

**PRESIDENT CLINTON ANNOUNCES THE UNITED STATES
CLIMATE CHANGE POLICY**



**NATIONAL GEOGRAPHIC SOCIETY
GILBERT H. GROSVENOR AUDITORIUM
Washington, D.C.**

October 22 1997

PRESIDENT CLINTON'S CLIMATE CHANGE PROPOSAL

October 22, 1997

Global climate change is the premier environmental challenge and opportunity of the 21st century, and the risks it poses justify sensible preventive steps. Addressing this issue is one of the United States' greatest imperatives, for this and future generations. Recognizing the solid foundation of climate science, President Clinton is committed to strong and sensible action to reduce greenhouse gas emissions -- including realistic and binding emissions targets.

Key elements of President Clinton's climate change proposal include:

- **Binding Targets to Reach 1990 Emissions Levels by 2008-2012 and Reductions Below 1990 Levels in the 5-Year Period That Follows.** A critical component of the President's comprehensive framework is a realistic, achievable, and binding target of reducing greenhouse emissions to 1990 levels by 2008-2012 and reductions below 1990 levels in the 5-year period that follows.
- **\$5 Billion Program of Tax Cuts and R&D for New Technologies.** To spur energy efficiency and the development of new technologies, the President proposes a major new package of tax cuts and R&D spending amounting to \$5 billion over five years.
- **Industry-by-Industry Consultations and Early Credit.** The Administration challenges key industries to prepare plans over the next 9 months on how they can best reduce emissions. To provide an incentive for near-term actions to cut emissions, the President is committed to ensuring appropriate rewards for firms that act early.
- **Developing Countries Must Participate.** Climate change is a global problem, and requires a global solution. That's why the United States has spear-headed joint implementation projects, and the President has committed that the United States will not adopt binding obligations without developing country participation.
- **Broad-Based Domestic and International Emissions Trading System Begins After A Decade of Experience Has Accumulated.** The President is committed to a market-based emissions trading system, both domestically and internationally, that will harness the power of the market to reduce emissions to 1990 levels by 2008-2012. The trading system would begin after a decade's worth of experience with tax incentives, R&D, early credit, electricity restructuring, Federal efforts, and other measures.

BINDING TARGETS: The U.S. binding target is realistic: It seeks to return U.S. emissions to 1990 levels in the period 2008-2012 and reduce them further thereafter. We reject the European proposal for more stringent early reductions, as well as the "do-nothing" approach of some interests. The target is achievable: By providing incentives for early action to reduce emissions, attacking domestic energy inefficiencies, and putting in place a market-based emissions trading system, we can reach 1990 levels in the proposed time frame with minimal economic costs. And it is meaningful: Achieving 1990 levels in the period 2008-2012 would amount to almost a 30 percent reduction off a business-as-usual path, an important first step on the road toward stabilizing greenhouse gas concentrations in the atmosphere.

SOLID PRINCIPLES: The President's five climate change principles include: that the policies should be guided by science, rely on market-based, common-sense tools, that we should seek win-win solutions, that global participation is essential to addressing the global problem of climate change, and that we must have regular common-sense reviews of the economics and science of climate change.

SOUND AND SENSIBLE THREE-STAGE APPROACH: Reflecting his five key principles, the President's plan includes three stages: Stage 1 includes priming the pump through programs such as R&D, tax incentives, incentives for early action, and Federal leadership, and industry consultations. Stage 2 builds upon the first stage by including a review and evaluation in preparation for the permit trading system. Stage 3 -- which does not occur for a decade -- involves meeting binding targets through a domestic and international emissions trading program. The President is committed to working with labor and Congress to insure that we give proper assistance to any workers dislocated by the changes in energy usage inherent in any climate change plan.

