASES OF QUALIFYING CONSERVATION BY UTILITIES.—Section 210 of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 824a–3), as amended, is further amended by—

(a) inserting the following new subsection after subsection (a) and relettering the remaining subsections accordingly:

"(b) CONSERVATION RULES.—Not later than one year after the date of enactment of this subsection, the Commission shall prescribe, and from time to time thereafter revise, such rules as it determines necessary to encourage the achievement of qualifying conservation. Such rules shall require electric utilities to offer to purchase qualifying conservation from qualifying conservation entities under such terms as the Commission may prescribe and shall include provisions concerning verification of the achievement of qualifying conservation. Such rules shall be prescribed, after consultation with representatives of Federal and State regulatory agencies

having ratemaking authority for electric utilities, and after public notice and a reasonable opportunity for interested persons (including State and Federal agencies) to submit oral as well as written data, views, and arguments.";

(b) striking subsection (b) and inserting the following in lieu thereof:

"(c) RATES FOR PURCHASES BY ELECTRIC UTILITIES.—The rules prescribed under subsections (a) and (b) shall insure that, in requiring any electric utility to offer to purchase electric energy from any qualifying cogeneration facility or qualifying small power production facility, or to purchase qualifying conservation from a qualifying conservation entity, the rates for such purchase—

"(1) shall, in the case of purchases from qualifying cogeneration facilities and qualifying small power production facilities, be just and reasonable to the electric consumers of the electric utility;

"(2) shall be in the public interest;

"(3) shall not discriminate against qualifying cogenerators, qualifying small power producers, or qualifying conservation entities. No such rule prescribed under subsection (a) shall provide for a rate which exceeds the incremental cost to the electric utility of alternative electric energy. Rules prescribed under subsection (b) shall give State regulatory authorities and

nonregulated electric utilities the option of restricting the rate paid for qualifying conservation to an amount no greater than—

"(A) the incremental cost of alternative electric energy; or

"(B) the amount by which the incremental cost of alternative electric energy exceeds the price for the generation of electric energy paid by the customers whose demand for electric energy is reduced as a result of qualifying conservation."; and

(c) adding the following at the end of subsection (d):

"The term 'incremental cost of alternative electric energy' means, with respect to purchases of qualifying conservation from qualifying conservation entities, the cost to the purchasing electric utility of the electric energy which, but for the purchase from such conservation entity, such utility would generate or purchase from another source.".

SEC. 314. CONFORMING CHANGES.—Section 210 of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 824a–3), as amended, is further amended—

(a) in subsection (f) by striking "subsection (a) of this section or revised under such subsection" in each place it appears and substituting "subsections (a) or (b)

of this section or revised under such subsections" in lieu thereof;

(b) in subsection (g) by striking "subsection (a)" and substituting "subsections (a) or (b)" in lieu thereof;

(c) in subsection (g) by striking "or qualifying cogenerator" and inserting "qualifying cogenerator, or qualifying conservation entity" in lieu thereof;

(d) in paragraph (2) of subsection (h) by striking "or qualifying small power producer" and substituting "qualifying small power producer, or qualifying conservation entity" in lieu thereof;

(e) in subsection (j) by striking "and 'qualifying cogenerator' " and substituting " 'qualifying cogenerator', 'qualifying conservation', and 'qualifying conservation entity' " in lieu thereof; and

(f) in subsection (j) by striking "3(17) and 3(18)" and substituting "3(17), 3(18) and 3(19)" in lieu thereof.

TITLE IV—ENERGY RESEARCH AND DEVELOPMENT PRIORITIES

SEC. 401.—The Secretary of Energy shall establish priorities, using the following criteria in order of importance, for research and development programs:

(1) potential to reduce generation of carbon dioxide and trace gases sooner than alternative projects;

(2) the projected cost effectiveness of the energy ultimately to be produced or saved, including an evaluation of the likelihood of success of the research;

(3) the environmental and public health impacts of the energy ultimately to be produced or saved by the specific research;

(4) the national security impact of the energy produced or saved, including its projected reduction of oil imports and contribution to the diversity of the fuel mix;

(5) the obstacles inherent in private industry's development of new energy technologies and steps necessary for establishing or restoring technical leadership in the area of renewable energy technologies, including, but not limited to, solar, fuel cells, and hydrogen;

(6) the impact of given research in the area of fundamental scientific inquiry; and

(7) the impact of the research on special or targeted populations, including low-income or aged persons.

TITLE V—STATE ENERGY CONSERVATION PROGRAM

STATE ENERGY CONSERVATION GOALS

SEC. 501. Section 364 of the Energy Policy and Conservation Act (42 U.S.C. 6324) is amended to read as follows:

"ENERGY CONSERVATION GOALS

SEC. 364. Each State energy conservation plan with respect to which assistance is made available under this part on or after October 1, 1990, shall contain a goal consisting of a reduction, as a result of the implementation of such plan, of 10 percent or more in the amount of energy consumed in such State in the year 2000 from the projected energy consumption, as of October 1, 1990, for such State in the year 2000.".

REQUIRED STATE ENERGY CONSERVATION PLAN ELEMENTS AND CONSOLIDATION OF ENERGY EXTENSION SERVICE

SEC. 502. (a) IN GENERAL.—Section 362(c) of the Energy Policy and Conservation Act (42 U.S.C. 6322(c)) is amended—

(1) by striking "and" at the end of paragraph (4);

(2) by striking the period at the end of paragraph (5) and inserting in lieu thereof a semicolon; and

(3) by adding at the end thereof the following new paragraphs:

"(6) and energy emergency planning program for an energy supply disruption which shall include a specific implementation strategy regional coordination and may include planning for petroleum, electricity, natural gas, coal, and nuclear power supply and delivery disruptions;

"(7) procedures for ensuring that effective coordination exists among various local, State, and Federal energy conservation programs within the State, including any program administered within the Office of State and Local Assistance Programs of the Department of Energy as of December 31, 1987, and the Low Income Energy Assistance Program administered by the Department of Health and Human Services; and

"(8) programs to implement all the functions of the Energy Extension Service, as provided by law on the day before the date of enactment of the State Energy Conservation Programs Improvement Act of 1989, which shall—

"(A) include programs for identification, development, and demonstration of energy efficiency opportunities, techniques, methods, materials, and equipment (including those that are responsive to local needs or resources) and alternative energy

technologies such as solar heating and cooling for agricultural, commercial, and small business operations, individual energy consumers, and new existing residential, commercial, and agricultural buildings or structures;

"(B) provide for technical assistance, instructions, information dissemination, and practical demonstrations with respect to energy efficiency opportunities;

"(C) provide, to the maximum extent practicable within personnel and funding limitations, active outreach energy extension assistance (including information on end-user technoloy requirements) at the local level through appropriate offices (Including metropolitan offices) and through county agents and technical staff assistants;

"(D) make maximum use of existing outreach or delivery mechanisms or programs and include, to the maximum extent practicable, any State, local, university, college, or other organization's programs for energy information, education, or technology transfer which have activities or purposes similar to those of this part; and

"(E) establish and implement policies and procedures designed to assure that assistance pro-

vided under this part does not replace or supplant the expenditure of other Federal or State or local funds for the same purposes, but instead supplements such funds and increases the expenditure of such State or local funds to the maximum extent practicable.''.

(b) ELIMINATION OF EES.—The National Energy Extension Services Act (title V of Public Law 95–39) is repealed.

OPTIONAL STATE ENERGY CONSERVATION PLAN ELEMENTS AND CONSOLIDATION OF SUPPLEMENTAL STATE ENERGY CONSERVATION PLAN

SEC. 503. IN GENERAL.—Section 362(d) of the Energy Policy and Conservation Act (42 U.S.C. 6322(d)) is amended—

(1) by striking ''and'' at the end of paragraph (4);

(2) by striking the period at the end of paragraph (5) and inserting in lieu thereof a semicolon; and

(3) by adding at the end thereof the following new paragraphs:

''(6) programs for financing energy efficiency and renewable energy capital investments, projects, and programs—

''(A) which may include loan programs and performance contracting programs for leveraging of additional public and private sector funds, and

programs which allow rebates, grants, or other incentives for the purchase and installation of energy efficiency and renewable energy measures; or

"(B) in addition to or in lieu of programs described in subparagraph (A), which may be used in connection with public or nonprofit buildings owned and operated by a State, a political subdivision of a State or an agency or instrumentality of a State, or an organization exempt from taxation under section 501(c)(3) of the Internal Revenue Code of 1986;

"(7) programs to increase transportation energy efficiency, including programs to accelerate the use of alternative transportation fuels for State government vehicles, fleet vehicles, taxis, mass transit, and privately owned vehicles;

"(8) programs for encouraging and for carrying out energy audits with respect to buildings and industrial plants within the State;

"(9) programs to promote the adoption of integrated energy plans which provide for—

"(A) periodic evaluation of a State's energy needs, available energy resources (including greater energy efficiency), and energy costs; and

"(B) utilization for reliable energy supplies, including greater energy efficiency, that meet applicable safety, environmental, and policy requirements at the lowest cost;

"(10) programs to promote energy efficiency in residential housing, such as—

"(A) programs for development and promotion of energy efficiency rating systems for newly constructed housing and existing housing so that consumers can compare the energy efficiency of different housing; and

"(B) programs for the adoption of incentives for builders, utilities, and mortgage lenders to build, service, or finance energy efficient housing; and

"(11) programs to protect consumers from any unfair or deceptive acts or practices which relate to the implementation of energy efficiency measures and renewable resources energy measures.".

(b) ELIMINATION OF SSECP.—Section 367 of the energy policy and conservation act (42 U.S.C. 6327) is repealed.

AUTHORIZATION OF APPROPRIATIONS

SEC. 504. (a) STATE PLAN PROGRAM.—Section 365(F) of the Energy Policy and Conservation Act (42 U.S.C. 6325(F) is amended to read as follows:

"(f) For the purpose of carrying out this part, there are authorized to be appropriated $25,000,000 for fiscal year 1991, $35,000,000 for fiscal year 1992, and $45,000,000 for fiscal year 1993.".

(b) ENERGY CONSERVATION PROGRAM FOR SCHOOLS AND HOSPITALS.—Section 397 of the Energy Policy and Conservation Act (42 U.S.C. 6371f(a)) is amended to read as follows:

"AUTHORIZATION OF APPROPRIATIONS

SEC. 397. For the purpose of carrying out this part, there are authorized to be appropriated $40,000,000 for fiscal year 1991, $50,000,000 for fiscal year 1992, and $60,000,000 for fiscal year 1993.".

(c) WEATHERIZATION ASSISTANCE.—Section 422 of the Energy Conservation Production Act (42 U.S.C. 6872) is amended to read as follows):

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 422. There are authorized to be appropriated for purposes of carrying out the weatherization program under this part $200,000,000 for fiscal year 1991 and such sums as may be necessary for 1992 and 1993.".

SEC. 505. STATE ENERGY ADVISORY BOARD.—Section 365 of the Energy Policy and Conservation Act (42 U.S.C. 6325) is amended by adding at the end the following:

"(g)(1) There is hereby established within the Department of Energy a State Energy Advisory Board (hereafter in

this subsection referred to as the 'Board') which shall consist of not less than 10 nor more than 15 members appointed by the Secretary. Not less than one-half of the members of the Board shall be persons who serve as directors for the State agency, or a division of such agency, responsible for developing State energy conservation plans pursuant to section 362. At least 1 member of the Board shall be a director of a State weatherization assistance program. Other members shall be appointed from other persons, including those who have experience in energy efficiency or renewable energy programs for the private sector, consumer interest groups, utilities, public utility commissions, educational institutions, or research institutions.

"(2) The Board shall—

"(A) make recommendations with respect to the energy efficiency objectives of the programs carried out under this part, part G of this title, and under part A of title IV of the Energy Conservation and Production Act to the Assistant Secretary for Conservation and Renewable Energy, the Director of the Office of State and Local Assistance Programs, and the Director of the Building and Community Systems Office within the Department of Energy;

"(B) serve as a liaison between the States and such Department on energy efficiency and renewable energy resource programs;

"(C) recommend changes to State and Federal energy policies; and

"(D) encourage technology transfer of the results of research and development activities carried out by the Federal Government with respect to energy efficiency and renewable energy resources.

"(3) The Secretary shall designate 1 of the members of the Board to serve as its chairman and 1 to serve as its vice chairman. The chairman and vice chairman shall serve in those offices no longer than 2 years.

"(4) The Secretary shall provide the Board with such services and facilities as may be necessary for the performance of its functions.

"(5) The Board shall be nonpartisan.

"(6) The Board may adopt administrative rules and procedures and may elect one of its members Secretary of the Board.

"(7) The Secretary shall reimburse members of the Board for expenses (including travel expenses) necessarily incurred by them in the performance of their duties.

"(8) The Board shall meet at least annually and shall submit an annual report to the Secretary and the Congress

on the activities carried out by the Board in the previous fiscal year, including any recommendations it may have for administrative or legislative changes.".

UPDATE OF ENERGY CONSERVATION PROGRAM FOR SCHOOLS AND HOSPITALS

SEC. 506. (a) NON-FEDERAL SHARE OF A PROJECT.—Section 396(b)(1) of the Energy Policy and Conservation Act (42 U.S.C. 6371e(b)(1)) is amended by adding at the end thereof the following: "The non-Federal share of the costs of any such energy conservation project may be provided by using programs of innovative financing for energy conservation projects, including loan programs and performance contracting.".

(b) DEFINITION.—Section 391(1) of such Act (42 U.S.C. 6371(1)) is amended by striking "April 20, 1977" and inserting in lieu thereof "December 31, 1984".

WEATHERIZATION ASSISTANCE FOR LOW-INCOME PERSONS

SEC. 507. (a) WAIVER OF 40-PERCENT REQUIREMENT.—Section 415(a) of the Energy Conservation and Production Act (42 U.S.C. 6865(a)) is amended—

(1) in the first sentence, by striking "An average" and inserting in lieu thereof "(1) Except as provided in paragraph (2), and average"; and

(2) by adding at the end the following:

"(2)(A) The Secretary may approve a State application to waive the 40-percent requirement established in paragraph (1) if the State includes in the State's plan—

"(i) an energy evaluation which establishes priorities for selection of weatherization measures bases on their contribution to energy efficiency; and

"(ii) a standard for determining whether to invest in individual measures based on a rate of return that will ensure that investment in each measure is an appropriate use of funds.

"(B) For States applying for a waiver under this paragraph, the Secretary shall establish standards for determining whether the energy audit techniques of each such State measure—

"(i) the energy requirement of individual dwellings;

"(ii) the rate of return of each conservation investment; and

"(iii) the interaction between conservation measures. State applications for waivers shall be judged on these standards.

"(c) The Secretary shall make information on energy evaluation instruments available to States applying for a

waiver under this paragraph and shall provide training for State and local agencies in the implementation for such instruments.".

(b) DWELLING UNIT LIMITATION.—Section 415(c) of such Act (42 U.S.C. 6865(c)) is amended—

(1) in paragraph (1), by striking "The expenditure" and inserting in lieu thereof "except as provided in paragraphs (3) and (4), the expenditure"; and

(2) by adding at the end thereof the following new paragraphs:

"(3) Beginning with fiscal year 1991, the $1,600 per dwelling unit limitation provided in paragraph (1) shall be adjusted annually by increasing the limitation amount by an amount equal to the percentage increase in the Consumer Price Index for the previous fiscal year multiplied by the limitation amount for such previous fiscal year. The increase under the preceding sentence for any fiscal year shall not exceed 3 percent.

"(4)(A) In addition to the average per dwelling unit limitation applicable in a State under paragraphs (1) and (3), the Secretary may, upon application by a State, establish an average per dwelling unit limitation for dwelling units in such State—

"(i) which conform to program requirements;

"(ii) which, in addition to any other weatherization modifications, have furnace efficiency modifications made under this part; and

"(iii) for which a determination is made pursuant to regulations prescribed by the Secretary that such furnace efficiency modifications are a cost-effective use of funds.

"(B) The average per dwelling unit limitation applicable in a State to units described in subparagraph (A) shall not exceed an amount equal to—

"(i) the amount permitted for the expenditure of financial assistance for labor, weatherization materials, and related matters for dwelling units in such State under paragraphs (1) and (3), plus

"(ii) an amount determined by the Secretary to be the average amount that is appropriate for furnace efficiency modifications of dwelling units of the type assisted under this part in such State.".

TITLE VI—RENEWABLE ENERGY

Subtitle A

SEC. 601. SHORT TITLE.—This subtitle may be cited as the Solar Development Initiative Act of 1989.

SEC. 602. FINDINGS AND PURPOSE.—(a) The Congress finds that—

(1) a diversified and balanced energy resource base is important for the Nation's economic growth;

(2) renewable energy sources, including solar energy, can make a significant contribution toward minimizing the potential for undue dependence on any single energy source;

(3) recent energy trends, including increased imports of foreign oil, increased consumption of petroleum and declining domestic production of petroleum, have reaffirmed the importance of continued Federal support for, and encouragement of, solar energy technologies; and

(4) the international competitiveness of domestic solar thermal and photovoltaics industries depends upon maintaining our technological lead and providing development and marketing assistance to exporters of solar technologies.

