

CHEMICAL MANUFACTURERS ASSOCIATION

SIDE-BY SIDE ANALYSIS OF
LEGISLATION RELATED TO THE REMEDIATION OF THE GREENHOUSE EFFECT
(100TH CONGRESS)

Global Warming Prevention Act of 1988
H.R. 5460 (Schnefder)
Identical Senate Bill
S. 2867 (Chafee)

Global Environmental Protection Act
of 1988
S. 2666 (Stafford)

National Energy Policy Act of 1988
S. 2667 (Wirth)

1. Purpose. Establishes national policies and supports international agreements that implement energy and natural resource conservation strategies to prevent the greenhouse effect (GHE). Twelve titles:

- I. National Least-Cost Energy Plan
- II. Energy Efficiency
- III. State Energy Conservation
- IV. Vehicle Energy Efficiency
- V. Solar and Renewable Resources
- VI. Solar Hydrogen Fuels
- VII. Natural Gas and Coal
- VIII. Forest and Agriculture Policy
- IX. Development Assistance
- X. International Initiatives
- XI. World Population Growth
- XII. Recyclable Materials

Purpose. Same as H.R. 5460. Establishes program primarily geared toward elimination of airborne pollutants that affect global climate. Four titles:

- I. Global Change Pollutants (including CFC's and related chemicals; carbon dioxide; oxides of nitrogen; and methane)
- II. Global Change Adjustment & Mitigation
- III. International Cooperation
- IV. Development of Non-Polluting Energy Sources

Purpose. Establishes a national energy policy to reduce global warming, through sixteen titles:

- I. National Energy Plan
- II. Office of Climate Protection
- III. Energy Efficiency
- IV. Energy Research Conservation
- VI. Renewable Energy
- VII. Advanced Civilian Reactor Program
- VIII. Fusion
- IX. Coal
- X. Natural Gas
- XI. Northeast Natural Gas Pipeline
- XII. Natural Resource Policy
- XIII. Basic Science Initiatives
- XIV. Development Assistance
- XV. International Activities
- XVI. Moderating World Population Growth

2. Goal. Reduce CO₂ emissions from the U.S. by 20 percent by the year 2005 from 1987 levels; U.S. to actively promote conclusion of international agreement to establish global CO₂ reduction goal of 20 percent by year 2005. EPA and DOE to report within 24 month on desirability of a higher level of CO₂ emissions reductions. (Sec. 3).

Goal. To eliminate atmospheric emissions of manufactured substances with ozone depleting potential, and to reduce significantly emissions of other gases caused by human activities that affect global climate. (Sec. 103). Fifty percent of national energy needs to be met with non-polluting technologies by year 2000; 100 percent by year 2050. (Sec. 402).

Goal. Reduce CO₂ emissions from the U.S. by 20 percent by the year 2000; establish International Global Agreement on the Atmosphere by 1992. (Sec. 3). Convention to reduce CO₂ globally by 20 percent by 2015; and appropriate reductions in other gases. (Sec. 1501).

3. Projected Cost. New authorizations of \$7,937,200,000 for entire program in FY 90-94. Figure does not include reductions realized by repeal of existing programs, nor revenue foregone through amendments to Internal Revenue Code.

Projected Cost. New authorizations of \$50,000,000 for research into non-polluting energy sources, FY 89-95.

Projected Cost. New authorizations of \$4,527,447,000 for entire program, in FY 90-92. Figure does not include reductions realized by repeal of some existing programs, nor revenue foregone through amendments to the Internal Revenue Code.

4. National Least-Cost Energy Plan. DOE to transmit to Congress within 18 months of enactment, with advice of other agencies. Plan to cover cost-effective energy resources; estimates of national energy demand; evaluation of reductions in energy use per unit of GNP (at 2, 3, 4, 5 and 6% per year); evaluation of other policy options internationally; comprehensive inventory of resource availability and system cost; schedules for resource acquisition; a two-year action plan; a research and development plan; and recommendations for new Federal legislation. DOE to implement plan immediately after submission. Subsequent plans to be transmitted bi-annually. DOE to establish program of public input into plan. Review of all government subsidies for energy (including tax incentives and off-budget programs) to be completed. (Sec. 101).