INITIAL ACTION PLAN: The President's immediate action plan includes 9 elements:

1. *\$5 Billion in Tax Cuts and Federal R&D:* To spur energy efficiency and encourage the development and deployment of lower-carbon energy sources, the Administration supports a major new package of tax cuts and R&D spending amounting to \$5 billion over five years.
2. *Credit for Early Action:* To provide an immediate incentive for near-term actions, the President is committed to ensuring that firms acting early are rewarded appropriately.
3. *Industry-by-Industry Consultations:* The Administration challenges key industry sectors to prepare plans over the next 9 months on how they can best reduce emissions.
4. *Encouraging the Use of Energy-Efficient Products:* The President will complement his tax incentives, commitment to early action credit, and industry consultations by engaging in a broad-based effort to expand the use of *existing* energy-efficient technologies.
5. *Federal Procurement and Energy Use:* The Department of Energy will spearhead a comprehensive effort to reduce greenhouse gas emissions from Federal sources.
6. *Electricity Restructuring:* To deliver a significant downpayment on emission reductions, while saving consumers billions, we will pursue a bold plan for electricity restructuring.
7. *Setting a Concentration Goal:* The United States supports developing a specific, long-term concentration goal with the assistance of the National Academy of Sciences and other bodies.
8. *Bilateral Dialogues:* In addition to pursuing agreement in Kyoto, the Administration will pursue bilateral dialogues with key developing countries to promote clean energy.
9. *Economics and Science Reviews:* The President proposes regular scientific and economic reviews. These reviews will ensure that policy-makers have the best possible information on climate change.

WIN-WIN: There are numerous win-win solutions to reducing carbon emissions. For example, a breakthrough in fuel cell technology announced yesterday will clear the way toward developing cars that are three times as efficient as today's models -- cutting pollution while also cutting driving costs.

INDEX

Title

1. President Clinton's Climate Change Proposal
2. Initial Climate Change Actions

Background Information

3. President Clinton's Five Climate Change Principles
4. President's Three-Stage Plan on Climate Change
5. Comprehensive Framework for Effective, Sensible Action
6. Fact Sheet on International Emissions Trading
7. Fact Sheet on Joint Implementation
8. Fact Sheet on Electricity Restructuring
9. Fact Sheet on Federal Energy Management
10. Fact Sheet on U.S. Global Change Research Program
11. Fact Sheet on PNGV
12. Fact Sheet on Fuel Cells
13. Fact Sheet on PATH
14. Fact Sheet on Potential Industry Sector Savings
15. Fact Sheet on Potential Building Sector Savings
16. Fact Sheet on Potential Transportation Sector Savings

PRESIDENT CLINTON'S FIVE CLIMATE CHANGE PRINCIPLES

October 22, 1997

Global climate change is the premier environmental challenge and opportunity of the 21st century, and the risks it poses justify sensible preventive steps. Addressing this issue is one of the United States' greatest imperatives, for this and future generations. Recognizing the solid foundation of climate science, President Clinton is committed to strong and sensible action to reduce greenhouse gas emissions -- including realistic and binding emissions targets.

President Clinton's climate change plan is based on **five key principles**:

- **Guided by science.** The vast majority of the world's scientists have concluded that if the countries of world do not work together to cut greenhouse gas emissions, temperatures will rise and disrupt the global climate. Indeed, most scientists say this process has already begun. But there is much we still don't know about how the climate and human health will react to increased greenhouse gas concentrations. That's why the President's plan includes regular science reviews, to ensure that our policies are guided by the best science available.
- **Market-based, common-sense tools.** We have learned that the costs of protecting the environment is substantially lower if we harness the power of markets to do so. That's why the President's plan emphasizes flexible and market-based mechanisms. His plan includes a domestic and international permit trading system for greenhouse gas emissions, similar to the highly successful permit trading system that has dramatically cut acid rain at a fraction of the predicted cost.
- **Seek win-win solutions.** There are a multitude of win-win solutions to reducing carbon emissions, that can improve our energy efficiency and save consumers money. For example, a breakthrough in fuel cell technology announced yesterday will clear the way toward developing cars that are twice as efficient as today's models -- cutting pollution while also cutting driving costs. The President believes that we must seek such win-win solutions to addressing climate change.
- **Global participation.** Climate change is a global problem, and requires a global solution. A ton of carbon emitted in Argentina has just as much effect on the global climate as a ton of carbon emitted in the United States -- and within the next few decades, emissions from developing countries are expected to exceed those from developed countries. And many win-win opportunities exist to reduce greenhouse gas emissions in developing countries. That's why the United States has spear-headed joint implementation projects and the President has committed that the United States will not adopt binding obligations without developing country participation.
- **Common-sense economic reviews.** Our knowledge of the challenges and opportunities we face will grow over time. Therefore, the President is calling for regular 5-year economic reviews and updates, to ensure that policy-makers, both in the Administration and in Congress, have the best possible information on how the economy is responding to the effort to address climate change, how other countries are performing relative to their own commitments, and how the climate is changing in response to human activities.