(b) PURPOSE.—The purpose of this subtitle is to—

(1) establish multiyear funding levels for a Federal solar research and development program that will maintain current efforts and provide funding stability; and

(2) reaffirm existing Federal policies and establish new policies which promote and encourage investments

in solar energy technologies by the private and public sectors.

SEC. 603. SOLAR AND RENEWABLE ENERGY RESEARCH PROGRAM.—(a) The Secretary of Energy is directed to consult with the solar energy industry to develop a complimentary program of solar and renewable research, development, and demonstration project which—

(1) have near-term commercial applications; and

(2) will enhance the international competitiveness of the solar and renewable energy industries.

(b) The Secretary shall include the funding necessary to implement this program in the fiscal year 1991 budget.

FEDERAL SOLAR BUILDINGS DEMONSTRATION PROGRAM

SEC. 604. (a) PROGRAM SUCCESSFULLY IMPLEMENTED.—Congress finds that the Secretary of Energy, in consultation with the Administrator of the General Services Administration, has successfully implemented a program to demonstrate in Federal buildings the application of solar heating and solar heating and cooling technology pursuant to part 2 of title V of the National Energy Conservation Policy Act (Public Law 95–619).

(b) INFORMATION ABOUT FEDERAL SOLAR BUILDINGS PROGRAM.—In order to more widely disseminate information about the Federal solar buildings program and the benefits of solar heating and solar heating and cooling technology, the Secretary of Energy shall establish a program to dissemi-

nate such information for Federal procurement officers and Federal loan officers which shall include site visits and technical briefings. The Secretary shall utilize existing funds for this program.

INTERNATIONAL MARKET ENHANCEMENT

SEC. 605. (a) CONTINUATION OF ACTIVITIES BY THE COMMITTEE ON RENEWABLE ENERGY, COMMERCE, AND TRADE.—The Committee on Renewable Energy, Commerce, and Trade established by section 256(d) of the Energy Policy and Conservation Act (42 U.S.C. 6271 et seq.) shall continue its activities to coordinate the actions and programs of the Federal Government affecting commerce in renewable energy products and services.

(b) COMMERCE PROGRAMS.—It is the sense of the Congress that the programs established by the Secretary of Commerce under section 256(c)(1) of the Energy Policy and Conservation Act should be funded through the Department of Energy at a minimum of $1,500,000 in fiscal years 1991, 1992, and 1993.

(c) AMENDMENT TO CARIBBEAN BASIN ECONOMIC RECOVERY ACT.—Section 212(c)(7) of the Caribbean Basin Economic Recovery Act (97 Stat. 387; 19 U.S.C. 2703(c)(7)) is amended to read as follows—

"(7) the degree to which such country is undertaking self-help measures to promote its own economic

development and energy self-sufficiency using locally available renewable resources;".

FEDERAL PROCUREMENT

SEC. 606. (a) SECRETARY OF DEFENSE.—Section 2857(b)(1) of title 10, United States Code, is amended by inserting after "has the potential for" the following: "reduced energy costs".

(b) UTILIZATION OF SOLAR ENERGY BY OTHER FEDERAL AGENCIES.—The Secretary of State, the Secretary of Energy, the Secretary of Housing and Urban Development, the Director of the General Services Administration, and the Commissioner of the United States Postal Service shall require that the design of all new Federal facilities built under their respective jurisdictions shall include consideration of energy systems using solar energy or other renewable forms of energy in those cases in which use of such form of energy has the potential for significant savings of fossil-fuel-derived energy.

SEC. 607. AMENDMENT TO THE EXPORT-IMPORT BANK ACT OF 1945.—Section 7 of the Export-Import Bank Act of 1945 (12 U.S.C. 635e) is amended by adding at the end thereof the following:

"(c) Not less than .025 percent of the loan authority of the Bank shall be available only for solar and renewable energy loans.".

SEC. 608. SPECIAL ACTIVITIES OF THE OVERSEAS PRIVATE INVESTMENT CORPORATION.—Section 234(e) of the Foreign Assistance Act of 1961 is amended—

(1) in the first sentence, by inserting after "cooperatives" the following: "and including the initiation of incentives, grants, and studies for renewable energy and other small business activities"; and

(2) by adding at the end thereof the following new sentence: "Administrative funds may not be made available for incentives, grants, and studies for renewable energy and other small business activities.".

SEC. 609. Amendment to the Small Business Act.—(a) Section 7(1) of the Small Business Act (15 U.S.C. 636(1) is repealed.

(b) Section 7(a)(12) of such Act (15 U.S.C. 636(a)(12) is amended to read as follows:

"(12) The Administrator may provide loans under this subsection to assist any small business concern, including startup, to enable such concern to design architecturally or engineer, manufacture, distribute, market, install, or service energy measures. Proceeds of loans under this paragraph shall not be used for research and development. Not less than .025 percent of the loan authority provided under this subsection shall be available only for loans under this paragraph.

The Administrator shall include a list of solar and renewable energy loans in an annual report to the Congress.".

(c) Section 7(a)(14) of such Act (15 U.S.C. 636(a)(14)) is amended to read as follows:

"(14) The Administrator under this subsection may provide extentions and revolving lines of credit for export purposes to enable small business concerns to develop foreign markets and for preexport financing. No such extention or revolving line of credit may be made for a period or periods exceeding 18 months. A bank or participating lending institution may establish the rate of interest in extensions and revolving lines of credit as may be legal and reasonable. The Administrator shall give due consideration to the export potential of solar and renewable energy products in implementing his authorities under this subsection and shall include a list of solar and renewable energy loan guarantees in an annual report to the Congress.".

Subtitle B

This subtitle may be cited as the "Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989".

SEC. 610. PURPOSE.—It is the purpose of this title to direct the Secretary of Energy, acting in accordance with authority contained in the Federal Non-Nuclear Energy Research and Development Policy Act of 1974 (42 U.S.C.

5901–5920) and other law applicable to the Secretary, to pursue an aggressive national program of research, development, and demonstration of renewable energy technologies in order to ensure a stable and secure future energy supply by—

(1) providing a long-term stable environment for renewable energy technology research and development activities through the establishment of long-term goals and multiyear funding levels;

(2) directing the Secretary to undertake initiatives to hasten the commercialization in the near term of renewable energy technologies; and

(3) fostering collaborative research and development efforts involving the private sector through government support of a vigorous program of innovative joint research and development venture projects.

SEC. 611. DEFINITIONS.—As used in this title the term—

(a) "Secretary" means the Secretary of energy; and

(b) "joint research and development venture" means a joint research and development venture under the National Cooperative Research Act of 1984 (98 Stat. 1815).

NATIONAL GOALS AND MULTIYEAR FUNDING FOR FEDERAL WIND, PHOTOVOLTAICS AND SOLAR THERMAL PROGRAMS

SEC. 612. (a) NATIONAL GOALS.—The following are declared to be the national goals for the wind, photovoltaics and solar thermal energy programs currently being carried out by the Secretary under existing law:

(1) WIND.—(A) In general, the goals for the Wind Energy Research Program include improving design methodologies and developing more reliable and efficient wind turbines to increase the cost competitiveness of wind energy. Research efforts shall emphasize—

(i) activities that address near-term technical problems and permit exploitation of current market opportunities of the wind energy industry;

(ii) developing advanced airfoils and variable speed generators to increase wind and turbine output and reduce maintenance costs by decreasing structural stress and fatigue;

(iii) increasing the basic knowledge of aerodynamics, structural dynamics, fatigue and electrical systems interactions as applied to current wind energy technology; and

(iv) improving the compatibility of electricity produced from windfarms with conventional utility needs.

(B) Specific goals for the Wind Energy Research Program shall be to—

(i) reduce average wind energy costs to 3 to 5 cents per kilowatt hour by 1995;

(ii) reduce capital costs of new wind energy systems to $500 to $750 per kilowatt of installed capacity by 1995;

(iii) increase installed wind generating capacity to 4000 to 8000 megawatts by 1995;

(iv) reduce operation and maintenance costs for wind energy systems to less than 1 cent per kilowatt hour by 2000; and

(v) increase capacity factors for new wind energy systems to 25 to 30 percent by 1995.

(2) PHOTOVOLTAICS.—(A) In general, the goals of the Photovoltaic Energy Systems Program shall include improving the reliability and conversion efficiencies and lowering the costs of photovoltaic conversion. Research efforts shall emphasize advancements in the performance, stability and durability of photovoltaic materials.

(B) Specific goals of the Photovoltaic Energy Systems Program shall be to—

(i) improve operational reliability of photovoltaic modules to 30 years by 1995;

(ii) increase photovoltaic conversion efficiency of new photovoltaic amorphous silicon modules to 15 percent by 1995;

(iii) decrease new photovoltaic module direct manufacturing costs to $800 per kilowatt by 1995; and

(iv) increase installed capacity of photovoltaic electric power production capacity to 100 to 200 megawatts by 1991.

(3) SOLAR THERMAL.—(A) In general, the goal of the Solar Thermal Energy Systems Program shall be to advance research and development to a point where solar thermal technology is cost-competitive with conventional energy sources and to promote the integration of this technology into the production of industrial process heat and the conventional utility network. Research and development shall emphasize development of a thermal storage technology to provide capacity for shifting power to periods of demand when full insulation is not available; improvement in receivers, energy conversion devices, and innovative concen-

trators using stretch membranes, lenses, and other materials; and exploration of advanced manufacturing techniques.

(B) Specific goals of the Solar Thermal Energy Systems Program shall be to—

(i) reduce solar thermal costs for industrial process heat to $9 per million British thermal units; and

(ii) reduce average solar thermal costs for electricity to 4 to 5 cents per kilowatt hour.

(C) The President's budget request for fiscal year 1991 shall contain the Secretary's recommendations for specific cost, installed capacity, and other pertinent goals for 1995 for Department of Energy research, development, and demonstration programs in Biofuels Energy Systems, Solar Buildings Energy Systems, Ocean Energy Systems, and Geothermal Energy.

(b) AMENDED GOALS.—Whenever the Secretary determines that any of the goals established under this section are no longer appropriate, he shall notify Congress of the reason for the determination and provide an amended goal that is consistent with the purposes of this title.

(c) AUTHORIZATIONS.—There is authorized to be appropriated to the Secretary—

(1) for the Wind Energy Research Program, an amount not to exceed $19,000,000 in fiscal year 1991; $22,000,000 in fiscal year 1992; and $26,000,000 in fiscal year 1993;

(2) for the Photovoltaic Energy Systems Program, an amount not to exceed $43,100,000 in fiscal year 1991; $45,000,000 in fiscal year 1992; and $50,000,000 in fiscal year 1993;

(3) for the Solar Thermal Energy Systems Program, an amount not to exceed $28,700,000 in fiscal year 1991; $32,000,000 in fiscal year 1992; and $35,000,000 in fiscal year 1993;

(4) for the Biofuels Energy Systems Program, an amount not to exceed $32,100,000 in fiscal year 1991; $35,100,000 in fiscal year 1992; and $40,000,000 in fiscal year 1993;

(5) for the Solar Buildings Energy Systems Program, an amount not to exceed $8,000,000 in fiscal year 1991; $9,000,000 in fiscal year 1992; and $10,000,000 in fiscal year 1993;

(6) for the Ocean Energy Systems Program, an amount not to exceed $5,000,000 in fiscal year 1991; $5,000,000 in fiscal year 1992; and $5,000,000 in fiscal year 1993; and

(7) for the Geothermal Program, an amount not to exceed $34,900,000 in fiscal year 1991; $35,700,000 in fiscal year 1992; and $38,700,000 in fiscal year 1993.

(d) REPORT ON OPTIONS.—On or before May 1, 1991, the Secretary shall submit to Congress a report analyzing options available to the Secretary under existing law to accelerate the timely commercialization of wind, photovoltaic, solar thermal, biofuels, biomass, solar buildings, ocean and goethermal renewable energy technologies through emphasis on development and demonstration assistance to specific technologies in the research, development, and demonstration programs of the Department of Energy that are near commercial application.

JOINT RESEARCH AND DEVELOPMENT VENTURES

SEC. 614. (a) FINDINGS.—For purposes of this section, Congress finds that joint research and development ventures can—

(1) improve coordination in technology development among firms in industries attempting to commercialize renewable energy technologies;

(2) assist in setting national standards to improve the operation of markets for these technologies; and

(3) enhance the ability of domestic firms to compete with foreign enterprises in sales of renewable energy technologies.

(b) PURPOSE.—The purpose of this section is to direct the Secretary of Energy to make use of joint research and development ventures to further commercialization of renewable energy technologies.

(c) ESTABLISHMENT.—(1) The Secretary shall establish seven joint research and development ventures in accordance with the provisions of this section. Each joint research and development venture under this section shall include manufacturing firms, investors, an advisory committee appointed in accordance with this section, and such other participation as the Secretary deems appropriate to achieve the purposes of this section. Any facilities constructed under this section shall be located in the United States, Puerto Rico, the Virgin Islands, or the territories and possessions of the United States.

(2) The Secretary shall require that at least 30 percent of all costs of any joint research and development venture under this section be provided from non-Federal sources.

(3) Before establishing the joint research and development ventures under paragraph (1), the Secretary shall consult with, and take into consideration the recommendations of, the Advisory Committee on Renewable Energy and Energy Efficiency Technology under paragraph (4).

(4)(A) The Secretary shall appoint members to an Advisory Committee on Renewable Energy and Energy Efficiency Technology (hereafter referred to as the "Advisory Com-

mittee") to assist the Secretary in carrying out his responsibilities under this section. The Advisory Committee shall include at least one member representing each of the following—

(i) the Secretary of Commerce;

(ii) the Secretary of Housing and Urban Development;

(iii) the Solar Energy Research Institute;

(iv) the Electric Power Research Institute;

((v) the National Institute of Building Sciences;

(vi) associations of firms in each of the major renewable energy manufacturing industries; and

(vii) associations of firms in each of the major energy efficiency manufacturing industries.

(B) The Advisory Committee, within 120 days after its formation, provide the Secretary with recommendations for the establishment of joint ventures under paragraph (1) and shall advise the Secretary from time to time about the implementation of such ventures. Recommendations of the Advisory Committee shall be available to the public.

(5) The Secretary shall establish at least one joint research and development venture in accordance with subsection (d) to develop technology and expertise in each of the following areas—

(A) photovoltaics technology;

(B) wind energy technology;

(C) solar thermal technology;

(D) factory-made housing;

(E) advanced district cooling technology;

(F) renewable energy and energy efficiency technology exports; and

(G) fuel cell energy systems.

(6) Not later than 180 days after the date of the enactment of this section the Secretary shall publish plans to implement this section and report to Congress on such plans.

(d) VENTURE.—(1) PHOTOVOLTAICS TECHNOLOGY.—

(A) The Secretary shall establish and provide financial assistance to a joint research and development venture for the demonstration of photovoltaic conversion of solar energy in accordance with the provisions of this paragraph.

(B) The purpose of the venture under subparagraph (A) shall be to design, test and demonstrate systems employing critical enabling technologies for photovoltaic conversion of solar energy so as to achieve, to the maximum extent practicable, the goals of the Photovoltaic Energy Systems Program set forth in section 613(a)(2), as those goals may be amended under section 613(b). The venture under this paragraph may emphasize production, distribution, storage, or end use of

electricity from photovoltaic conversion of solar energy or any combination thereof.

(C) In soliciting proposals for the joint research and development venture under this paragraph, the Secretary shall consider the recommendations of the Advisory Subcommittee on Photovoltaic Energy Technology under subparagraph (D).

(D) The Secretary shall appoint members to an Advisory Subcommittee on Photovoltaic Energy Technology to assist the Secretary in carrying out his responsibilities with respect to the joint venture under this paragraph. Such subcommittee shall include such members of the Advisory Committee as the Secretary deems appropriate and, in addition, at least one member representing each of the following—

(i) firms in the photovoltaic manufacturing industry;

(ii) the Director of the Agency for International Development; and

(iii) the Director of the Export-Import Bank.

(E) There is authorized to be appropriated to the Secretary a total of not more than $1,200,000 for each of the fiscal years 1991, 1992, and 1993 to carry out the purposes of this paragraph.

(2) WIND ENERGY TECHNOLOGY.—(A) The Secretary shall establish and provide financial assistance to a joint research and development venture for the demonstration of the conversion of wind energy in accordance with the provisions of this paragraph.

(B) The purpose of the venture under subparagraph (A) shall be to design, test and demonstrate systems employing critical enabling technologies for the conversion of wind energy so as to achieve, to the maximum extent practicable, the goals of the Wind Energy Research Program set forth in section 613(a)(1), as those goals may be amended under section 613(e). The venture under this paragraph may emphasize production, distribution, storage, or end use of wind energy or any combination thereof and may include systems employing other sources of energy in addition to wind energy.