No similar provision.

National Energy Plan. Same as H.R. 5460, except Plan also to cover energy resources prioritized according to impact on global climate; inventory of resources to take account of coal, energy efficiency, efficiency improvement, and alternative sources; target for meeting energy demands; and recommendations for new State agencies/legislation necessary to implement goals. (Title I).

Report evaluating policy options for a 2 to 4 percent per year decrease in energy per unit of GNP to be submitted in one year and every three years thereafter. (Sec. 301).

5. Energy Efficiency. DOE to give priority to improving the efficiency of energy-consuming devices, through Federal and joint public/private policies and programs, and to rapid improvements in efficiency in Federal buildings and vehicle fleet. Establishes Energy Research Advisory Board Panel on end-use technologies. Yearly Panel reports to be submitted to Energy Research Advisory Board for transmittal to DOE. Within 9 months of enactment DOE to submit long-term R&D plan that accelerates current DOE multiyear program goals. Authorizes funds for R&D in efficiency improvements in building and community energy, industry energy, transportation energy, multisector energy, and policy and management. (Sec. 201-202).

Ten research centers to be established by NBS and DOE, to achieve multiple improvements in energy intensive practices. Domestic manufacturing needs and multi-sector cooperation to guide implementation. At least five centers to be operational by early 1990's. (Sec. 203).

Comprehensive program to improve energy efficiency of federal buildings to result in a minimum 25% savings of energy per sq. foot of floor space by 1995, 40% savings by 2000. DOE to hold building and design competition, and to review possible use of renewable resources in federal buildings. Technical assistance for building

No similar provision. (But see similar provisions related to control of ozone depleting gases, below.

Energy Efficiency. Authorizes funds for R&D programs in transportation energy, industrial energy, building and community systems, multisector energy, and policy and management. DOE to solicit proposals for joint research and development venture for the commercial demonstration of promising efficiency technologies that reduce the rate and scope of CO₂ and trace gas emissions. (Sec. 301-303).

Federal Energy Analysis Team to analyze and make recommendations regarding energy efficiency and use in Federal buildings, including renewable resources. Prohibition on utility supply of residential energy conservation measures repealed. DOE in conjunction with HUD to develop regulations for implementation by State governments that would require the assignment of energy efficiency ratings to residential buildings. Efficiency standards to be established for incandescent and fluorescent lamps. (Secs. 305-308).

Public Utilities Regulatory Policies Act (PURPA) amended by requiring Commission to issue regulations deemed necessary to achieve qualifying conservation (reductions in utility demand by customers which would not occur but for payments by an entity not primarily engaged in generation or sale of electric power). Rates for power from a cogeneration or small production facility can be limited by state regulatory authorities to the lesser of the incremental cost of

5. cont. labeling, information programs and energy efficiency building codes established.

Federally-assisted home loans to require home energy audits and recommendations for improvements. Efficiency standards for incandescent and fluorescent lamps to be established within 12 months of enactment. (Secs. 204-206).

Least cost electric utility and gas utility planning initiatives to be implemented within 12 months of enactment. Least cost transportation policy (evaluation of energy conservation measures) and least cost utility planning for inter- and intra- state power sales to be reviewed and evaluated. National power survey to be completed within 2 years of enactment by DOE. Prohibition on supply and installation of residential energy conservation measures by utilities repealed. (Secs. 208-213).

Amendments to PURPA and National Energy Act track Wirth legislation, except that "qualifying conservation" is termed "qualifying efficiency" in H.R. 5460. (Secs. 221-223).

DOE to implement R&D program on technology to reduce or eliminate CFC use and increase efficiency in energy-related applications. Research to focus on auto glass glazing to reduce air conditioner use. DOE to submit within 6 months of enactment a report identifying projected CFC use and impacts on energy demand, including recommendations on

Control of Global Change Pollutants. Establishes regulatory program for CFC's and related chemicals, CO₂, oxides of nitrogen and methane. Requires establishment of R&D program on CFC alternatives, and promotes scientific research into atmospheric and climatic modification. (Title I).

alternative energy or the amount alternative energy exceeds the price for energy not used. (Secs. 309-311).