THE PRESIDENT'S THREE-STAGE PLAN ON CLIMATE CHANGE

October 22, 1997

Reflecting his five key principles, the President's plan will proceed in three stages:

- **Stage 1: Priming the Pump Through R&D, Tax Incentives, Incentives for Early Action, Federal Leadership, and Industry Consultations.** The first stage of the President's package includes a 9-point action plan -- including \$5 billion in tax incentives and spending for R&D and energy efficiency, incentives for early action, a set of Federal government energy initiatives, and industry-by-industry consultations to explore their best ideas on how to reduce emissions in a cost-effective manner (including market-oriented standards for energy efficiency). The first economic review would occur near the end of Stage 1.
- **Stage 2: Review and Evaluation.** The second stage, which would begin around 2004, will build upon the programs adopted in Stage 1, by including a review of our progress and an evaluation of next steps as we move toward a market-based permit trading system for carbon emissions. During this second stage, the details of the permit system would be refined and perhaps tested. Such a permit system is similar in concept to the one that dramatically cut acid rain emissions -- although the scale would be significantly larger than the current acid rain program. The second economic review would occur near the end of Stage 2.
- **Stage 3: Meeting Binding Targets Through Domestic and International Emissions Trading Program.** In the third stage, we would reduce emissions to 1990 levels by 2008-2012, and below 1990 levels in the 5-year period after that, through a market-based domestic and international emissions trading system. Before beginning this third stage, the second economic update and review would allow Congress and the President to evaluate how the economy had responded to a decade's worth of experience in the first two stages of the President's plan. The President is committed to working with labor and Congress to insure that we give proper assistance to any workers dislocated by the changes in energy usage inherent in any climate change plan.

This three-stage program recognizes the long-term nature of the effort to address climate change in three ways:

- By adopting a graduated approach to emissions reductions, it allows us to exploit the tremendous opportunities for win-win reductions first.
- By adopting a system of regular scientific and economic updates and reviews, it allows us to monitor our progress and re-assess our success in reducing emissions, the state of scientific knowledge, and how the economy is responding to our efforts. Only after we have accumulated ten years of experience with the first two stages of the program would we enter the internationally binding period.
- By insisting that the United States will not adopt binding obligations without developing country participation and by emphasizing the importance of an international trading system and joint implementation, we take advantage of low-cost reduction possibilities wherever they occur -- either here or abroad.

COMPREHENSIVE FRAMEWORK FOR EFFECTIVE, SENSIBLE ACTION

October 22, 1997

GREENHOUSE GAS EMISSION REDUCTION TARGET

Under the current international climate change agreement (signed in Rio de Janeiro in 1992), industrialized countries accepted a non-binding emissions reduction goal. Most nations, including the United States, will fall short of meeting it. This fact, coupled with better scientific evidence on the seriousness of the climate change threat, led the U.S. to propose last year that a new agreement set binding limits on emissions. The proposed U.S. emissions target is designed to provide important environmental gains while maintaining strong economic growth. It is:

- **Realistic.** Seeks to return U.S. emissions to 1990 levels in the period 2008-2012 and reduce them further thereafter. Rejects European proposal for more stringent early reductions, as well as the "do-nothing" approach of some interests.
- **Achievable.** By providing incentives for early action to reduce emissions, attacking domestic energy inefficiencies, securing flexible international implementation mechanisms, and putting in place a market-based domestic emissions trading system, the U.S. can reach 1990 levels in the proposed time frame with minimal economic costs.
- **Meaningful.** Achieving 1990 levels in the period 2008-2012 would amount to almost a 30 percent reduction off a business-as-usual path, an important first step on the road toward stabilizing concentrations of greenhouse gases in the atmosphere. Emissions accounting will include all greenhouse gas sources and sinks (including reforestation).