(C) In soliciting proposals for the joint research and development venture under this paragraph, the Secretary shall consider the recommendations of the Advisory Subcommittee on Wind Energy Technology under subparagraph (D).

(D) The Secretary shall appoint members to an Advisory Subcommittee on Wind Energy Technology to assist the Secretary in carrying out his responsibilities with respect to the joint venture under this paragraph. Such subcommittee shall include such members of the Advisory Committee as the

Secretary deems appropriate and, in addition, at least one member representing each of the following—

(i) firms in the wind energy equipment manufacturing industry;

(ii) the Director of the Agency for International Development; and

(iii) the Director of the Export-Import Bank.

(E) There is authorized to be appropriated to the Secretary a total of not more than $1,200,000 for each of the fiscal years 1991, 1992, and 1993 to carry out the purposes of this paragraph.

(3) SOLAR THERMAL TECHNOLOGY.—(A) The Secretary shall establish and provide financial assistance to a joint research and development venture for the demonstration of the use of solar thermal energy in accordance with the provisions of this paragraph.

(B) The purpose of the venture under subparagraph (A) shall be to design, test and demonstrate critical enabling technologies for the use of solar thermal energy so as to achieve, to the maximum extent practicable, the goals of the Solar Thermal Energy Systems Program set forth in section 613(a)(3), as those goals may be amended under section 613(b). The venture under this paragraph may emphasize production, distribution, storage, or end use of solar thermal energy or any combination thereof and may include systems

employing other sources of energy in addition to solar thermal energy.

(C) In soliciting proposals for the joint research and development venture under this paragraph, the Secretary shall consider the recommendations of the Advisory Subcommittee on Solar Thermal Energy Technology under subparagraph (D).

(D) The Secretary shall appoint members to an Advisory Subcommittee on Wind Energy Technology to assist the Secretary in carrying out his responsibilities with respect to the joint venture under this paragraph. Such subcommittee shall include such members of the Advisory Committee as the Secretary deems appropriate and, in addition, at least one member representing each of the following—

(i) firms in the solar thermal manufacturing industry;

(ii) the Director of the Agency for International Development;

(iii) the Director of the Export-Export Bank; and

(iv) the Gas Research Institute.

(E) There is authorized to be appropriated to the Secretary a total of not more than $900,000 for each of the fiscal years 1991 through 1993 to carry out the purposes of this paragraph.

(4) FACTORY MADE HOUSING.—(A) The Secretary shall establish and provide financial assistance to a joint research and development venture with such specialized private firms and investors as the Secretary deems appropriate in order to establish at last 3 regional projects to demonstrate techniques to improve the energy performance of factory-made housing offered by United States firms. In locating the projects under this paragraph, the Secretary shall consider regional differences in housing needs, housing design, construction technique, marketing practices, and construction materials.

(B) The projects under this paragraph shall be designed to demonstrate state-of-the-art product quality, energy efficiency, and adaptability to renewable forms of energy of factory-made housing offered for sale in the United States. The projects shall be structured to demonstrate improvements in housing design, fabrication, delivery systems, construction processes, marketing, and product export techniques.

(C) The demonstration strategy under this paragraph shall be guided by—

(i) a detailed characterization of the needs of the home building industry;

(ii) a close working relationship with all sectors of the home building industry; and

(iii) coordination among the projects to pool and conserve resources.

(D) In selecting projects under this section, the Secretary shall consider the recommendations of the Advisory Subcommittee on Energy Performance in Factory-Made Housing established under subparagraph (E).

(E) The Secretary shall appoint members to an Advisory Subcommittee on Energy Performance in Factory-Made Housing to assist the Secretary in carrying out his responsibilities with respect to the joint research and development venture established under this paragraph. Such subcommittee shall include such members of the Advisory Committee as the Secretary deems appropriate and, in addition, at least one member representing each of the following—

(i) the National Association of Home Builders;

(ii) the National Laboratories of the Department of Energy; and

(iii) the National Institute of Standards and Technology.

(F) There is authorized to be appropriated to the Secretary a total of not more than than $5,000,000 for each of the fiscal years 1991 through 1993 to carry out the purposes of this paragraph.

(5) ADVANCED DISTRICT COOLING TECHNOLOGY.—(A)(i) The Secretary shall establish and provide financial as-

sistance to a joint research and development venture with such specialized private firms and investors as the Secretary deems appropriate in order to develop advanced district cooling technologies that are applicable in cities with high cooling loads.

(ii) The purpose of the joint venture under this paragraph is to develop technical strategies for decreasing the capital cost and increasing the energy efficiency of major district heating and cooling system components and to assist in making district heating and cooling available to local governments.

(B) The Secretary shall select 3 cities for application of advanced district cooling technologies developed by the joint venture under this paragraph. The activities to be carried out in such application shall include district cooling assessment, feasibility, and engineering design studies.

(C) In selecting the cities under subparagraph (B), the Secretary shall consider the recommendations of the Advisory Subcommittee on Advanced District Cooling Technology established under subparagraph (D).

(D) The Secretary shall appoint members to an Advisory Subcommittee on Advanced District Cooling Technology to assist the Secretary in carrying out his responsibilities with respect to the joint research and development venture under this paragraph. Such subcommittee shall include such

members of the Advisory Committee as the Secretary deems appropriate and, in addition, at least one member representing each of the following—

(i) firms manufacturing district cooling equipment, and

(ii) the National League of Cities.

(E) There is authorized to be appropriated for each of the fiscal years 1991 through 1993 not more than $1,000,000 per year to carry out the purposes of this paragraph.

(6) EXPORT TECHNOLOGY PROJECTS.—(A) For purposes of this paragraph Congress finds that—

(i) the United States has several advanced energy efficiency and renewable energy technologies that lack only sufficient coordination, support, and emphasis to become important export items capable of reducing the United States' trade deficit;

(ii) a major barrier to export of energy efficiency and renewable energy technology is the lack of information on overseas markets and technology development by foreign competitors;

(iii) the industry that markets energy efficiency technology is highly fragmented, and the renewable energy industry is comprised of small firms that lack

the necessary resources to identify and target overseas markets; and

(iv) a joint research and development venture is needed to bring together a broad array of manufacturing firms, financial institutions, and Federal agencies to identify and develop promising technologies and export markets for energy efficiency and renewable energy technologies.

(B) The Secretary shall establish and provide financial assistance to a joint research and development venture with such specialized private firms and investors as the Secretary determines appropriate for the purpose of commercializing and marketing domestically-developed energy efficiency and renewable energy technologies in order to enhance sales of products developed from such technologies relative to foreign-made products.

(C) In designing the joint venture under subparagraph (B), the Secretary shall consider the recommendations of the Advisory Subcommittee on Renewable Energy and Energy Efficiency Technology Exports established under subparagraph (D).

(D) The Secretary shall appoint members to an Advisory Subcommittee on Renewable Energy and Energy Efficiency Technology Exports to assist the Secretary in carrying out his responsibilities with respect to the joint research and

development venture under this paragraph. Such subcommittee shall include such members of the Advisory Committee as the Secretary deems appropriate and, in addition, at least one member representing each of the following—

(i) the Director of the Agency for International Development;

(ii) the Director of the Export-Import Bank;

(iii) the United States Export Council for Renewable Energy;

(iv) the National Laboratories of the Department of Energy.

(E) There is authorized to be appropriated to the Secretary to carry out the purposes of this paragraph a total amount for each of the fiscal years 1991 through 1993 not to exceed $5,000,000 with respect to renewable energy activities under this paragraph and $5,000,000 with respect to energy efficiency activities under this paragraph.

(e) SECRETARIAL DISCRETION.—(1) If the Secretary, based on the recommendations of the Advisory Committee under subsection (c)(4)(B) with respect to a joint research and development venture described under subsection (d), determines, in consultation with the Advisory Committee, that—

(A) there is insufficient private sector interest in such venture to satisfy the requirement of subsection (c)(2);

(B) carrying out the venture will not further the purposes of this title; or

(C) timely commercialization of the technology to be demonstrated will not be advanced by the venture,

then the Secretary shall not be subject to the requirements of subsection (d) with respect to the technology to be demonstrated by the joint research and development venture.

(2) The Secretary shall notify Congress of any determination under paragraph (1) and provide a written explanation of the reasons for the determination. Immediately thereafter, the Secretary shall consult with the Advisory Committee, and, based on the recommendations of such Committee, shall promptly transmit to Congress a plan for the establishment of a substitute joint research and development venture to demonstrate, consistent with this section, an alternative renewable energy or energy efficiency technology so as to accomplish the purposes of this title. Any unexpended funds authorized to be appropriated under subsection (d) for the joint research and development venture with respect to which a determination is made under paragraph (1) may be used for a substitute joint research and development venture established under this subsection.

(3) When 30 calendar days have elapsed after transmittal of the plan under paragraph (2), the Secretary shall pro-

ceed with the joint research and development venture described in his plan as is such venture were required under subsection (d).

(f) ADDITIONAL COMMERCIALIZATION PROJECTS.—(1) The President's budget request for fiscal year 1992 shall include the Secretary's recommendations for at least one proposed proof-of-concept on near-commercial demonstration project in each of the categories represented by section 3(a) (1), (2), and (3). Each proposed project shall be described in sufficient detail to support congressional authorization and solicitation of bids for construction of necessary facilities.

(2) A list and description of alternative project plans under this subsection shall be submitted in President's fiscal year 1991 budget request. Such plans shall require funding or in-kind contributions from private sources in support of at least 30 percent of total project costs.

(3) In selecting proposed projects under this subsection, the Secretary shall take into account the extent to which such projects will contribute to earlier commercialization of key technologies within such categories that might occur without Federal support under this subsection and the extent to which such projects will contribute to the competitiveness of United States firms engaged in international trade in renewable energy technologies.

RENEWABLE ENERGY EXPORTS

SEC. 615. (a) FINDINGS AND PURPOSES.—(1) for purposes of this section, Congress finds that—

(A) among the major problems in promoting exports of renewable energy technology are the lack of available information on overseas markets and the absence of financing for the purchase of the technologies; and

(B) the Committee on Renewable Energy, Commerce, and Trade ("CORECT") established under the Renewable Energy Industry Development Act (Public Law 98–370) currently coordinates Federal Government activities to promote renewable energy exports.

(2) The purpose of this section is to evaluate current efforts to promote exports of renewable energy technology, to establish a joint government-industry plan to identify promising technologies and increase the financing available for exports of renewable energy technologies, to target potential markets for these technologies, and to authorize funding of these activities.

(b) ANNUAL REPORT.—The Committee on Renewable Energy, Commerce, and trade shall annually report to Congress.

(c) AGENCY ACTIONS.—Each report submitted under subsection (b) shall describe the actions of each agency repre-

sented by a member of the Committee on Renewable Energy, Commerce, and Trade taken during the previous fiscal year to achieve the purposes of such committee and of this section. Such report shall describe the exports of renewable energy technology that have occurred as a result of such agency actions.

(d) PLAN.—The Committee on Renewable Energy, Commerce, and Trade shall—

(1) establish a joint government-industry plan to maintain or increase the market share of the United States in international trade in renewable energy technologies, including technologies for production of alcohol fuels, biomass energy, geothermal energy, wood energy, and in technologies for fuel cell energy conversion, passive solar energy conversion, photovoltaics, solar thermal energy conversion, and wind energy conversion. Such plan shall include guidelines for agencies that are members of the committee with respect to the financing of exports of such renewable energy technologies;

(2) develop, in consultation with representatives of affected industries, administrative guidelines for Federal export loan programs to simplify application by firms seeking export assistance for renewable energy tech-

nologies from agencies implementing such programs; and

(3) target renewable energy technology markets for primary emphasis by Federal export loan programs, development programs, and private sector assistance programs.

(e) The Committee on Renewable Energy, Commerce, and Trade shall include a description of the plan under paragraph (1) in no later than the second report submitted under subsection (b), and shall include in subsequent reports a description of any modifications to such plan and of the progress in implementing the plan.

(f) AUTHORIZATIONS.—There is hereby authorized to be appropriated to the Secretary for activities of the Committee on Renewable Energy, Commerce, and Trade an amount not to exceed—

(1) $1,200,000 in fiscal year 1991;

(2) $1,500,000 in fiscal year 1992; and

(3) $1,800,000 in fiscal year 1993.

RENEWABLE ENERGY

SEC. 616. (a) DISSEMINATION OF INFORMATION.—Section 523 of the National Energy Conservation Policy Act (42 U.S.C. 8243) is amended by adding a new subsection (d) as follows:

"(d) In order to more widely disseminate information about the program under this part and under part 3 and the

benefits of solar heating and solar heating and cooling technology, the Secretary shall establish a program to disseminate such information for Federal procurement officers and Federal loan officers that shall include site visits and technical briefings. The Secretary shall utilize available funds for the program under this subsection.''.

(b) DEPARTMENT OF DEFENSE HOUSING.—Section 2857(b)(1) of title 10, United States Code, is amended by inserting after 'has the potential for' the following: ''reduced energy costs''.

(c) OVERSEAS PRIVATE INVESTMENT CORPORATION LOANS.—Section 234(e) of the Foreign Assistance Act of 1961 is amended—

(1) in the first sentence, by inserting after 'cooperatives' the following: ''and including the initiation of incentives, grants, and studies for renewable energy and other small business activities''; and

(2) by adding at the end thereof the following new sentence: ''Administrative funds may not be made available for incentives, grants, and studies for renewable energy and other small business activities.''.

REPORTS

SEC. 617. (a) REPORT BY THE SECRETARY.—One year after the date of the enactment of this title and annually thereafter, the Secretary shall report to Congress on the programs, projects, and joint research and development ventures

[redacted] enable fuel cells to use alternative fuel sources needs to be

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(c) REPORT TO CONGRESS.—The Secretary shall transmit to the Congress on or before September 30, 1991, a comprehensive report on research carried out pursuant to this Act.

(d) AUTHORIZATION.—There are hereby authorized to be appropriated $5,000,000 for fiscal year 1991 to the Secretary to be used to conduct research as provided in this Act.

SEC. 620. INCLUSION OF FUEL CELLS AS A FUEL CONSERVATION TECHNOLOGY UNDER REIDA.—Section 256 of the Energy Policy and Conservation Act is amended by inserting at the end thereof the following:

"(e) For purposes of this section, the term 'domestic renewable energy industry' shall include industries using fuel cell technology.".

SEC. 621. ENVIRONMENTAL PROTECTION AGENCY GUIDELINES FOR THE USE OF FUEL CELL TECHNOLOGIES.—Within 180 days of the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall prepare Federal guidelines for cities and municipalities specifying environmental and safety standards for the use of fuel cell technology. In the preparation of the guidelines, the Administrator shall utilize the successful experience of the New York City Fire Department in the use of fuel cell technologies.

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its naturally occurring states into high quality fuel, feedstock, and energy storage media; and

(7) it is in the national interest to accelerate efforts to develop a domestic capability to economically produce hydrogen in quantities which will make a significant contribution toward reducing the Nation's dependence on conventional fuels.

(b) The purpose of this title is to—

(1) direct the Secretary of Energy to prepare and implement a comprehensive 5-year plan and program to accelerate research and development activities leading to the realization of a domestic capability to produce, distribute, and use hydrogen economically within the shortest time practicable; and

(2) develop renewable energy resources as primary energy sources to be used in the production of hydrogen.

COMPREHENSIVE MANAGEMENT PLAN

SEC. 624. (a) The Secretary shall prepare a comprehensive 5-year program management plan for research and development activities which shall be conducted over a period of no less than 5 years and shall be consistent with the provisions of sections 625 and 626. In the preparation of such plan, the Secretary shall consult with the Administrator of the National Aeronautics and Space Administration, the Secretary of Transportation, the Hydrogen Technical Advisory

Panel established under section 628, and the heads of such other Federal agencies and such public and private organizations as he deems appropriate. Such plan shall be structured to permit the realization of a domestic hydrogen production capability within the shortest time practicable.

(b) The Secretary shall transmit the comprehensive program management plan to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate within 6 months after the date of the enactment of this Act—

(1) the research and development priorities and goals to be achieved by the program;

(2) the program elements, management structure, and activities, including program responsibilities of individual agencies and individual institutional elements;

(3) the program strategies including technical milestones to be achieved toward specific goals during each fiscal year for all major activities and projects;

(4) the estimated costs of individual program items, including current as well as proposed funding levels for each of the 5 years of the plan for each of the participating agencies;

(5) a description of the methodology of coordination and technology transfer; and

(6) the proposed participation by industry and academia in the planning and implementation of the program.

(c) Concurrently with the submission of the President's annual budget to the Congress for each year after the year in which the comprehensive 5-year plan is initially transmitted under subsection (b), the Secretary shall transmit to the Congress a detailed description of the current comprehensive plan, setting forth appropriate modifications which may be necessary to revise the plan as well as comments on, and recommendations for, improvements in the comprehensive program management plan made by the Hydrogen Technical Advisory Panel established under section 628.