5. cont. avoiding greater energy use in order to comply with the ozone protection protocol. Report to be updated every 3 years. (Sec. 207).

CFC elimination program: Within 60 days of enactment, EPA to publish a list of priority manufactured substances (not limited to CFC's) which cause or may cause atmospheric or climatic modification. Secondary list to be published simultaneously of substances to be subject to limitations on ozone depletion potential, with annual amendments. For each substance listed, EPA to assign an ozone depletion factor (ODF) as compared with CFC-11. Interim ODF's established for 8 substances. (Sec. 105).

Within 90 days of enactment, each person producing a listed substance must report to EPA 1986 production levels, with annual updates thereafter. Production limited to 1986 levels during 1989; 75% of '86 level in 1990; 50% of '86 level in 1991; 5% of '86 level in 1993-94; and no production by 1995 except for medical purposes. (Secs. 106-107).

Effective 1994, unlawful to introduce or use a listed substance except for medical purposes. Substances on the secondary list cannot be used after 1999. Use of substance as an intermediate where substance is consumed and not released does not constitute a "use". Staged reductions on total ODF, similar to that for listed substances, also established. Exceptions to production phase-out for national security, not to exceed one year, are available. (Secs. 108-110).

Imports of listed substances unlawful unless EPA determines the substance subject to a substantially equivalent control

5. cont.

program in country of origin. Import prohibition to extend to products manufactured in a process that uses a listed substance. EPA to certify existence of national programs and that reduction schedules for use of listed substances are being carried out. (Sec. 111).

Labeling, manufacture and disposal requirements (listed substances to constitute RCRA waste under RCRA § 3001) established. Manufacturing limitations not to apply to de minimus amounts, defined as .05% of the total charge or five pounds, whichever is less, released over a 12 month period. (Secs. 112-113).

CO₂ program: Establishes stationary and mobile source controls under Clean Air Act (Sections 111(b) and 202). Stationary source reductions are staged, to reduce CO₂ output to 280lbs/Million BTU by 2010. Residential controls, expressed in improvements in fuel use efficiency, also to be established (furnaces, air conditioners, hot water heaters). (Secs. 115-119).

Ground level Ozone program: Stationary source controls for oxides of nitrogen and hydrocarbons to be established under Section 111 of Clean Air Act. Oxides limitations to constitute a performance standard; hydrocarbon regulation to take form of emissions limits, performance standards, or standards for product

5. cont.

composition or applications, associated with commercial solvents, consumer solvents, architectural coatings, pesticide applications, traffic markings, and military applications. Mobile source controls to include vehicle emission standards under Clean Air Act § 202, and a new test methodology for assuring compliance with limitations. (Secs. 119-123).

Clean Air Act penalties for violations of mobile source restrictions (CAA § 205) amended to increase civil penalty. Amendments to inspection and maintenance requirements, and full warranty information on new vehicle emissions control systems, also established. Limitations on sulfur content of diesel fuels, Reid vapor pressure of alcohol fuels, and oxygen content of oxygenated fuels are established. (Sec. 123).

Methane program: By January 1, 1991, EPA to submit to Congress a report on contribution of methane to global climate change, sources and sinks of methane, methods of controlling emissions, and relationship of methane to other trace gases. Subtitle D of RCRA amended to include methane control measures as part of State or regional solid waste plans. Effective 1994, mass releases of methane, including flaring, are prohibited. (Secs. 123-124) (NOTE numbering error -- there are two Section 123's in original).

5. cont.

Amendments to civil and criminal penalties for violations of compliance orders or prohibitions on listed substances; authorizes judicial review of any final (reads "fiscal" in original) action under the APA. Citizen suits authorized, tracking Clean Air Act § 304. (Secs. 125-130).