FLEXIBLE, MARKET-BASED IMPLEMENTATION

Just as the effects of climate change will be felt globally, so too are the causes of climate change global in nature. Greenhouse gas emissions do equal harm to the atmosphere whether they come from a coal plant in China or a bus in Boston. For this reason, any regime to reduce greenhouse gases must be global. It must also allow all nations the ability to seek out the most efficient way of reducing emissions so that the greatest gains are achieved at the least cost. For these reasons, the United States strongly supports the inclusion in a new climate change agreement of two innovative, flexible mechanisms for reducing emissions:

- **International Emissions Trading --Using Markets to Lower Costs.** The principle of emissions trading is to use the efficiency of the market place to achieve environmental objectives at the lowest possible cost. Under an international emissions trading regime, a country (or firm) would be able to meet its emissions reduction target by reducing pollution itself, purchasing reductions from another country (or firm) that was able to achieve excess gains, or some combination of both.
- **Joint Implementation --A Global Solution to Low-Cost Reductions.** Joint Implementation (JI) is an innovative, market-based approach for addressing global climate change that uses international partnerships to achieve low-cost reductions in greenhouse gas emissions. Under JI, a company in the United States invests in a project which reduces emissions in another country and uses those reductions as a less expensive means of meeting its own target.

PARTICIPATION OF DEVELOPING COUNTRIES

In addition to its non-binding emissions reduction aim for developed countries, the Rio climate change agreement required all countries to take policies and measures to reduce emissions. Many developing countries have made real strides, through, for example, reducing energy subsidies. Nevertheless, given that developing country emissions will eclipse those from the developed world within several decades, these countries need to do more. Accordingly, the U.S. calls on developing countries to strengthen their existing commitments and to agree that their obligations must increase over time to include binding emissions limits. Our principles include:

- **Global Participation.** All countries must participate. Every nation would be required to take meaningful actions to limit emissions. The U.S. will not assume binding obligations until developing countries agree to participate meaningfully in the challenge of addressing climate change.
- **Equity.** The obligations of poorer and less developed countries should take into account their state of economic development and their relative contribution to the climate change problem.
- **Assistance.** While insisting that developing countries take meaningful actions to address climate change, the U.S. recognizes that many of these countries face significant development challenges that hamper their ability to reduce emissions. President Clinton is reemphasizing his commitment to working with these nations to help build more sustainable energy futures. This includes a \$1 billion package of assistance from USAID and a renewed commitment to provide financial assistance through the Global Environment Facility, as well as our pathbreaking joint implementation proposals.

FACT SHEET ON INTERNATIONAL EMISSIONS TRADING

October 22, 1997

Description

The principle of emissions trading is to use the efficiency of the market place to achieve environmental objectives at the lowest possible cost. Under an international emissions trading regime, a country (or firm) would be able to meet its emissions reduction target by reducing pollution itself, purchasing reductions from another country (or firm) that was able to achieve excess gains, or some combination of both.

Given an effective international regime, emissions trading provides a powerful incentive for nations to reduce below the amount required and then sell excess reductions to others who in turn avoid more costly actions. The U.S. has proposed that emissions trading be permitted among all countries that agree to a binding emissions target.

How it would work

Consider a simplified example for how international emissions trading might work. Country A and Country B must reduce emissions by 100 tons each. It might cost each country \$1,000 to reduce 100 tons individually for a total cost of \$2,000. However, if Country A could reduce its emissions by 200 tons for a total cost of \$1,500 and sell half of these reductions to Country B, the overall target would be achieved for \$500 less, a savings of 25 percent.