RESEARCH AND DEVELOPMENT

SEC. 625. (a) The Secretary shall establish, within the Department of Energy, a research and development program, consistent with the comprehensive 5-year management plan under section 624, to ensure the development of a domestic hydrogen fuel production capability within the shortest time practicable.

(b)(1) The Secretary shall initiate research or accelerate existing research in areas which may contribute to the development of hydrogen production and use.

(2) Areas researched shall include production, liquefaction transmission, distribution, storage, and use. Particular attention shall be given to developing an understanding and

(b) The Secretary shall, in consultation with the Secretary of Transportation, the Administrator of the National

Aeronautics and Space Administration, and Hydrogen Technical Advisory Panel established under section 628, prepare a comprehensive large-scale hydrogen demonstration plan with respect to demonstrations carried out pursuant to subsection (a)(1). Such plan shall include—

(1) a description of the necessary research and development activities that must be completed before initiation of a large-scale hydrogen production demonstration program;

(2) an assessment of the appropriateness of a large-scale demonstration immediately upon completion of the necessary research and development activities; and

(3) an implementation schedule with associated budget and program management resource requirements.

COORDINATION AND CONSULTATION

SEC. 627. (a) The Secretary shall have overall management responsibility for carrying out the program under this title. In carrying out such program, the Secretary, consistent with such overall management responsibility—

(1) shall use the expertise of the National Aeronautics and Space Administration and the Department of Transportation; and

(2) may use the expertise of any other Federal agency in accordance with subsection (b) in carrying

out any activities under this title, to the extent that the Secretary determines that any such agency has capabilities which would allow such agency to contribute to the purpose of this title.

(b) The Secretary may, in accordance with subsection (a), obtain the assistance of any department, agency or instrumentality of the executive branch of the Federal Government upon written request, on a reimbursable basis or otherwise and with the consent of such department, agency, or instrumentality. Each such request shall identify the assistance the Secretary deems necessary to carry out any duty under this title.

(c) The Secretary shall consult with the Administrator of the National Aeronautics and Space Administration, the Administrator of the Environmental Protection Agency, the Secretary of Transportation, and the Hydrogen Technical Advisory Panel established under section 628 in carrying out his authorities pursuant to this title.

TECHNICAL PANEL

SEC. 628. (a) There is hereby established a technical panel of the Energy Research Advisory Board, to be known as the Hydrogen Technical Advisory Panel, to advise the Secretary on the program under this title.

(b)(1) The technical panel shall be appointed by the Secretary and shall be comprised of such representatives from domestic industry, universities, professional societies, Gov-

ernment laboratories, financial, environmental, and other organizations as the Secretary, in consultation with the Chairman of the Energy Research Advisory Board, deems appropriate based on his assessment of the technical and qualifications of such representatives. Appointments to the technical panel shall be made within 90 days after the enactment of this Act. The technical panel shall have a chairman, who shall be elected by the members from among their number.

(2) Members of the technical panel need not be members of the full Energy Research Advisory Board.

(c) The activities of the technical panel shall be in compliance with any laws and regulations guiding the activities of technical and factfinding groups reporting to the Energy Research Advisory Board.

(d) The heads of the departments, agencies, and instrumentalities of the executive branch of the Federal Government shall cooperate with the technical panel in carrying out the requirements of this section and shall furnish to the technical panel such information as the technical panel deems necessary to carry out this section.

(e) The technical panel shall review and make any necessary recommendations to the following items, among others—

(1) the implementation and conduct of the program under this title; and

(2) the economic, technological, and environmental consequences of the deployment of hydrogen production and use systems.

(f) The technical panel shall prepare and submit annually to the Energy Research Advisory Board a written report of its findings and recommendations with regard to the program under this title. The report shall include—

(1) a summary of the technical panel's activities for the preceding year;

(2) an assessment and evaluation of the status of the program; and

(3) comments on and recommendations for improvements in the comprehensive 5-year program management plan required under section 624.

(g) After consideration of the technical panel report and within 30 days after its receipt, the Energy Research Advisory Board shall submit the report, together with any comments which the Board deems appropriate, to the Secretary.

(h) The Secretary shall provide such staff, funds, and other support as may be necessary to enable the technical panel to carry out the functions described in this section.

DEFINITIONS

SEC. 629. As used in this title—

(a) the term "Secretary" means the Secretary of Energy; and

(b) the term "capability" means proven technical ability.

AUTHORIZATION OF APPROPRIATIONS

SEC. 630. There is hereby authorized to be appropriated to carry out the purpose of this title (in addition to any amounts made available for such purpose pursuant to other Acts)—

(a) $10,000,000 for the fiscal year beginning October 1, 1991;

(b) $15,000,000 for the fiscal year beginning October 1, 1992;

(c) $20,000,000 for the fiscal year beginning October 1, 1993;

(d) $25,000,000 for the fiscal year beginning October 1, 1994;

(e) $30,000,000 for the fiscal year beginning October 1, 1995;

HYDROGEN-FUELED AIRCRAFT RESEARCH AND DEVELOPMENT

SEC. 631. FINDINGS AND PURPOSE.—(a) The Congress finds that—

(1) long-term future decreases in petroleum-based fuel availability will seriously impair the operation of the world's air transport fleets;

(2) hydrogen appears to be an attractive alternative to petroleum in the long-term to fuel commercial aircraft;

(3) it is therefore in the national interest to accelerate efforts to develop a domestic hydrogen-fueled supersonic and subsonic aircraft capability; and

(4) the use of liquid hydrogen as a commercial air transport fuel has sufficient long-term promise to justify a substantial research, development demonstration program.

(b) The purpose of this title is to—

(1) direct the Administrator of the National Aeronautics and Space Administration to prepare and implement a comprehensive 5-year plan and program for the conduct of research, development, and demonstration activities leading to the realization of a domestic hydrogen-fueled aircraft capability within the shortest time practicable.

(2) establish as a goal broad multinational participation in the program; and

(3) provide a basis for public, industry, and certifying agency acceptance of hydrogen-fueled aircraft as a mode of commercial air transport.

COMPREHENSIVE MANAGEMENT PLAN

SEC. 632. (a) The Administrator shall prepare a comprehensive 5-year program management plan for research,

development, and demonstration activities consistent with the provisions of sections 633, 634, and 635. In the preparation of such plan, the Administrator shall consult with the Secretary of Energy, the Secretary of Transportation, and the heads of such other Federal agencies and such public and private organizations as he deems appropriate. Such plan shall be structured to permit the realization of a domestic hydrogen-fueled aircraft capability within the shortest time practicable.

(b) The Administrator shall transmit the comprehensive 5-year program management plan to the Committee on Science, Space, and Technology of the House of Representatives and the Committees on Commerce, Science, and Transportation and Energy and Natural Resources of the Senate within 6 months after the date of the enactment of this Act. The plan shall include, but not necessarily be limited to—

(1) the research and development priorities and goals to be achieved by the program;

(2) the program elements, management structure, and activities, including program responsibilities of individual agencies and individual institutional elements;

(3) the program strategies including detailed technical milestones to be achieved toward specific goals during each fiscal year for all major activities and projects;

(4) the estimated costs of individual program items, including current as well as proposed funding levels for each of the 5 years of the plan for each of the participating agencies;

(5) a description of the methodology of coordination and technology transfer; and

(6) the proposed participation by industry and academia in the planning and implementation for the program.

(c) Concurrently the submission of the President's annual budget to the Congress for each year after the year in which the comprehensive 5-year plan is initially transmitted under subsection (b), the Administrator shall transmit to the Congress a detailed description of the current comprehensive plan, setting forth appropriate modifications which may be necessary to revise the plan as well as comments on and recommendations for improvements in the comprehensive program management plan made by the Hydrogen-Fueled Aircraft Advisory Committee established under section 637.

RESEARCH AND DEVELOPMENT

SEC. 633. (a) The Administrator shall establish, within the National Aeronautics and Space Administration, a research and development program consistent with the comprehensive 5-year program management plan under section 632 to ensure the development of a domestic hydrogen-fueled aircraft capability within the shortest time practicable.

(b) The Administrator shall initiate research or accelerate existing research in areas which may contribute to the development of a hydrogen-fueled aircraft capability.

(c) In conducting the program pursuant to this section, the Administrator shall encourage the establishment of domestic industrial capabilities to supply hydrogen-fueled aircraft systems or subsystems to the commercial marketplace.

(d) The Administrator shall, for the purpose of performing his responsibilities pursuant to this Act, solicit proposals for and evaluate any reasonable new or improved technology, a description of which could lead or contribute to the development of hydrogen-fueled aircraft technology.

(e) The Administrator shall conduct evaluations, arrange for tests and demonstrations and disseminate to developers information, data, and materials necessary to support efforts undertaken pursuant to this section.

FLIGHT DEMONSTRATION

SEC. 634. (a) Concurrent with the activities carried out pursuant to section 633, the Administrator shall, in consultation with the Secretary of Transportation, the Secretary of Energy, and the Hydrogen-Fueled Aircraft Advisory Committee established under section 637, prepare a comprehensive flight demonstration plan, the implementation of which shall provide confirmation of the technical feasibility, economic viability, and safety of liquid hydrogen as a fuel for

commercial transport aircraft. The comprehensive flight plan shall include—

(1) a description of the necessary research and development activities that must be completed before initiation of a flight demonstration program;

(2) the selection of a domestic site where demonstration activities can lead to early commercialization of the concept;

(3) an assessment of a preliminary flight demonstration to occur concurrently with the later states of research and development activities; and

(4) an implementation schedule with associated budget and program management resource requirements.

(b) The Administration shall transmit such comprehensive flight demonstration plan to the Congress within 2 years after the date of the enactment of this Act.

HYDROGEN PRODUCTION AND GROUND FACILITIES

SEC. 635. (a) The Administrator, in consultation with the Secretary of Transportation and the Secretary of Energy, shall define the systems, subsystems, or components associated with the production, transportation, storage, and handling of liquid hydrogen that are specifically required for and unique to the use of such fuel for commercial aircraft application.

(b) The Administrator shall structure the research and development program pursuant to section 633 to allow the development of the systems, subsystems, or components defined pursuant to subsection (a) of this section.

(c) The research and development program for hydrogen production, transportation, and storage systems, subsystems, and components which are suitable for inclusion as part of fully integrated hydrogen-fueled aircraft system, but which are not being specifically developed for such application shall be the responsibility of the Secretary of Energy. Such activities shall be included as part of the program established pursuant to title I of this Act, and shall be so conducted as to ensure compliance with hydrogen-fueled aircraft system constraints.

COORDINATION AND CONSULTATION

SEC. 636. (a) The Administrator shall have overall management responsibility for carrying out the program under this title. In carrying out such program, the Administrator, consistent with such overall management responsibility—

(1) shall utilize the expertise of the Departments of Transportation and Energy to the extent deemed appropriate by the Administrator, and

(2) may utilize the expertise of any other Federal agency in accordance with subsection (b) in carrying out any activities under this title, to the extent that the

Administrator determines that any such agency has capabilities which would allow such agency to contribute to the purpose of this title.

(b) The Administrator may, in accordance with subsection (a), obtain the assistance of any department, agency, or instrumentality of the executive branch of the Federal Government upon written request, on a reimbursable basis or otherwise and with the consent of such department, agency, or instrumentality. Each such request shall identify the assistance the Administrator deems necessary to carry out any duty under this title.

(c) The Administrator shall consult with the Secretary of Energy, the Administrator of the Environmental Protection Agency, the Secretary of Transportation, and the Hydrogen-Fueled Aircraft Advisory Committee established under section 207 in carrying out his authorities pursuant to this title.

ADVISORY COMMITTEE

SEC. 637. (a) There is hereby established a Hydrogen Fueled Aircraft Advisory Committee, which shall advise the Administrator on the program under this title.

(b) The committee shall be appointed by the Administrator and shall be composed of at least seven members from industrial, academic, financial, environmental, and legal organizations and such other entities as the Administrator deems appropriate. Appointments to the committee shall be made

within 90 days after the enactment of this Act. The committee shall have a chairman, who shall be elected by the members from among their number.

(c) the heads of the departments, agencies, and instrumentalities of the executive branch of the Federal Government shall cooperate with the committee in carrying out the requirements of this section and shall furnish to the committee such information as the committee deems necessary to carry out this section.

(d) The committee shall meet at least 4 times annually, notwithstanding subsections (e) and (f) of section 10 of Public Law 92–463.

(e) The committee shall review and make any necessary recommendations on the following items, among others—

(1) the implementation and conduct of the program under this title; and

(2) the economic, technological, and environmental consequences of developing a hydrogen-fueled aircraft capability.

(f) The committee shall prepare and submit annually to the Administrator a written report of its findings and recommendations with regard to the program under this title. The report shall include—

(1) a summary of the committee's activities for the preceding year;

(2) an assessment and evaluation of the status of the program; and

(3) comments on and recommendations for improvements in the comprehensive 5-year program management plan required under section 632.

(g) The Administrator shall provide such staff, funds, and other support as may be necessary to enable the committee to carry out the functions described in this section.

DEFINITIONS

SEC. 638. As used in this title—

(a) the term "Administrator" means the Administrator of the National Aeronautics and Space Administration;

(b) the term "capability" means proven technical ability; and

(c) the term "certifying agency" means any Government entity with direct responsibility for assuring public safety in the operation of the air transport system.

AUTHORIZATION OF APPROPRIATIONS

SEC. 639. AUTHORIZATIONS.—There is hereby authorized to be appropriated to carry out the purpose of this title—

(1) $10,000,000 for the fiscal year beginning October 1, 1991;

(2) $15,000,000 for the fiscal year beginning October 1, 1992;

(3) $20,000,000 for the fiscal year beginning October 1, 1993;

(4) $25,000,000 for the fiscal year beginning October 1, 1994; and

(5) $30,000,000 for the fiscal year beginning October 1, 1995.

TITLE VII—ADVANCED CIVILIAN REACTOR PROGRAMS

SEC. 701. FINDINGS AND PURPOSES.—Congress finds that—

(a) the use of energy generated from nuclear fission could potentially supplant economically the burning of fossil fuels and thereby contribute substantially to reducing the rate and scope of global climate change;

(b) the purpose of this title is to redirect programs in existence on the date of the enactment of this title for research, development, and demonstration of technologies for the generation of commercial electric power from nuclear fission. Notwithstanding any other provision of law, this title shall be the exclusive source of authority for appropriations for such programs; and

(c) for purposes of this section, programs for research, development, and demonstration of technologies for the generation of commercial electric power from nuclear fission include programs of the Secretary designated in appropriations acts for the fiscal year beginning on October 1, 1988, as Advanced Reactor Research and Development, Advanced Nuclear Systems, Facilities, and Program Direction.

SEC. 702. RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.—(a) The Secretary shall carry out a comprehensive program of research and development of technologies for the generation of commercial electric power from nuclear fission that to the maximum extent practicable—

(1) permit modular design;

(2) exhibit passive safety;

(3) are adaptable to standardized construction and licensing;

(4) are cost-effective in comparison to alternative sources of electricity of comparable availability, reliability, and impact on the rate and scope of global climate change;

(5) minimize the volume of nuclear waste produced and the cost of nuclear waste disposal;

(6) prevent diversions of radioactive material for use in nuclear weapons; and

(7) minimize the cost of power plant decommissioning.

SEC. 703. APPROPRIATIONS.—(a) There is authorized to be appropriated to carry out the purposes of this title for the fiscal year beginning on October 1, 1991, not more than $100,000,000; for the fiscal year beginning October 1, 1992, not more than $200,000,000, and for the fiscal year beginning October 1, 1993, not more than $200,000,000.

SEC. 704. REPORTS.—The Secretary shall submit to the Congress by October 1, 1991, and every year thereafter, a comprehensive report on progress made toward the development of reactor designs which meet the criteria set out in section 702(a) of this Act. The report shall rank each design or technology in terms of its ability to meet these criteria, and shall show how the Secretary will focus his research efforts to most expeditiously achieve the development of a reactor design which meets these criteria. In addition, the report shall include the Secretary's recommendations for whatever steps he deems are needed to successfully achieve the purposes of this title.

TITLE VIII—FUSION

SEC. 801.—(a) Within 1 year after the date of the enactment of this section, the Secretary shall report to Congress on the status of research, development, and demonstration in technology for the production of electricity from both

magnetic and inertial confinement fusion, including international collaboration.

(b) The report under subsection (a) shall present a program of research, development, and demonstration of magnetic confinement and inertial confinement fusion for energy that would insure by 2010—

(1) a demonstration of the achievement of ignition conditions in both magnetic and inertial fusion test facilities;

(2) a demonstration of the technological feasibility of magnetic and inertial fusion as a source of electric power; and

(3) in the event that such feasibility is determined, the development of a design of a prototype commercial fusion reactor, accompanied by cost estimates and specifications sufficient to permit bids for construction of the reactor.