6. State Energy Conservation Programs. Establishes program to improve State and local government role in energy conservation and efficiency. Requires updates in State energy conservation plans to reflect 10 percent reductions in total energy consumed in each State by 2000; and requires inclusion of an energy emergency planning program for energy supply disruptions. Consolidates the Energy Extension Service and other outreach programs. Provides for optional programs to be incorporated into State energy conservation plans, which may include loan programs, periodic audits and evaluations, and technical support. Establishes State Energy Advisory Board and grant program for non-federal share of conservation costs and technical programs. Amends low-income weatherization program by allowing waiver of 40% requirement and \$1600 cap on weatherization assistance. Indexes \$1600 cap to CPI beginning in FY 1990. (Secs. 301-311).

No similar provision.

State Energy Conservation. Tracks H. R. 5460 provisions (Secs. 501-508) (See also #4, above, regarding state programs (Title 1)).

H.R. 5460 (Schneider)

S. 2666 (Stafford)

S. 2667 (Wirth)

7. Vehicle Energy Efficiency Improvements.
Reduces average fuel economy standards for vehicles manufactured for private use and for Federal vehicle fleet. Establishes new standards for calculation of average fuel economy. Imposes a tax equal to \$50/gallon for each gallon by which average fuel economy exceeds the standard. Increases gas guzzler tax and establishes a tax credit as an incentive to purchase fuel efficient passenger vehicles. (Secs. 401-422).
8. Solar and Renewable Resources. Within 9 months of enactment DOE to detail long-term research, development and demonstration program with policy option necessary to achieve doubling, tripling and quadrupling of renewable energy production and use by 2015. Establishes Energy Research Advisory Board Panel on Solar and Renewable Resources and Technologies to review and make recommendations on solar and renewable energy programs. Authorizes funds to be expended for R&D in biofuels, photovoltaics, solar thermal, solar buildings, wind, geothermal and ocean energy programs. Special assistance to be given to development of advanced district cooling technology. DOE to research fuel cell (methane/hydrogen gas) use, with EPA to develop guidelines for fuel cell use in cities. Department of Commerce to investigate export market potential. (Secs. 501-508).

No similar provision.

No similar provision.

Renewable Energy. Establishes Solar and renewable energy research program, and Federal solar buildings demonstration program. Emphasizes international market enhancement for renewable energy resources, amends Export-Import Bank Act and Overseas Private Investment Corporation to direct loans and grants to renewable energy projects. Small business incentives also provided. Authorizes funds to be expended in R&D in same areas as H.R. 5460, except that replaces geothermal funding with R&D in manufactured housing. Remaining provisions of H.R. 5460, and the hydrogen research/aircraft programs contained in H.R. 5460, are also contained here. (Secs. 601-638).

No similar provision.

9. Solar Hydrogen Fuels. Directs DOE to develop and implement a five-year comprehensive plan leading to the realization of domestic capacity to produce, distribute, and use hydrogen economically, primarily through the use of renewable resources. NASA to develop five-year plan for R&D into development of a hydrogen-fueled aircraft capability, with multinational participation. (Secs. 601-618).
10. Natural Gas and Coal. DOE to establish demonstration project for commercial feasibility of intercooled, steam injected gas turbines and use of natural gas in mass transit, R&D into methods of reducing, preventing, recycling or offsetting CO₂ emissions from coal also required. (Secs. 701-714).
11. Forest and Agriculture Policies. Directs multi-agency review of national practices to preserve and expand the nation's forest resource, and requires studies of recommended changes in Federal forest policy. Establishes a National Forestation Initiative, and requires multi-agency study of linkages between agriculture and global climate change. Focus of agricultural study to be on "sustainable agriculture practices", that

No similar provision.

See above (#8).

No similar provision.

Natural Gas. R&D into mass transit use of natural gas, feasibility of use in diesel engines, and recovery systems. (Secs. 1001-1003).

Coal. DOE to review existing Clean Coal Technology program, research recovery and disposal techniques for CO₂ from vehicles and manufacturing, and shall study the fundamental physics and chemistry of coal combustion. DOE to focus on NO_x, SO₂ programs, support efficiency improvements. (Secs. 904-905).