U.S. experience

Emissions trading is being used successfully at the domestic level to reduce sulfur dioxide emissions (which cause acid rain) under the Clean Air Act. Achieving targeted reductions was originally estimated to cost \$5 billion annually if traditional controls had been required and \$4 billion with emissions trading. A GAO estimate after the initial stage of emissions trading now puts the cost at \$2 billion per year, or 60 percent below the original estimate with pollution reductions significantly ahead of schedule. Emissions trading has also been successful in cutting the costs of phasing out leaded gasoline and in curbing the production of chlorofluorocarbons which deplete the ozone layer.

Cost savings

According to the 1997 Economic Report of the President, international emissions trading for carbon dioxide could lower the cost of reductions by 50 percent below the minimum achievable using purely domestic programs.

FACT SHEET ON JOINT IMPLEMENTATION

October 22, 1997

Description

Joint Implementation (JI) is an innovative, market-based approach for addressing global climate change that uses international partnerships to achieve low-cost reductions in greenhouse gas emissions. Under JI, a company in the United States invests in a project which reduces emissions in another country and uses those reductions as a less expensive means of meeting its own target. The U.S. has proposed that a formal regime that gives credit for JI projects be part of a new climate change agreement.

How it would work

Consider the example of a project announced today as part of a pilot program on joint implementation instituted by the United States. Two U.S. companies (Solar Electric Power and Light of Washington, D.C. and Trexler and Associates, Inc of Oak Grove, Illinois) will work with Renewable Energy Services Company of Asia, Ltd. to market and install 812,000 solar home systems in Sri Lanka. These systems will replace the use of kerosene lamps for lighting and the use of diesel-electric charging of lead-acid batteries for powering small home appliances. The result will be a 1.5 million metric ton reduction in greenhouse gas emissions and cleaner energy for tens of thousands of people.

U.S. experience

Under the U.S. pilot program on JI (formed under the existing climate change convention), 28 projects have been approved in 12 countries, including Costa Rica, Bolivia, the Czech Republic, and Russia. These projects span a range of technologies, including solar, geothermal, and wind power; fuel switching for district heating; biomass energy; and reforestation. U.S. companies and organizations already participating include Commonwealth Edison, Wisconsin Electric Power, Kenetech Windpower, Sealweld Corp., American Electric Power, PacificCorp, Detroit Edison, Clean Air Coalition, and many others.

Benefits

Lower costs: JI provides a strong incentive for companies and countries to search the globe for the lowest cost ways of reducing greenhouse gas emissions.

Expanded exports of U.S. technology: The enormous potential for JI projects around the world creates major opportunities for the increased sale of U.S. energy efficiency and alternative energy technologies.

Technology transfer: Increased reliance on more energy efficient technologies and less carbon-intensive energy alternatives will help developing countries meet their growing energy needs with more environmentally sustainable solutions.

FACT SHEET ON ELECTRICITY RESTRUCTURING

October 22, 1997

As part of his climate change initiative, President Clinton announced his support for appropriately crafted electricity restructuring legislation that will save consumers billions of dollars while reducing carbon emissions.

Description

The electricity sector is our nation's most capital intensive industry -- and has sales of over \$200 billion. Under electricity restructuring, competition would be the primary mechanism to set electricity generation prices. Utilities would open up their distribution and transmission wires to all qualified sellers. The transmission and distribution of electricity would continue to be regulated because they will remain monopolies for the foreseeable future. The system would be restructured, not deregulated. Done correctly, this process can save consumers in their utility bills and reduce carbon emissions. A properly structured retail competition system can deliver electricity more efficiently, and just as reliably, as our present system of regulated monopolies.

Cost savings

Most experts are confident that restructuring will reduce the cost of electricity, although there is a diversity of views over the potential size of the savings. Because the industry is so large, even modest savings represent billions of dollars. DOE economists estimate potential savings of \$20 billion a year, which would mean average direct savings of about \$100 a year to a typical family of four and indirect savings to such a family through lower cost goods and services of about another \$100 a year. Other studies predict far larger savings.