(c) The report shall include—

(i) an assessment of the actions needed and the funds that would be necessary to achieve the goals of the program under subsection (b);

(ii) an assessment of funds that would be provided by the United States under appropriate scenarios for international collaboration in a program

of fusion research, development, and demonstration that would achieve such goals;

(iii) a review and analysis of the major obstacles to international collaboration in such a program; and

(iv) the Secretary's recommendations for additional legal and budgetary authority required to implement the preferred scenario among those considered under paragraph (2).

TITLE IX—COAL

SEC. 901. REPORT.—(a) Within 9 months after the date of the enactment of this title the Secretary shall provide Congress with a comprehensive report reviewing the clean coal technologies to be developed in projects that have received Federal funds under the Department of Energy's Clean Coal Technology Program. This report shall analyze each such project to determine the change in the production of CO_2 that is likely to result from the project specifically and in total were the technology being developed widely implemented relative to alternative coal use technologies.

(b) Before submitting the report under subsection (a), the Secretary shall make a draft report available to the public and provide an opportunity for comment on such draft report. The Secretary shall provide appropriate responses to comments received in the final report.

(c) The Secretary shall include in the report his recommendations as to the most promising clean coal technologies that also would reduce the production of CO_2 per unit of energy delivered relative to alternative coal use technologies.

SEC. 902. PROGRAM.—(a) The Secretary shall establish and carry out a program of research, development and demonstration of techniques for recovery and disposal of CO_2 from automobiles, trucks, and buses, electric utility power operations, and industrial manufacturing processes.

(b) Within 6 months after the date of the enactment of this section the Secretary shall submit a report to Congress on his plans to implement subsection (a). Such report shall include the Secretary's recommendations of priority in research, development, and demonstration opportunities under this section. The report shall also include the Secretary's 5-year budget for the program under this section.

SEC. 903. COAL STUDY.—(a) The Secretary, through 1 or more of the Department's National Laboratories, shall establish and carry out a comprehensive program in the fundamental physics and chemistry of coal combustion. The program under this section shall examine the breakup of representative types of coal under combustion into final products at the molecular level.

(b) In designing the program under this section, the Secretary shall give priority to research that will clarify the fun-

damental mechanisms for the production of oxides of sulphur and nitrogen during the combustion process, with the ultimate goal of using information gained thereby to limit or control the introduction of these gases into the atmosphere.

(c) Within 6 months after the date of the enactment of this section the Secretary shall submit a report to Congress on his plans to implement subsection (a), including a 5-year budget for the program under this section.

SEC. 904. IMPROVED EFFICIENCY.—The Secretary shall support research that will improve the efficiency of coal generated electricity and industrial processes with priority given to those projects which have the greatest potential for reducing the generation of carbon dioxide.

SEC. 905. AUTHORIZATION.—There is authorized to be appropriated to the Secretary for purposes of this title not more than $5,000,000 for fiscal year 1991 and not more than $15,000,000 for fiscal year 1992, and not more than $25,000,000 for fiscal year 1993.

TITLE X—NATURAL GAS

SEC. 1001. NATURAL GAS FOR MASS TRANSIT PROGRAM.—(a) The Secretary shall, consistent with the Alternative Motor Fuels Act of 1988, Public Law 100–494, enter into cooperative agreements with, and provide financial assistance under this section to any municipal, county, or regional transit authority (hereinafter "authority") to demon-

strate the feasibility of using natural gas as a fuel for mass transit in urban areas.

(b) The program of the Secretary to implement the agreements under subsection (a) may include interested or affected private firms willing to provide assistance in cash or in kind for any such demonstration.

(c) The Secretary shall not enter into any agreement under subsection (a) with any municipal, county or regional transit authority unless such government body agrees to provide at least 25 percent of the costs of such demonstration.

(d) An authority may petition the Secretary for priority in allocating financial assistance under this section.

(e) The Secretary, at his discretion, may grant such priority under this section to any authority that demonstrates that the use of natural gas as a transportation fuel would have a significant effect on the ability of an air quality region to comply with applicable regulations governing air quality.

(f) Within 6 months after the date of the enactment of this section the Secretary shall report to Congress on his plans to implement this section.

(g) There is authorized to be appropriated to the Secretary not more than $30,000,000 for each of fiscal years 1991, 1992, and 1993 for purposes of this section.

SEC. 1002. REPORT.—Within 18 months after the date of the enactment of this title the Secretary, in consultation

with the Administrator of the Environmental Protection Agency and the President of the Gas Research Institute, shall submit to Congress a report on the feasibility of using natural gas in gasoline and diesel-powered vehicles to facilitate compliance by such vehicles with applicable emissions requirements for such vehicles.

SEC. 1003. NATURAL GAS USE IN FLEETS.—(a) The Secretary, consistent with the Alternative Motor Fuels Act of 1988, and after consultation with the president of the Gas Research Institute, shall establish and carry out a program, and provide financial assistance, to encourage the development and commercialization of natural gas use in passenger fleets, light duty trucks, and heavy duty trucks by providing for the purchase and construction of alternative fuel vehicles and associated refueling equipment.

(b) Both Federal and private fleets may be eligible for private assistance under this section. A public or private operator of a fleet may petition the Secretary for priority in allocating financial assistance under this section.

(c) The Secretary, at his discretion, may grant such priority to those fleets where the use of natural gas as a transportation fuel would have a significant effect on the ability of an air quality region to comply with applicable regulations governing air quality.

(d) To facilitate the use of natural gas fueled vehicles, the existing Federal vehicle anti-tampering regulations shall be amended by adding the following:

"The conversion of a vehicle from gasoline only to natural gas or natural gas and gasoline shall not be considered a violation of any anti-tampering provisions of the Federal law and implementing regulations provided that the conversion complies with emissions standards which shall be issued by the EPA administrator not later than October 31, 1989.".

(e) There is authorized to be appropriated to the Secretary not more than $30,000,000 for each of fiscal years 1991, 1992, and 1993, for purposes of this section.

SEC. 1004. TRAINING PROGRAM.—(a) The Secretary shall establish and carry out a training program for technicians who are responsible for vehicle installations of equipment that converts gasoline or diesel-fueled vehicles to the capability to run on natural gas alone, or on natural gas and either diesel or gasoline. Such training program shall provide these technicians with instruction on the correct installation procedures and techniques, adherence to specifications, vehicle operating procedures, and other appropriate mechanical concerns applicable to these vehicle conversions.

(b) The Secretary, at his discretion, shall enter into cooperative agreements with, and provide financial assistance, under this section, to appropriate parties to provide training

programs that will ensure the proper operation and performance of conversion equipment.

(c) There is authorized to be appropriated to the Secretary, consistent with the Alternative Motor Fuels Act of 1988, and after consultation with the president of the Gas Research Institute, not more than $5,000,000 for each of the fiscal years 1991, 1992, and 1993 for purposes of this section.

SEC. 1005. VEHICLE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.—(a) The Secretary, in consultation with the president of the Gas Research Institute, shall establish and carry out a program of research, development, and demonstration on techniques related to improving natural gas vehicle technology including, but not limited to, the following areas—

(1) gaseous fuel injection;

(2) carburetion;

(3) manifolding;

(4) combustion;

(5) power optimization;

(6) emissions control;

(7) novel gas compression concepts;

(8) advanced storage systems; and

(9) advanced gaseous fueling technologies.

(b) The Secretary, consistent with the Alternative Motor Fuels Act of 1988, after consultation with the president of the Gas Research Institute, shall enter into cooperative agreements with, and provide financial assistance, under this section, to the Gas Research Institute to perform the research and development to improve natural gas vehicle technology.

(c) There is authorized to be appropriated to the Secretary not more than $10,000,000 for each of the fiscal years 1991, 1992, and 1993 for purposes of this section.

SEC. 1006. NATURAL GAS RECOVERY, RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAM.—(a) The Secretary, in consultation with the president of the Gas Research Institute, shall expand and continue a program of research, development, and demonstration on techniques to increase the availability of natural gas from—

(1) intensive recovery of natural gas in place in discovered reservoirs or formations; and

(2) more economic recovery of unconventional natural gas, including gas from tight sands, eastern shales gas from less permeable formations, coal-bed methane, and geopressured reservoirs.

(b) The Secretary shall seek to enter into joint research and development ventures with persons engaged in the production, transportation or major use of natural gas to imple-

ment the program under subsection (a). For purposes of this section a "joint research and development venture" means a joint research and development venture under the National Cooperative Research Act of 1984.

(c) There is authorized to be appropriated to the Secretary not more than $25,000,000 for each of the fiscal years 1991, 1992, and 1993 for purposes of this section.

SEC. 1007. ENGINE RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAM.—(a) The Secretary, in consultation with the President of the Gas Research Institute, shall establish and carry out a program of research, development, and demonstration on high efficiency heat engines including, but not limited to, advanced gas turbine cycles for high efficiency electric power generation, such as—

(1) advanced combined cycle turbines;

(2) steam-injected gas turbines (STIG); and

(3) intercooled steam-injected gas turbines (ISTIG);

(b) The Secretary, after consultation with the president of the Gas Research Institute, shall enter into cooperative agreements with, and provide financial assistance, under this section, to appropriate parties, including, but not limited to the Gas Research Institute, to construct and demonstrate the high efficiency heat engines.

(c) There is authorized to be appropriated to the Secretary not more than $25,000,000 for each of the fiscal years 1991, 1992, and 1993 for purposes of this section.

SEC. 1008. The Secretary, after consultation with the president of the Gas Research Institute, shall establish priorities for research, development, and demonstration programs, and transmit a list of priorities to the Senate Committee on Energy and Natural Resources and the House Committee on Energy and Commerce for guidance in its use of research, development, and demonstration funds. The Secretary shall update the list every 2 years and submit the updated version to the aforementioned Congressional Committees.

TITLE XI—NATURAL RESOURCE POLICY

Subtitle A—General

SEC. 1101. ECOLOGICAL AND ENVIRONMENTAL RESOURCE STUDY.—(a) The Secretary of the Interior shall conduct a study of the ecological and environmental resources that would be affected by a global climate change. The study should include effects in wildlife habitat preservation, coastal protection, inland rivers and lakes, irrigation and reclamation, ground water protection, and national wildlife refuges and parks, national forests, and other Federal lands.

(b) The study should—

(1) include specific regional climatic and resource base information useful in anticipatory and mitigatory planning;

(2) identify actions that, if taken, could help mitigate the effects of global climate change; and

(3) evaluate the cost-effectiveness, including environmental externalities of possible action.

(c) The Secretary of the Interior shall consider the rela-e impact on global warming of all mineral leasing pro-ams.

(d) The Secretary of the Interior and the Secretary of griculture shall consider the relative impact on global arming of all Federal forest land management programs, cluding timber sales and reforestation.

SEC. 1102. NATIONAL FORESTATION INITIATIVE.— he Secretary of Agriculture, in cooperation with the Secre-ıry of Interior, shall report to the President and the Con-ress on the feasibility of a national forestation initiative. uch report shall include—

(a) an inventory of public, State, and private forested lands;

(b) an evaluation of the status of timber harvesting on those lands, including the extent to which those lands are being reforestated;

(c) an assessment of the extent to which Federal, State, and private lands can be reforested and afforested, including lands not necessarily suitable for timber harvesting such as urban areas;

(d) an evaluation of (1) the potential of a national forestation initiative reducing, mitigating, or preventing climate change, and (2) the measures needed to achieve that potential; and

(e) an assessment of the potential economic and environmental benefits and costs of such an initiative, the measures available to mitigate such costs, and an evaluation of the effectiveness of such measures.

SEC. 1103. URBAN FORESTRY AND ENERGY SAVINGS.—The Secretary of Energy, in consultation with the Secretary of Agriculture, and other relevant Government agencies, shall conduct a study of the potential for reducing carbon dioxide emissions by undertaking targeted urban tree plantings designed to reduce the air-conditioning needs of buildings. The study shall provide estimates of the cost-effectiveness of such a program and shall outline a range of Federal, State, and local public policies and incentives that would encourage public and private efforts to undertake such plantings.

The Secretary shall complete the study and submit it to the Congress within 18 months after the date of enactment of this Act.

Subtitle B—Tongass Timber Reform Act

TONGASS TIMBER REFORM ACT

SEC. 1103. DEFINITIONS.—As used in this title—

(a) The term "The Secretary" means the Secretary of Agriculture.

(b) Unless otherwise specified, any other term has the same meaning as used in the Alaska National Interest Lands Conservation Act as amended (Public Law 96–487), hereinafter referred to as ANILCA.

AMENDMENTS TO THE ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT

SEC. 1104. ANNUAL APPROPRIATIONS FOR TIMBER MANAGEMENT AND RESOURCE CONSERVATION ON THE TONGASS NATIONAL FOREST.—Section 705(a) of ANILCA (16 U.S.C 539d(a)) is hereby repealed effective September 30, 1989, and subsections (b) and (c) of section 705 are redesignated as subsections (a) and (b), respectively.

SEC. 1105. IDENTIFICATION OF LANDS UNSUITABLE FOR TIMBER PRODUCTION.—Section 705(d) of ANILCA (916 U.S.C. 539d(d)) is hereby repealed.

REPORTS ON THE TONGASS NATIONAL FOREST

SEC. 1106. (a) MONITORING.—Section 706(a) of ANILCA (16 U.S.C. 539e(a)) is hereby repealed.

(b) STATUS.—Section 706(b) of ANILCA (16 U.S.C. 539e(b)) is amended as follows:

(1) Strike out "(b)" and insert in lieu thereof "(a)";

(2) Strike out "and (4)" and insert in lieu thereof "(4)";

(3) Strike out the period at the end of the section and insert in lieu thereof "; (5) the impact of timber harvest on subsistence resources, wildlife and fisheries resources, commercial fisheries, recreation resources and tourism; (6) effects of timber harvest on biological diversity; (7) effects of timber harvest on the old growth rain forest ecosystem, especially in areas of high volume, and measures to conserve the old growth ecosystem, especially in areas of high volume, and measures to conserve the old growth ecosystem; (8) timber supply and demand in southeastern Alaska; and (9) costs and revenues of the timber sale program.".

(c) CONSULTATION.—Section 706(c) of ANILCA (916 U.S.C. 539e(e)) is amended as follows:

(1) strike out "(c) and insert in lieu thereof "(b)".

(2) strike out "and the Alaska Land Use Council" and insert in lieu thereof "the southeast Alaska commercial fishing industry, and the Alaska Land Use Council".

SEC. 1107. TERMINATION OF LONG-TERM TIMBER SALE CONTRACTS IN ALASKA.—Title V of ANILCA is amended by adding at the end thereof the following new section:

"SEC. 508. TERMINATION OF LONG-TERM TIMBER SALE CONTRACTS IN ALASKA.

"Not later than 90 days after the date of enactment of this section, the Secretary shall terminate the long-term timber sale contracts numbered 12–11–010–1545 and A10fs–1042 between the United States and Alaska Pulp Corporation, and between the United States and Ketchikan Pulp Company, respectively.".

MANAGEMENT OF THE TONGASS NATIONAL FOREST

SEC. 1108. (a) FINDINGS.—The Congress finds that—

(1) natural resources of the Tongass National Forest possess outstanding national characteristics of high value and benefit to the American people, and these resources are essential for subsistence activities and for the commercial fishing, recreation, and tourism industries which contribute significantly to the economy of southeast Alaska;

(2) the Tongass National Forest contains one of the last largely intact rain forests in the world's temperate latitudes, and must serve as an example of the type of protection, preservation and management that

will be required to stop the destruction of rain forest resources in other nations;

(3) current Forest Service management of the Tongass National Forest, in particular the amount of high volume old growth timber offered for sale and harvested, gives priority to timber harvest over other uses of the forest and thus is not consistent with the principle of multiple use or with requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974 and the National Forest Management Act of 1976, and cannot be sustained without jeopardizing natural resources that are of national significance and upon which the commercial fishing, recreation, and tourism industries and subsistence users of southeast Alaska depend;

(4) current Forest Service management practices are based on the Tongass National Forest Land Management Plan of 1979, as amended, which should be revised consistent with the provisions of this Act and with other laws applicable to the National Forest System, to significantly increase protection and enhancement of fish, wildlife, watershed, recreation, cultural, biological diversity, and old growth forest ecosystem resources, and to support the long-term best inter-

est of all natural resource dependent industries and subsistence communities in southeast Alaska.

(b) PURPOSE.—The purpose of this title is to require revision of the Tongass National Forest Land Management Plan of 1979, as amended, in conformance with this Act and other laws applicable to the National Forest System, to significantly increase protection of resources that are critical to the long-term best interests of the commercial fishing, recreation, and tourism industries, and the subsistence users in southeast Alaska, and which are of high value and benefit to the people of the United States. These include the fish, wildlife, watershed, recreation, cultural, biological diversity and old growth ecosystem resources and subsistence values of the Tongass National Forest.