No identical provision. However, S. 2666 contains provisions related to global climate change adjustment and mitigation, under which the impacts of proposed actions on the global environment and the effects of such changes on the natural environment will be considered. Amends the National Environmental Policy Act to require agencies of the Federal government to consider the environmental impacts of proposed actions, including

Natural Resource Policy. DOI to conduct study of ecological and environmental resources that would be affected by global climate change; to consider impact on global climate change of Federal mineral leasing and forest land management programs. Specific amendments related to timber management in the Tongass National Forest (Alaska). (Secs. 1201-1205).

11. cont. will not exhaust the productive capacity of the agroenvironment, and minimizes degradation of soil and water resources. Remote sensing (satellite) capability to be encouraged. Integrated farming program, including research and assistance for ethanol fuels programs, to be established. National farm ethanol program for ETBE (ethyl tertiary butyl ether) and ethanol fuels development to focus on increase in ethanol fuels in an ecologically sustainable manner. (Secs. 801-823).

but not limited to those actions which may affect global climate change, trace gas modification, and stratospheric ozone depletion. See also S. 1792, introduced in the 100th Congress, which expands NEPA environmental impact statement requirements to the international impacts of proposed Federal actions.

Requires an inventory and review of federal holdings and facilities which might be impacted by changes in the global environment. Secretary of the Army to undertake a research and development program into artificial recharge of ground water resources. (Secs. 201-205).

Basic Science Initiatives. Expands multi-agency support for R&D into the causes, mechanisms, and implications of the GHE and global climate change. Effort to encompass satellite capability, alternatives to CFC's, sources of CO₂ emissions, the relationship between stratospheric ozone depletion and global climate change, among others. (Sec. 1301).

12. Development Assistance. Report on forest inventory and future forest preservation needs in each tropical country to be prepared within 12 months of enactment, and updated every three years. Within one year of transmittal of report, DOS to prepare a forest and agroforestry plan, with all bilateral assistance programs to conform to plan. Substantially equivalent program to be promoted on a multilateral basis, through multilateral agencies such as the U.N. Food and Agriculture Organization, and the U.S. directors at the multilateral banks. (Secs. 901-902).

International Cooperation. Establishes temporary U.S. agency, headed by Executive Director of the U.N. Environment Programme, to coordinate international efforts to mitigate environmental alterations, and provide assistance to developing countries. Establishes temporary program of international forestation and reforestation. U.S. representatives in bilateral and multilateral organizations to encourage the goals and objectives of this Act. (Secs. 301-302).

Development Assistance. Establishes a bilateral and multilateral program substantially equivalent to that set forth in H.R. 5460. (Secs. 1401-1407). (NOTE: Original misnumbered, contains two sections 1405).

12. cont. Wood imports to be labeled according to country of origin; prohibition imposed on wood imports from countries not achieving the goals established under bi- and multi-lateral forestry plans. Least-cost energy program and transportation policies also to be promoted through bilateral and multilateral efforts. (Secs. 907-908).
- U.S. to enter into negotiations with selected developing countries to obtain improvements in forestry practices as a condition to reductions of debt to the U.S. The Agency for International Development to report on bilateral and multilateral strategies for controlling emissions of greenhouse gases. (Secs. 907-908).
13. International Activities. U.S. to convene an international meeting to encourage the adoption of a multilateral global climate protection agreement, to be opened for signature no later than Dec. 31, 1992. The agreement to be at least as stringent as H.R. 5460. (Sec. 1001).
- Within 12 months of enactment, U.S. to initiate negotiations on a multilateral agreement to reduce oxides of nitrogen emissions by 30 percent by 1988. (Sec. 1002).
- Montreal Protocol on CFC's to be examined and any additional controls necessary to be identified. (Sec. 1003).

No similar provision. However, provisions on international cooperation suggest that coordination of efforts to mitigate effects of global climate change will include an international convention. (See #12, above.)

International Activities. Virtually identical provisions to those contained in H.R. 5460.