SEC. 1109. DIRECTIVE AND REPORTS.—(a) In furtherance of the purpose of this title, the Secretary is hereby authorized and directed to fully revise the Tongass National Forest Land Management Plan of 1979, as amended, to conform with provisions of this Act and other laws applicable to the National Forest System. This revision shall replace any efforts to revise the Forest Plan that are predicated on sections of ANILCA that are repealed or amended by this Act.

(b) In revising the Forest Plan, the Secretary shall significantly increase the protection of fish, wildlife, watershed, recreation, cultural, biological diversity and old growth eco-

system resources and subsistence values of the Tongass National Forest. Planning and management of old growth resources shall give specific attention to areas of high volume old growth ecosystem as a whole.

(c) In revising the Forest Plan, the Secretary shall ensure that priority is given to the protection of fish, wildlife, watershed, recreation, cultural, biological diversity, and old growth ecosystem resources and subsistence values of the areas listed in section 302(b) of this Act.

(d) Within 30 days after this Act takes effect, the Secretary shall provide the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives with a report on the schedule for revision of the Tongass Land Management Plan, including the expected dates of publication of the draft and final plans.

(e) Within 1 year after this Act takes effect, and each year thereafter until the revised Tongass National Forest Land Management Plan is complete and ready for implementation, the Secretary shall provide the Senate Committee on Energy and Natural Resources and the Committee on Interior and Insular Affairs of the House of Representatives with a report describing the steps taken in furtherance of section 201(b) of this Act.

MORATORIUM ON TIMBER SALES AND HARVEST

SEC. 1100. (a) PURPOSE.—The purpose of this title is to impose a moratorium on the sale or commercial harvest of timber in certain areas having special values for fish and wildlife, subsistence, recreation, old growth, and other resources, pending revision of the Tongass National Forest Land Management Plan to conform with the new management directives provided in this Act.

(b) MORATORIUM.—Until such time as the Tongass National Forest Land Management Plan is completely revised and ready for implementation, there shall be no sale or harvest of timber, nor any associated development (including timber sale preparation or road construction) within any area specified in subsection (b) of this section. The moratorium shall apply to lands administered by the Forest Service, as generally depicted on appropriately referenced maps, as follows:

Area:	Approximate Acreage
Anan Creek	37,331
Berners Bay	35,379
Calder-Holbrook	62,335
Chichagof	353,540
Chuck River	125,574
Kadashan	33,641
Karta River	38,671
Kegan Lake	23,858
Naha River	31,926
Nutkwa	53,635
Outside Islands	95,524
Pleasant Island-Lemesurier Islands	15,527
Pt. Adolphus-Mud Bay	72,091
Port Houghton-Sanborn Canal	59,712
Rocky Pass	74,423
Sarkar Lakes	23,500

South Etolin Island	81,939
South Kuiu	190,301
Sullivan Island	3,985
Trap Bay	6,446
West Duncan Canal	118,812
Yakutat Forelands	232,962
Young Lake	18,173

Copies of maps depicting these areas shall be on file and available for public inspection in the offices of the Chief of the Forest Service in Washington, District of Columbia, and the Regional Forester in Juneau, Alaska.

TITLE XII—BASIC SCIENCE INITIATIVES

SEC. 1201. (a) PURPOSES.—The overall purpose of this title is to expand support for ongoing and new scientific research initiatives regarding the causes, mechanisms, and implications of the greenhouse effect and global climate change, on the part of the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), the United States Geological Survey (USGS) ("the Agencies"), and the National Institute of Standards and Technology (NIST) for research on the development of safe, non-ozone depleting substitutes for chlorofluorocarbons (CFCs). The specific purposes of this title shall include—

(1) support for NASA, NSF, NOAA, and USGS in their research in such major climate-related processes as interactive atmospheric dynamics and chemistry; natural emissions of greenhouse gases; ocean-atmosphere-ice interactions; carbon cycle links to ocean and

terrestrial nutrients; cloud formation, dynamics, and radiative properties; precipitation processes; tropical global-ocean atmosphere interaction; global ocean circulation and heat capacity; sea-ice dynamics; global tropospheric chemistry; and stratospheric ozone chemistry; solar irradiance variations; paleoclimate; biosystem-climate interactions; and sea level-climate interactions; monitoring of river and coastal levels;

(2) support for the agencies in providing research to address scientific issues such as: detection of the greenhouse warming signal through land and ocean measurements of temperature and other climate-sensitive variables; research in past climate change; improvement of models to assess the rate and scope of climate change; understanding the role of clouds in reflecting solar radiation and in trapping terrestrial radiation; identifying sources and sinks of carbon dioxide and trace gases, especially methane; understanding the relationship between stratospheric ozone depletion and global climate change; the role of oceans in the global carbon cycle; modeling regional climate changes and hydrology; understanding the effects of climate change on ecosystems and climate biota feedbacks; understanding the role of changes in the polar ice packs on climate (e.g. reflection of solar radiation, influence on the

heat budget, and contribution to sea level rise); assessing the validity of climate models by testing them against the past climate record; and predicting the possible range of future climatic conditions that could arise from natural processes and selected scenarios of human perturbations;

(3) support for the completion or continuation of the Agencies' space missions and experiments to study the composition and dynamics of the atmosphere; measure the Earth's energy balance; observe ocean and ice surfaces; collect data on the Earth's radiation budget; measure sea surface temperature and monitor ocean biological activity and land vegetation; measure volcanic activity; and

(4) support for the National Institute of Standards and Technology's efforts to find alternative refrigerants or other technologies that meet stringent requirements with respect to health, stability, thermophysical properties, and cost, and do not result in decreased energy efficiency; develop effective replacements for harmful CFCs in time to be of value to CFC dependent industries in meeting their product line changes for the Montreal Protocol schedule; develop models to correlate and extend the available measured property data;

and assist industry in evaluating the full potential of alternative fluids.

(b) There is hereby authorized to be appropriated $275,000,000 in additional funding to the following agencies over the fiscal years 1991, 1992, and 1993, to support each agency's efforts in carrying out the purposes of this title:

(1) $100,000,000 to NASA;

(2) $60,000,000 to NOAA;

(3) $75,000,000 to NSF;

(4) $30,000,000 to USGS; and

(5) $10,000,000 to NIST.

TITLE XIII—DEVELOPMENT ASSISTANCE

SEC. 1301. BILATERAL TROPICAL FORESTRY PROGRAM.—(a) Not later than 1 year after the enactment of this title, the Secretary of State, in conjunction with the Secretary of the Treasury, Administrator of the Agency for International Development, the Secretary of Interior, and the Secretary of Agriculture shall transmit to Congress a report containing—

(1) a description and inventory of the existing forest resources in all tropical countries of the world;

(2) an evaluation of the potential in each tropical nation for reforestation, afforestation, and conservation of existing forest resources;

(3) a description of appropriate mechanisms in each country for preserving forest resources and creating new forested area, including, but not limited to, choice of mixed species to encourage a diverse forest and discourage monoculture estates, and involvement of local groups in the design, implementation, and monitoring of projects; and

(4) the potential for reducing, mitigating, or preventing climate disruption by providing bilateral development assistance and other forms of assistance and incentives to tropical countries for reforestation, afforestation, and conservation of existing forest resources. The report referred to in this subsection shall be prepared in consultation with the government and the public in each tropical country and shall be updated and transmitted to Congress every 3 years.

(b) Within 1 year after the completion of the report required under subsection (a) and every 3 years thereafter, the same agencies, in consultation with the government and public in each tropical country and interested members of the public in the United States, shall establish and transmit to Congress a forest plan with goals for each tropical country. These goals shall include maximum feasible conservation of existing forest areas and reforestation and afforestation in areas not covered by forests.

(c) The Administrator of the Agency for International Development shall make development assistance moneys, export credits, and other forms of financial support available for projects and programs to implement the plan required by subsection (b). The Administrator shall ensure that all activities supported by the United States bilateral foreign assistance are consistent with the plan. Beginning 2 years after the approval of the first plan, the Administrator, in allocating development assistance moneys to countries identified in the plan, shall take account of the success or lack of success of each country in meeting the goals established in the plan.

(d) The Administrator shall promote support by other bilateral donors for activities necessary to implement the plan.

(e) Not later than 1 year after the date of enactment of this title, and annually thereafter, the Department of State, in cooperation with the Department of Interior, and the Department of the Treasury, the Department of Agriculture, and the Agency for International Development shall submit to Congress a report describing actions taken pursuant to this section, the extent to which other donors have supported actions necessary to implement the forest plan, the extent to which each tropical country has succeeded in achieving the goals set out in the plan, and how the success or lack of success of each country in meeting the goals established in

the plan have been taken into account in allocating development assistance moneys to each country.

SEC. 1302. MULTILATERAL TROPICAL FORESTRY PROGRAM.—(a) The Secretary of the Treasury shall instruct the United States' Executive Director of the multilateral development banks to promote the adoption by each such bank of a forestry program substantially equivalent to the program set out in section 1301 and containing the following components:

(1) identification of each borrowing country's potential for afforestation;

(2) establishment of goals for afforestation for each borrowing country, in consultation with the government and the public in that country;

(3) creation of incentives to encourage afforestation and disincentives to discourage deforestation; and

(4) allocation of the resources of each such bank to each borrowing country in proportion to the degree with which such country has created new forested areas and protected existing forested areas.

(b) Beginning 2 years after the enactment of this title, the Secretary of the Treasury shall instruct the United States' Executive Director to each of the multilateral development banks to oppose loans and other financial or technical assistance to any borrowing country that has not successfully

established and successfully implemented a program setting reasonable goals for that country for preserving existing forest resources and creating new forested areas, except where the Secretary determines that such goals are advanced more effectively by actions other than voting against such assistance.

The Secretary of State shall instruct the United States representative to the United Nations Food and Agriculture Program to promote the establishment and coordinate the implementation of forestry plans for tropical countries substantially equivalent to those set out in section 1301 and subsection (a) of this section that contains incentives to encourage afforestation and disincentives to discourage deforestation.

(d) The Secretary of State shall instruct the United States Ambassador to the United Nations Development Program to adopt and implement forestry programs for recipient countries substantially equivalent to those set out in section 1301 and subsection (a) of this section that contain incentives to encourage afforestation and disincentives to encourage deforestation. Beginning two years after the enactment of this title, the Secretary of State shall instruct the United States Ambassador to the United Nations to oppose the adoption of any country programs for any recipient country that has not established and successfully implemented a program setting reasonable goals for that country for preserving existing

forest resources and creating new forested areas, except where the Secretary determines that such goals are advanced more effectively by actions other than opposing the adoption of such a plan.

(e) The Secretary of State shall instruct the United States representative to the International Tropical Timber Organization to promote:

(1) a major emphasis by the organization on conservation activities and financing of forest conservation projects; and

(2) the adoption of codes of conduct for commercial logging and private sector timber operations.

(f) Not later than 1 year after the date of enactment of this title, and annually thereafter, the Secretary of the Treasury and the Secretary of State shall submit to Congress a report describing progress by each of the multilateral development banks, the United Nations Food and Agriculture Program, the United Nations Development Program, and the International Tropical Timber Organization in adopting and implementing programs meeting the standards set out in this section, including in particular:

(1) efforts by the Department of the Treasury, the Department of State, and other Federal agencies to assure implementation of multilateral development programs substantially equivalent to that set forth in sec-

tion 1302 and subsection (a) of this section, and the result of such efforts;

(2) progress by the United Nations Food and Agriculture Organization in promoting the establishment and coordinating the implementation of forestry plans for tropical countries meeting the criteria set forth in section 1301 and subsection (a) of this section;

(3) progress in the identification of each multilateral development bank, the United Nations Food and Agriculture Program, the United Nations Development Program of the potential for afforestation by recipient countries;

(4) progress in the establishment of goals by each multilateral development bank, the United States Food and Agriculture Program, and the United States Development Program for afforestation by each recipient country;

(5) the nature of incentives and disincentives created by each multilateral development bank and the United Nations Development Program to encourage afforestation and to discourage deforestation, respectively;

(6) the extent to which the allocation of the resources of each multilateral development bank and the United Nations Development Program to recipient

countries is proportional to the success or lack of success of such country in creating new forest areas and protecting existing forest areas; and

(7) a description of proposed loans, country programs, and other financial and technical assistance to which subsections (b) and (d) apply, and votes and other actions on proposal by United States Executive Director to the relevant multilateral development bank and the United States Ambassador to the United Nations.

SEC. 1303. TRADE IN WOOD AND WOOD PRODUCTS.—(a) Not later than 1 year after the enactment of this title, the Secretary of Commerce, in consultation with interested members of the public, shall promulgate regulations requiring wood and products containing wood imported into the United States to bear a label containing the following information:

(1) the country or countries in which wood or woods were harvested; and

(2) the scientific and common names of such wood or woods.

(b) Not later than 4 years after the enactment of this title, the Secretary of Commerce, in consultation with the Secretary of State, the Administrator of the Agency for International Development, the Secretary of the Treasury,

and interested members of the public, shall by regulation prohibit the importation into the United States of wood and products containing wood from—

(1) those tropical countries that have not successfully achieved the goals established under sections 1301 and 1302 of this title;

(2) those countries that import wood or products containing wood harvested in the countries identified in paragraph (1); and

(3) those countries that permit transit of wood or products containing wood harvested in those countries identified in paragraph (1).

(c) Not later than 2 years after the publication of the regulation referred to in subsection (a) and no less frequently than biennially thereafter, the Secretary of Commerce, in consultation with the Administrator of the Agency for International Development, the Secretary of the Treasury, and interested members of the public, shall review and, as necessary, revise the regulation referred to in subsection (a).

(d) The President shall encourage those countries which import or consume wood or wood products from countries identified in sections 1301 and 1302 to adopt laws and regulations substantially equivalent to the regulation referred to in subsection (a).

(e) The Secretary of Commerce, not later than 1 year after the initial publication of the regulation referred to in subsection (a) and annually thereafter, shall submit a report to the Congress describing—

(1) progress in controlling imports into the United States of wood and wood products from countries that have not successfully achieved the goals established under sections 1301 and 1302; and

(2) progress by those countries which import or consume wood or wood products from countries identified in paragraph (1) in controlling imports of such wood and wood products.

SEC. 1304. BILATERAL ENERGY PROGRAM.—Section 106 of the Foreign Assistance Act of 1961 (22 U.S.C. 2151d) is amended by—

(a) changing the title of the section to read: "Sustainable Energy Development, Private Voluntary Organizations, and Selected Development Activities.";

(b) striking out all subsection (a)(1) except the first 2 sentences and striking out all of subsection (a)(2);

(c) inserting the following new subsection (a)(2):

"(2) The Congress finds that energy conservation, improvements in end use energy efficiency, and energy production from renewable, decentralized sources have great potential for meeting energy needs in developing nations, especial-

ly the needs of the rural poor. These techniques can enable developing countries to make efficient use of scarce resources; minimize environmental harm (including warming of the earth's atmosphere due to the "greenhouse effect"); lessen the danger of nuclear weapons proliferation; and reduce dependence on dwindling oil reserves and expensive imported energy. Often, energy needs can be met more cheaply and more employment can be generated by these methods than by production of energy from conventional sources.".

(d) striking out the last sentence of subsection (b)(2), redesignating that subsection as subsection (a)(3), and inserting at the end of that subsection the following:

"Such programs also may include any type of assistance aimed at energy efficiency, improvements in end use energy efficiency, and assistance for transmission facilities to increase the availability of energy in rural areas. No assistance shall be furnished under this Act for large-scale production of energy from fossil fuels.".

(e) inserting the following new subsection (a)(4):

"(4) In providing assistance to developing countries as authorized in subsection (3), the President shall—

"(A) prepare for each aid-receiving country, in cooperation with the government and the public in each

country and interested members of the public in the United States, an analysis—

"(i) describing feasible actions that can reduce emissions of 'greenhouse gases', while at the same time meeting development needs, through actions which improve end use energy efficiency, promote reliance on renewable energy sources, or encourage energy efficiency or use of alternative fuels;

"(ii) comparing the economic and environmental costs of the actions described in subparagraph (i) with the economic and environmental costs of the actions described in subparagraph (i) with the economic and environmental costs of investments to provide additional supplies of energy; and

"(iii) analyzing the need for foreign assistance, and especially United States bilateral assistance, to make possible the actions described in subparagraph (i).

"(B) provide technical assistance and support projects to improve energy efficiency, with emphasis on training, information and institution-building in all sectors; improvement of indigenous capabilities to develop and implement least cost planning strategies and pro-

grams of energy efficiency; developing indigenous capabilities to adapt technologies of energy conservation and end use energy efficiency; and, in transportation, energy-saving methods of mass transit (such as light rail, buses, and van pools), energy-efficient motor vehicles and railroads, traffic management techniques (such as computerization of traffic signals and fuel savings at airports), and transfer of appropriate United States technologies;

"(C) support projects to develop and demonstrate energy conservation, improvements in end use energy efficiency, and small-scale, decentralized, renewable energy sources for rural areas. Such projects shall use appropriate technologies and methods suited to the local environment, shall feature close consultation with and involvement of local people at all stages of project design and implementation, and shall be directed toward the earliest possible widespread application. Appropriate technologies include but are not limited to biomass, biogas, wind energy, passive solar, solar electricity, fuel cells, and low-head hydroelectric generation;

"(D) whenever appropriate, accomplish the objectives of this subsection through projects managed by

private and voluntary organizations or international or regional or national nongovernmental organizations;

"(E) direct the Administrator of the Agency for International Development, in consultation with the President of the Export-Import Bank and the President of the Overseas Private Investment Corporation, to encourage private sector investment in energy efficient technologies in developing countries;

"(F) make the analyses referred to in subsection (A) available to the public and transmit them to the Congress at least annually;

"(G) beginning one year after the enactment of this title, refuse to approve any project or program authorized by this subsection involving the obligation of more than $100,000 unless such an analysis has been prepared, transmitted to the Congress, and made available to the public;

"(H) promote vigorously the adoption by other bilateral donors of energy efficient programs for countries that receive development assistance that emphasize least-cost energy planning, energy conservation, and end use energy efficiency; and

"(I) not later than 1 year after the date of enactment of this title, and annually thereafter, submit to the Congress a report describing progress under the

program established by this section, including in particular, the nature of all projects supported; their costs and results; progress in reducing emissions of greenhouse gases; and progress by other bilateral donors in implementing programs of least cost energy planning, energy conservation, and end use energy efficiency for aid-receiving countries.".

(f) striking out subsection (b), redesignating subsection (c) as subsection (a)(5), and redesignating subsections (d) and (e) as subsections (b) and (c), respectively.

SEC. 1305. MULTILATERAL ENERGY CONSERVATION AND EFFICIENCY PROGRAM.—(a) The Secretary of the Treasury shall instruct the United States Executive Director to each of the multilateral development banks vigorously to promote the adoption by each such bank of an energy conservation and efficiency and containing the following components:

(1) least cost energy planning for each borrowing country that—

(A) gives priority to projects and programs to support energy conservation, end use energy efficiency, and renewable energy sources in major economic sectors; and

(B) compares the economic and environmental costs of the actions described in subparagraphs (A) with the economic and environmental costs of investments to provide additional supplies of energy;

(2) analysis for each proposed loan to support additional power generating capacity comparing the economic and environmental costs of investments in reduction of demand for energy, including energy conservation and end use energy efficiency, with the economic and environmental costs of the proposal;

(3) an implementation strategy, including technical assistance grants as appropriate, for implementing the plan referred to in paragraph (1);

(4) strict standards requiring consistency of each proposed loan with the relevant least cost energy plan for each borrowing country; and

(5) measures to encourage reform of macroeconomic policies, such as energy prices, to facilitate energy conservation and end use energy efficiency.

(b) Beginning 2 years after the enactment of this title, the Secretary of the Treasury shall instruct the United States Executive Director to each of the multilateral development banks to oppose loans and other financial or technical assistance to any borrowing country for which a least cost energy

plan giving priority to energy conservation, end use energy efficiency, and renewable energy sources is not in place, except where the Secretary determines that such goals are advanced more effectively by actions other than voting against such assistance.

(c) The Secretary of State shall instruct the United States Ambassador to the United Nations vigorously to encourage the United Nations Development Program to adopt and implement energy conservation and efficiency programs for recipient countries substantially equivalent to those set out in subsection (a) that require least cost energy planning to give priority to energy conservation, end use energy efficiency, and renewable energy sources. Beginning 2 years after the enactment of this title, the Secretary of State shall instruct the United States Ambassador to the United Nations to oppose the adoption of any country programs for any country for which a program of least cost energy planning giving priority to energy conservation, end use energy efficiency, and renewable energy sources is not in place, except where the Secretary determines that such goals are advanced more effectively by actions other than opposing the adoption of such plan.

(d) Not later than 1 year after the date of enactment of this title, and annually thereafter, the Secretary of the Treasury and the Secretary of State shall submit to the Congress a

report describing progress by each of the multilateral development banks and the United Nations Development Program in adopting and implementing programs meeting the standards set out in subsections (a) and (c), including in particular—

(1) efforts by the Department of the Treasury, the Department of State, and other Federal agencies to assure implementation by each of the multilateral development banks and the United Nations Development Program of programs substantially equivalent to those set out in this section, and the results of such efforts;

(2) progress by each multilateral development bank and the United Nations Development Program in drafting and adopting least cost energy plans for each recipient country;

(3) the absolute dollar amounts, and proportion of total lending in the energy sector, of loans, portions of loans, or projects approved by each multilateral development bank and the United Nations Development Program in the previous year for projects or programs of energy conservation and end use energy efficiency; and

(4) a description of proposed loans, country programs, and other financial and technical assistance to which subsections (b) and (c) apply, and votes and

other actions on proposals by the United States Executive Director to the relevant multilateral development bank and the United States Ambassador to the United Nations.

SEC. 1306. ENVIRONMENTAL CONSERVATION AND DEBT REDUCTION.—(a) It is the policy of the United States that the Secretary of the Treasury, in consultation with interested members of the public including commercial banks, shall enter into negotiations with selected developing country governments to obtain improvements in policies in the foresty and energy sectors by those countries as a condition of reducing or converting sovereign and private debt owned to creditors in the United States. As a condition of the adoption of policies or programs to preserve existing forested areas, encourage the creation of new forested areas, or promote energy conservation or end use energy efficiency, the Secretary may reduce the principal of, extend payments on, or reduce the rate of interest on up to one-half of the total sovereign debt owed to the United States by developing country governments.

(b) Not later than 1 year after the enactment of this title, the Secretary of the Treasury, in consultation with interested members of the public including commercial banks, shall promulgate regulations to implement the program established in subsection (a). Such regulations shall—

(1) identify those developing countries that are promising candidates for participation in such a program from the point of view of their contribution to global climate disruption and the total amount of debt owed to official and private creditors in the United States;

(2) establish a timetable of the initiation of negotiations with each such country; and

(3) establish criteria and standards for the adoption, implementation, and monitoring or programs and policies in the forest and energy sectors by developing country governments that wish to participate in the program established by subsection (a).

(c) The Secretary of the Treasury, in consultation with interested members of the public including commercial banks, shall encouarge the adoption of joint initiatives of debt reduction and conversion by the public and private sectors in other member countries of the Organization for Economic Cooperation and Development. (a) Not later than 1 year after the enactment of this title, the Administrator of the Agency for International Development shall transmit to the Congress a report for each country that receives development assistance monies from the United States containing—

(1) a least cost energy plan that provides for economic development;

(2) a comparison of the economic and environmental costs of alternative investments in the energy sector, such as conservation and end use efficiency, with the economic and environmental costs of investments to provide additional power generating capacity;

(3) an implementation strategy, including technical assistance grants as appropriate, for implementing the plan referred to in paragraph (1); and

(4) the potential for reducing, mitigating, or preventing the climate disruption by providing bilateral development assistance for least cost energy planning, energy efficiency, and end use efficiency.

(b) The report referred to in subsection (a) shall be updated and transmitted to the Congress every 2 years. The first report and all subsequent reports shall be prepared in consultation with the government and the public in each recipient country and interested members of the public in the United States. The Administrator shall assure that all development assistance moneys expended in each recipient country are consistent with the least cost plan applicable to that country;

(c) The Administrator shall promote the adoption by other bilateral donors of energy efficiency programs for countries that receive development assistance that emphasize

least cost energy planning, energy efficiency, and end use efficiency;

(d) Not later than 1 year after the date of enactment of this title, and annually thereafter, the Administrator shall submit to the Congress a report describing progress under the program established by this section, including in particular—

(1) the nature of energy projects supported in each recipient country and the dollar amount of each;

(2) improvements in energy conservation and end use efficiency resulting from projects financed in each recipient country;

(3) progress in reducing, mitigating, or preventing climate disruption by providing bilateral development assistance to recipient countries through support of projects to encourage energy conservation and end use efficiency; and

(4) progress by other bilateral donors in implementing least cost energy programs for recipient countries.

SEC. 1307. MULTILATERAL ENERGY EFFICIENCY PROGRAM.—(a) The Secretary of the Treasury shall instruct the United States Executive Director to each of the multilateral development banks to promote the adoption by each such bank of an energy efficiency program substantially equivalent

to the program set out in section 1304 and containing the following components:

(1) least cost energy planning for each borrowing country;

(2) analysis for each proposed loan to support additional power generating capacity comparing the economic and environmental costs of alternative investments in the energy sector, including energy conservation and end use efficiency, with the economic and environmental costs of the proposal;

(3) an implementation strategy, including technical assistance grants as appropriate, for implementing the plan referred to in paragraph (1); and

(4) strict standards requiring consistency of each proposed loan with the relevant least cost energy plan for each borrowing country.

(b) The Secretary of the Treasury shall instruct the United States Executive Director to each of the multilateral development banks to notify the staff of each bank that all future contributions to such bank from the United States shall be conditioned upon adoption and successful implementation of a program meeting the standards set out in subsection (a).

(c) Not later than 1 year after the date of enactment of this title, and annually thereafter, the Secretary of the Treasury shall submit to the Congress a report describing progress

by each of the multilateral development banks in adopting and implementing programs meeting the standards set out in subsection (a), including in particular—

(1) efforts by the Department of the Treasury and other executive branch agencies to assure implementation by each of the multilateral development banks of a program substantially equivalent to that set out in this section, and the results of such efforts;

(2) progress by each multilateral development bank in drafting and adopting least cost energy plans for each borrowing country; and

(3) the absolute dollar amounts, and proportion as total lending in the energy sector, of loans or portions of loans approved by each multilateral development bank in the previous year for products or programs of energy efficiency and end use efficiency.

SEC. 1308. REPORT BY THE ADMINISTRATOR OF THE AGENCY FOR INTERNATIONAL DEVELOPMENT.—Not later than 1 year after the enactment of this title, the Administrator of the Agency for International Development, in consultation with the Secretary of the Treasury and the Secretary of State, shall submit to the Congress a report describing options and strategies for the use of bilateral and multilateral development assistance programs sponsored by the United States to control emissions into the atmosphere of carbon di-

oxide, nitrous oxide, methane, and other greenhouse gases. Interalia, this report shall analyze mechanisms by which strategies to encourage afforestation, reforestation, energy conservation, end use energy efficiency, and renewable energy sources can be incorporated into the programs of the International Monetary Fund.

TITLE XIV—INTERNATIONAL ACTIVITIES

Subtitle A

SEC. 1401. MULTILATERAL GLOBAL CLIMATE PROTECTION CONVENTION. (a) It is the policy of the United States that the Secretary of State, in consultation with the Administrator of the Environmental Protection Agency and the Secretary of Energy, and science agencies (e.g., NASA, NOAA, and NSF) shall convene an international meeting to be held in the United States with invitations to representatives of all countries of the world, the purpose of which shall be to actively encourage the adoption of a binding multilateral global climate protection convention containing measures at least as stringent as those in this Act.

(b) The Secretary of State shall sponsor such other meetings as may be necessary to assure that the convention is opened for signature no later than the end of 1992.

(c) The Secretary of State shall seek to assure that the convention, through least cost energy planning, energy efficiency, and end use efficiency, requires a reduction of not less

than 20 percent in global generation of carbon dioxide over 1988 levels by the year 2000, a reduction not less than 50 percent in global generation of carbon dioxide over 1988 levels by the year 2015, and appropriate reductions in emissions of nitrous oxide, methane and other greenhouse gases.

SEC. 1402. MULTILATERAL AGREEMENT TO REDUCE EMISSIONS OF OXIDES OF NITROGEN.—Not later than 1 year after the enactment of this title, the Secretary of State, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, and the administrators of NIST, NOAA, and NASA shall initiate negotiations on behalf of the United States and actively encourage the adoption by the end of 1991 of a binding multilateral agreement requiring reductions of not less than 30 percent in emissions of oxides of nitrogen over 1987 levels by the year 1998.

SEC. 1403. REASSESSMENT OF MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER.—(a) Not later than 1 year after the enactment of this title, the Secretary of State, in consultation with the Administrator of the Environmental Protection Agency, shall request and, if necessary, convene in the United States such meetings of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer as may be necessary for the reassessment of the control measures contained therein.

(b) The Secretary of State shall actively encourage the adoption of additional control measures requiring the virtual elimination of emissions of all substances identified in the Montreal Protocol within 5 to 7 years from the date of enactment of this title and appropriate control measures for other ozone-depleting chemicals not identified in the Montreal Protocol.

SEC. 1404. INTERNATIONAL NUCLEAR CONFERENCE.—The Secretary of State, in consultation with the Secretary of Energy, shall convene an international meeting to be held in the United States with invitations to representatives of all countries of the world, the purpose of which shall be to encourage the exchange of information concerning passively safe nuclear reactors, nuclear safety, and disposal of nuclear waste.

SEC. 1405. SPECIAL PROGRAMS.—The Secretary of State should encourage the establishment of a special office of the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to monitor annual generation of CO_2 and estimated trace gases on a country-by-country basis. That office shall also be responsible for assisting global negations and ultimately administering a global protocol.

SEC. 1406. (a) It is the policy of the United States that sustainable economic growth must be predicated on sustain-

able use of natural resources. The Secretary of the Treasury shall instruct the United States Executive Directors of the Multilateral Development Banks (MDBs)—

(1) promote the adoption of internal guidelines requiring the use of least-cost planning techniques in evaluating proposed energy loans, and consider refusal to support power generation, utilization or energy sector loans unless cost-effective conservation measures have been fully evaluated and considered;

(2) encourage each MDB to offer technical assistance to borrower nations in preparing national energy plans. Special emphasis shall be given to least-cost analysis in making decisions on energy use and development, and such analyses shall take into account all demand-side as well as supply-side options;

(3) promote expansion of MDB expertise in the areas of energy conservation and renewable energy sources;

(4) promote the adoption of lending strategies which place increased emphasis on energy efficiency as opposed to merely increasing generating capacity;

(5) promote adoption of policies which minimize the generation of carbon dioxide and trade gases;

(6) promote the adoption of lending strategies that place increased emphasis on energy efficient transpor-

tation programs. Such strategies shall consider alternatives to conventional mechanized transport such as non-motorized vehicles, public transport and increased energy and cost efficiency of transportation systems; and

(7) promote the use of existing and the development of new mechanisms to promote conservation of biological diversity. Existing resources to be consulted shall include but not be limited to Conservation Data Centers.

(b) The Administrator of the Agency for International Development shall—

(1) in the submission of future "early warning system" reports, as required by the Foreign Operations, Export Financing, and Related Programs Appropriations Act of 1988, make use of sources that promote the conservation of biological diversity, such as Conservation Data Centers,

(2) submit a report to the Committee on Appropriation, by January 15, 1991, on the Agency's activities and practices which encourage or discourage the use of renewable energy technologies overseas, and on ways to correct or refocus those efforts. This report shall include but is not limited to Agency activities which could be directed to develop a stronger interface

with the private sector through the establishment of a United States Renewable Energy Industry Advisory Council;

(3) issue guidance to all Agency missions stating that renewable energy resources and conservation are to be the centerpieces of their energy efforts, and meeting energy needs through these means shall be discussed in every country Development Strategy Statement; and

(4) take steps to implement recommendations set forth by a report of the Committee on Health and Environment on opportunities for the Agency to assist developing countries in the proper use of agricultural and industrial chemicals.

SEC. 1407. INTERNATIONAL RESEARCH.—(a) It is the policy of the United States to promote and support—

(1) domestic and international research efforts which respect to the greenhouse effect and its impact;

(2) studies of methods to reduce the rate of increase in the concentration of carbon dioxide and trace gases in the atmosphere of the Earth; and

(3) efforts to prevent degradation of the environment of the Earth by the greenhouse effect.

(b) The President is requested to take all appropriate actions, in cooperation with any international organizations

which the President determines to be appropriate, to establish a long-term study, beginning with a 1-year cooperative international research program, with respect to the greenhouse effect with the purposes of—

(1) increasing the worldwide dissemination of information with respect to the cause of the greenhouse effect and methods to alleviate or avoid the effects of global warming and climate change;

(2) coordinating the research efforts of the participating nations with respect to the greenhouse effect;

(3) fostering cooperation among nations to develop more extensive research efforts with respect to the greenhouse effect;

(4) preparing a report on the accomplishments of the program;

(5) identifying the potential alternative policies necessary to avoid a buildup of carbon dioxide and trace gases beyond levels which could have catastrophic results; and

(6) developing a long-term plan for future research efforts with respect to the greenhouse effect.

(c) Any such program established by the President should be started during or before the calendar year 1991, which year shall be known as the "International Year of the Greenhouse Effect".

(d) The participation of the United States in any such program established by the President should be planned and coordinated on behalf of the United States by the Chairman of the National Academy of Sciences and the Secretary of Energy.