13. cont. U.S. to convene an international energy efficiency and renewable energy resources conference; support sustainable use of natural resources through multilateral development bank policies; monitor CO₂ and trace gas emissions on an annual basis; support domestic and international research into GHE and global climate change. Establishes the year 1991 as "International Year of the Greenhouse Effect." (Secs. 1004-1007).
14. World Population Growth. Establishes policy of the U.S. to make family planning services available wherever requested. Limits use of authorized funds in certain medical procedures, otherwise restrictions may only be applied to the extent applied to family planning grants in the U.S. President requested to initiate an international conference on population; National Commission on Population, Environment and Natural Resources is established. (Secs. 1101-1103).
15. Recyclable Materials. Establishes a national recyclable materials policy to foster reduction in waste volumes and to encourage use of recyclable materials. Requires studies of the Department of Commerce, Department of Defense, and HHS on feasibility of recycling across a broad range of products, including Federal and State procurement practices for products using recycled materials.

No similar provision.

Moderating World Population Growth.
 Authorizes funds for family planning services on virtually the same basis as H.R. 5460. No provisions on international cooperation or the National Commission. (Sec. 1601).

No similar provision.

No similar provision.

15. cont. Establishes a municipal waste and sewage sludge composting pilot project. (Secs. 1201-1207).
- Within 4 years of enactment, EPA and DOC to issue list of nonrecycled consumer goods, regulated items, and naturally degradable materials. Five years after enactment, prohibits production, manufacture, distribution or sale of any nonrecycled consumer good; prohibits sale of any food or beverage intended for immediate consumption that is not in a biodegradable container; and prohibits sale or delivery of any regulated items not made in whole or in part of a material which is not naturally degradable. (Secs. 1208-1211).

16. No similar provision.

No similar provision.

Office of Climate Protection.
Establishes the Office of Climate Protection within the DOE to be responsible for all DOE participation in domestic and international activities related to global climate change analysis, and reporting on U.S. energy policies and their effect on the global climate. (Sec. 201).

17. No similar provision.

No similar provision.

Energy Research & Development Priorities.
DOE to establish priorities for R&D programs, based on following criteria in order of importance. 1) potential to reduce CO₂ and trace gas generation; 2) projected cost effectiveness; 3) environmental and public health impacts;

H.R. 5460 (Schneider)

S. 2666 (Stafford)

S. 2667 (Wirth)

17. cont.

- 4) national security impacts;
- 5) obstacles to private development;
- 6) impact on fundamental scientific inquiry; and 7) impact on special or targeted populations. (Sec. 401).

18. No similar provision.

No similar provision.

Northeast Natural Gas Pipeline. Within 90 days of enactment Federal Energy Regulatory Commission to transmit to Congress plans for expediting approval of new pipeline projects to serve the Northeast U.S. (Sec. 1101).

19. No similar provision.

Development of Non-Polluting Energy Sources. Establishes National Commission on Inherently Safe Nuclear Energy, to assess the safety and reliability of nuclear technology, review incidents at plants, identify and evaluate inherently safe passive control technology and the potential for eliminating the risks at nuclear power plants, among others. Detailed report due to Congress from the Commission by October 30, 1994; Commission sunsetted January 1, 1995. Establishes a national goal of deriving 50% of U.S. energy needs from non-polluting technologies by the year 2000; 100% by the year 2050. (Secs. 401-402).

No similar provision.

H.R. 5460 (Schneider)

S. 2666 (Stafford)

S. 2667 (Wirth)

20. No similar provision.

No similar provision.

Advance Civilian Reactor Program. Redirects Federal effort in nuclear technology; consolidates authorizations for nuclear R&D into this title. R&D program to focus on modular design, passive safety, minimizing waste and preventing diversions of nuclear material, among others. A commercial scale advanced civilian reactor demonstration project to be connected to a power grid by 2000, to be funded with 50% non-Federal funds. (Secs. 701-706).

21. No similar provision.

No similar provision.

Fusion. DOE to report on international collaboration in R&D on electrical production from thermonuclear fusion. Seeks determination of technical feasibility by 2010; assessment of actions needed to achieve such capability, analysis of U.S. funding requirements, and review of obstacles to continued international collaboration. (Sec. 801).

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October 25, 1988/Rev. 11/21