TITLE XV—MODERATING WORLD POPULATION GROWTH

SEC. 1501. FINDINGS.—Taking into account the impact that future world population growth will have on increased demand for energy and on the rate of tropical deforestation, Congress hereby finds that—

(1) in order to avoid the potentially catastrophic consequences of significant global warming a coordinated effort to address world population growth must be initiated;

(2) United States participation in international programs to moderate high rates of population growth is necessary to control rising levels of atmospheric pollutants and greenhouse gases;

(3) at current birth and death rates the world population, now at 5 billion, is adding an additional 1 billion people every 10 years;

(4) half of the world's people depend primarily on biomass energy, principally fuelwood, for their most basic nonfood energy needs—cooking, water heating,

and space heating—and 1.5 billion people are cutting wood faster than forests can grow back;

(5) growing rural populations will continue to encroach on remaining forests in search of land for food and commercial crops, for fuelwood needed for cooking and heating and fodder for livestock;

(6) the World Bank estimates that an average fertility rate of 2.4 children per woman, the rate needed for eventual population stabilization at present death rates, could be achieved by the year 2000 if the proportion of couples in developing countries using contraception were to rise from the current rate of 40 percent to 72 percent; and

(7) these population stabilization goals can be accomplished through a mix of bilateral and international population policies to make family planning services universally available on a voluntary basis in order to slow the rate of population growth and therefore reduce pressures on global resources.

(b) The overall purpose of this title is to:

(1) significantly increase funding for new investments in international family planning information services to ensure universal access to effective modern contraception; and

(2) increase funds available for applied research and development of new contraceptive technologies with a particular focus on methods adaptable for use in developing countries.

(c) There is hereby authorized to be appropriated to the President $500,000,000 for fiscal year 1991 and $540,000,000 for fiscal year 1992 and $580,000,000 for fiscal year 1993 for international population and family planning assistance. Of the funds appropriated, not less than 16 percent or $60,000,000, whichever amount is less, shall be solely available for the United Nations Population Fund. None of the funds made available for international population and family planning assistance may be used to pay for the performance of involuntary sterilization or abortion or to coerce any person to accept family planning services. Restrictions may be applied by the President to information, counseling, or services that may be provided by family planning entities abroad only to the extent that the same restrictions are applied by the President to information, counseling, and services that may be provided by family planning entities receiving funds under grants and contracts made under title X of the Public Health Service Act (42 U.S.C. 300 and following).

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United States Department of State

Bureau of Oceans and International Environmental and Scientific Affairs

Washington, D.C. 20520

November 15, 1989

MEMORANDUM

TO: Distribution

FROM: OES/EGC - Daniel A. Reifsnyder DAR

SUBJECT: Climate Change Working Group Meeting, November 22, 10-11:30

Deputy Assistant Secretary William Nitze will chair a meeting of the OES Policy Coordinating Committee's Climate Change Working Group on Wednesday, November 22 from 10-11:30 a.m. in Room 5941 Main State. Topics to be discussed:

- o Planning for February IPCC plenary
  - -- progress in the three working groups and integration of their activities
  - -- status of funding
- o Workplan for IPCC to address targets and timetable (Noordwijk follow-up)

Please inform Louise Bennett at 647-2764 of the names of attendees by noon Tuesday, November 21st, so that they can be cleared in advance of the meeting.

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United States Department of State

Bureau of Oceans and International Environmental and Scientific Affairs

Washington, D.C. 20520

MEMORANDUM

September 6, 1989

TO: AID/PPC, Pat Koshel
DOI, Indur Goklany
CEA, Bob Hahn

FROM: OES/EGC, Frances Li (647-3934)

SUBJECT: Climate Change Working Group, IPCC/RSWG Planning Taskers from Meeting of August 31

Since your agency did not send a representative to the meeting on August 31, you may not be aware of the action assignments:

1) Please confirm the name of your Agency or Department's principal and alternate representative on the PCC Working Group for climate change, noting that these two people will be responsible for distributing information to other interested players in your organization:

Name Mailing Address Phone FAX #

2) Please provide any comments on the proposed Policy Guidelines (Bernthal memo faxed 8/30) and/or draft conclusions paper to me by September 11.

3) Any comments on Saudi Arabian et.al. paper due September 10 in preparation for Sept. 28-29 meeting in Paris.

4) If your agency proposes nominees for the U.S. delegation to the October meeting, please provide asap name, title, and topic areas (s)he could cover. Each agency should expect to fund its own delegates. Final decision will reflect need to keep delegation to manageable size.

5) Next PCC Working Group meeting will be Sept. 19 at 2:00 p.m. in Room 7835 N.S.

Dick,
I suggest you & Howard be put on the list.
-b
called DS as prompt
& Howard as attend
9/13

PCC CLIMATE CHANGE WORKING GROUP CONTACT LIST

DEPT./AGENCY	TITLE & OFFICE SYMB/ROOM #	MAILING ADDRESS/ZIP	TELE: FAX
AGRICULTURE			
1. Norton D. Strommen	Chief Meteorologist	Room 5133 S. Bldg. USDA/WAOB Washington, D.C. 20250	447-9805 FAX:472-5805
2. Gary Evans	Special Assistant, ADM	Room 212 W ADM USDA/S&T Washington, D.C. 20250	447-5035 FAX:755-7842
A.I.D.			
1.			
2.			
C.E.A			
1.			
2.			
C.E.Q.			
1. John J. Cohrssen	Attorney/Advisor	722 Jackson Pl., NW Washington, DC 20503	395-3742 FAX:395-3928
2.			
COMMERCE			
1. Alan Dunn		DAS for Basic Industries/ITA	
2. John Knauss	Administrator	NOAA A,HCHB 1401 14th & Constitution NW Washington, D.C.	377-3436 FAX:377-8203
3. E.W. Friday, Jr.	U.S. Perm. Rep. to WMO	8060 13th St. Room 1401 Silver Spring, Md 20910	427-7689 FAX:587-4524
DEFENSE			
1. Army Corps: Morgan Rees	Deputy for Planning & Legislation	Room 2E569 The Pentagon Washington, D.C. 22310	695-1370 FAX:697-3366
2. DTSA: John Thomas	Special Assistant	Room 4D825 The Pentagon	694-6550 FAX:693-5305

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E.P.A.			
1. Dick Morgenstern	Director of the Office of Policy Analysis	OPPE/OPA Room 231 401 M St. S.W. Washington, D.C. 20460	382-4034 FAX:252-0780
2. Tim Atkeson		OIA	
3. Jack Fitzgerald		401 M St. SW A-106 Room 3623 West Tower Washington, DC 20460	382-4034 FAX: 382-4470
4. Sandy Vogelgesang		Office of Int'l Activities 401 M. St. S.W. Washington, D.C. 20460	382-4880 FAX:383-4470
ENERGY			
1. John Easton		Principal Dep.Asst. Secretary 1000 Independence Ave.	586-5858 FAX:586-6148
2. Denise Dwyer			586-6384 FAX:586-6148
INTERIOR			
1.			
2.			
National Climate Program Office			
1. William Sprigg	Director	Rockwell Bldg. Room 108 Rockville, MD 20895	443-8646
N.S.C.			
1. Jerry W. Leach	Director	Science & Technology Affairs Room 365 OEOB	395-5650 FAX:395-5221
2.			
N.S.F.			
1. Eugene W. Bierly, Div. Dir. Atmos. Sci.			357-9874 FAX:357-7745
2. Patricia Anderson, Spe. Asst, Geo Sci			

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O.M.B.			
1. Susan Offutt,	Natural Resources, Room 8025	725 17th St. NW	395-3446
2. Norm Hartness	Natural Resources Division		FAX:395-4941 395-6840 FAX:395-6899
STATE			
1. IO: John McGuinness	Deputy Director	IO/T/SCT, Room 5336	647-2757 FAX:647-6510
2. EB: Larry Butcher	EB/IFD/ODF		647-9477 FAX:647-9320
EB: Geoffrey Wolfe	EB/ERP/ECC Room 3336		647-1445
Jack Sheerin	Room 3426 EB/PHS/		647-1995
3. S/P: Christine Dawson	Member Policy Planning Staff		647-0436
4. L: Sue Biniaz	L/OES Room 6420		647-1370 FAX:647-1037
TREASURY			
1. Michael Springer	Policy Advisory Eco Policy	Room 4456, Washington, D.C. 20220	343-0275 FAX:566-8066
2. Nelson Coar	15th & Penna. Ave. N.W.		
USIA			
USTR			
1. Bob Reinstein Director	Energy & Natural Resources	600 17th St. N.W. DC 20506	395-7203 FAX:395-3911
2. Pep Fuller Director	Chemicals & Advanced Tech		395-7203
WHITE HOUSE (OSTP)			
1. Tom Katchford, Room 5005	725 17th St. NW		395-7830
2. Sara Bowden, Sr. Policy Analyst, Room 5005	725 17th St. NW		395-4626

COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

May 29, 1990

MEMBER OF THE COUNCIL

TO: BOB CORELL

FROM: DICK SCHMALENSEE

SUBJECT: Economic Research on Global Change

I am writing to explain why I have been calling you and why I hope you will find the time soon to call me back.

When you mentioned, some weeks ago, that you had heard that I had been talking with the Dutch and Germans about coordinating economic research on global change, I sent you my memo of May 1 to Steve Danzansky and Chris Dawson, to which was attached all the relevant fax traffic. We then failed to make telephone contact before you went abroad.

I now have a fax dated May 22 from Gebhard Ziller with a Dutch/German proposal for a preparatory meeting in July and a "Steering Committee" meeting in September. He states:

> The principle guiding our efforts should be to merge the two existing coordination activities, the one resulting from the White House conference, the other launched by the NSF already in January. The JGOFS meeting on 22/23 May in Paris would offer an opportunity to discuss this informally between Dr. Corell of NSF, the Netherlands and our side.

This, of course, makes it very awkward for me to reply in any fashion until I talk with you. We need to discuss several things:

- What is this NSF effort, and how does it relate to the U.S. proposals at the White House Conference?
- What was said in Paris?
- Who should attend these meetings? (I feel very strongly that the U.S. delegation should be led by an economist, since the subject is economic research on global change.)

I have been explicitly authorized by the Global Change Strategy Task Force to go forward with the initiative begun at the White House Conference. I would like to do this with your cooperation and participation, but I must reply to Ziller soon in any case.

cc: S. Danzansky

THE WHITE HOUSE
WASHINGTON

October 23, 1989

F
Global Climate Change

MEMORANDUM FOR MICHAEL BOSKIN

SUBJECT: Task Force on Economic Costs

Thank you for agreeing to chair a task force on the economic costs of global change response options.

As you know, rational models of the economic cost of either action or inaction, are conspicuously missing from the public and international debate on the subject. Economic consequences must be understood before sound policy can be developed and economically and socially acceptable actions taken. We simply cannot proceed without that understanding.

I would ask that your Task Force on Economics include broad interagency representation and identify, review and inventory similar work being done elsewhere -- at universities, think-tanks, and by your counterparts in other industrialized nations. I would ask you to produce at least a preliminary report in three months.

Again, thank you for accepting this task. Please keep me informed on your progress.

Dr. Allan Bromley
Chairman, Global Change Working Group

COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

MEMBER OF THE COUNCIL

November 2, 1989

Dear Mark:

As you know, the CEA has been asked by Dr. Allen Bromley, Chairman of the DPC Working Group on Global Change, to chair a Task Force on the economic costs of global climate change. Michael Boskin and I feel that it is very important that the Department of Commerce be involved in our deliberations, and we are very pleased that you will be able to serve as the Commerce representative on the Task Force.

I expect to be back to you in the near future with a time and date for our first meeting. In the meantime, you might find Dr. Bromley's description of our task of some interest:

> As you know, rational models of the economic cost of either action or inaction are conspicuously missing from the public and international debate on this subject. Economic consequences must be understood before sound policy can be developed and economically and socially acceptable actions taken. We simply cannot proceed without that understanding.
>
> I would ask that your Task Force on Economics include broad interagency representation and identify, review and inventory similar work being done elsewhere--at universities, think-tanks, and by your counterparts in other industrialized nations. I would ask you to produce at least a preliminary report in three months.

Since we are to do a literature survey, among other things, I would be most interested in receiving copies of any economic studies that you or others at Commerce feel should be covered.

Best regards,

Richard Schmalensee

Mr. Mark Plant
Deputy Undersecretary
for Economic Affairs
Department of Commerce, Rm 4850
14th and Constitution Ave., N.W.
Washington, D.C. 20230

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release November 7, 1989

UNITED STATES JOINS 70 NATIONS IN UNANIMOUS DECLARATION ON GLOBAL CHANGE

President Bush announced today that the United States has agreed with other industrialized nations that stabilization of carbon dioxide (CO2) emissions should be achieved as soon as possible. The U.S. also agreed that it is timely to investigate quantitative targets to limit or reduce carbon dioxide emissions. The U.S. was joined by over 70 countries attending the Ministerial Conference on Atmospheric Pollution and Climate Change in Noordwijk, The Netherlands.

In joining the Declaration at the Ministerial Conference, the United States recommended that international funding be directed towards funding a chlorofluorocarbons (CFCs) phase-out in developing countries and promoting efficient use of energy. In addition, the Declaration:

- Urges all countries to take steps individually and collectively to promote greater energy conservation and efficiency.

- Recognizes the need to stabilize the emissions of carbon dioxide and some other greenhouse gases, while ensuring sustainable development of the world economy.

- Agrees that developing countries will need to be assisted financially and technically.

- Urges all countries to join and intensify the ongoing work in the Intergovernmental Panel on Climate Change (IPCC) with respect to a framework convention.

The President said, "I asked my EPA Administrator Bill Reilly and my Science Advisor Allan Bromley to continue the leadership role which the U.S. has performed since the Intergovernmental Panel on Climate Change (IPCC) was formed in 1988."

- more -

The President also praised the Conference for providing the United States an excellent opportunity for useful consultations, both informally and formally, with many of the participating countries, including many countries that have not previously been active in the IPCC process. President Bush also noted that such conferences contribute substantially to the growing consensus among policy makers with respect to global climate change.

William Reilly, the Administrator of the Environmental Protection Agency, and Dr. Allan Bromley, Science and Technology Advisor to President Bush, emphasized during the Conference that the United States currently devotes $500 million to the study of issues related to climate change and plans to increase this to about $1 billion in FY 1991. Additionally, through such measures as the Clean Air Act, more stringent fuel efficiency standards for automobiles, aggressive energy conservation, and reforestation programs, among others, the United States is already playing a leading role in reducing CO2 emissions. The President announced in March that the United States was committed to total phase-out of CFCs by the year 2000. CFCs account for about 25 percent of United States greenhouse emissions.

The United States delegates emphasized their support for the IPCC process in which it chairs the Response Strategies Working Group, one of three such working groups. The IPCC will hold a plenary meeting in Washington, D.C. in February, 1990. Special reports on the Science, Effects and Responses to global warming will be available later in 1990.

In parallel with this work, a Working Group of the Domestic Policy Council, chaired by Dr. Allan Bromley, is undertaking an intensive program examining the potential impacts of climate change and their associated economic consequences.

With the results of these Working Groups and the IPCC report in the fall of 1990, the United States expects to play a leading role negotiating the framework convention anticipated to be called for by the IPCC process. The United States is currently developing policies based on sound analyses to guide national and international actions directed toward eventual solutions to greenhouse problems.

# # #

RESPONSE STRATEGIES WORKING GROUP
of the
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

FIRST MEETING

WASHINGTON, D.C. January 30 - February 1, 1989

Doc/1
1/26/89

Provisional Agenda

Monday, January 30

7:45 8:00 Room 1105 - Delegation meeting

8:30 Registration

9:30 Welcome

Opening Remarks by IPCC Chairman

Adoption of Agenda

10:15 Introduction to Topics to be considered by RSWG

- Overview
- Food and Fiber
  (agriculture, silviculture, aquaculture)
- Natural Resources
  (water resources, terrestrial, aquatic)
- Human Settlements
  (infrastructure, health)
- Industry
  (energy, transportation, mining/manufacturing, other)
- Integration/cross-cutting issues
  (e.g., water resources, energy, land use, population, sea level)

12:00 Lunch

1:30 Remarks by Member Countries (5-10 minutes each)

4:00 Coffee

4:15 Report on Working Group I (Science)

4:30 U.S. Strategy for Global Change Research

4:40 Panel discussion (International Chamber of Commerce, World Resources Institute, FAO, IEA, UNEP)

6:00 Reception for delegates hosted by Department of State

Tuesday, January 31

9:00 Overview/summary of day 1 discussions, guidelines for drafting groups

9:30 Group discussions to develop workplans

12:30 Delegates lunch at NAS hosted by Department of Energy
Speaker: Charles DiBona, President,
American Petroleum Institute

2:00 Continue drafting group discussions

Wednesday, February 1

9:00 Plenary Session: Integration and Adoption of Workplan, discussion of schedule, relationship to other activities

12:30 (or as decided by the group) - Adjourn