Carbon reductions

With appropriate market-based provisions, electricity restructuring legislation could reduce carbon emissions by creating incentives to produce and use electricity more efficiently and with less pollution. As emphasized at the White House Conference on Climate Change, two-thirds of the energy used to produce electricity is currently wasted. Restructuring should introduce incentives for reducing this waste heat. Restructuring legislation could also include other provisions -- such as various incentives and mandates to promote energy efficiency and renewable energy -- that offer potential carbon savings.

Next steps

The Administration looks forward to working with interested parties on crafting comprehensive electricity restructuring legislation.

FACT SHEET ON FEDERAL ENERGY MANAGEMENT

October 22, 1997

Aggressive energy management can substantially reduce carbon emissions from the activities of the Federal government, which has the nation's largest energy bill at almost \$8 billion per year. Significant strides have already been made --energy consumption per square foot in Federal buildings is down 15 percent and energy use in civilian and military vehicles is down about 27 percent from 1985 levels. However, we can do much more.

The initiatives below will reduce Federal emissions of greenhouse gases through enhanced focus on energy efficiency and renewable energy. They address areas which can deliver the greatest energy savings, best leverage private sector funding and improve the Federal procurement system.

1. Expand Energy Savings Performance Contracting

- **Expand use of Energy Savings Performance Contracts.** ESPC uses private investment capital and expertise to accomplish energy and cost saving projects in Federal facilities. When a private sector firm which has invested in federal energy efficiency improvements is fully repaid from its share of the delivered savings, all additional savings accrue to the government. Streamlined ESPC contracts put in place by DOD and DOE are beginning to speed large investments in energy projects at Federal facilities. However, use of ESPC's is still limited in the Federal government. The Office of Management and Budget will lead an effort to increase their use. It will include new policy and budget guidance for agencies. ESPC authority can also be extended to other areas including:
 - *Leased Federal buildings.* These include buildings where the Government either pays for the energy use directly or in other building where ESPC can provide a better lease for the Government.
 - *Federal mobility.* There may be great potential for energy savings from more efficient energy use in aircraft, ships and vehicles.
 - *Water conservation.* Water conservation projects save energy because each gallon contains energy from pumping, heating, chilling or treatment.
 - *Non-federal facilities* where the Government makes indirect payment of energy expenses. These include, for example, National Guard facilities which the state owns but where the Federal Government covers utility expenses and public housing facilities which are Federally supported but owned by public housing authorities.
 - *State and local government facilities.* Federal energy experts can help transfer ESPC techniques to state and local governments so they can access this important approach to energy efficiency.

2. Improve Federal Procurement of Energy Efficient Technology

- *Accelerate the development of Product Energy Efficiency Recommendations.* These cover products that are in the top 25 percent of their class for energy efficiency or have Energy Star ratings, for example electric motors and air conditioning chillers. They provide a guide to Federal purchasers

of the energy efficiency level to request in a specification or procurement.

- *Establish as standard practice, the purchase of energy efficient products for Government use.* Traditionally, federal purchases have been based on lowest price, ignoring the substantial savings many energy efficient products can achieve over their life. The Executive Office of the President will lead an interagency team to streamline and update Executive Orders and procurement practices to encourage the acquisition of these products. Use of alternative contracting vehicles to acquire energy-efficient products will be encouraged, and purchase of products in the top 25 percent of class for energy efficiency or conforming to Energy Star standards will become standard practice, subject to necessary exceptions. The initiative will be augmented by publication of a "best practices" buying guide and expanded training of purchasing decision-makers.
- *Use consolidated purchasing to stimulate markets and lower prices.* Consolidated Federal purchasing can stimulate commercial markets for new and emerging products which offer greater energy efficiency, lower operating costs, and sales opportunities for small businesses that produce these products.
- *Increase Federal procurement of renewable energy.* In states that have implemented retail competition in their electricity industry, Federal facilities will work with their suppliers to ensure that the facilities purchase competitively supplied non-hydro renewable energy at levels equivalent to the percentage specified in that state's retail competition legislation.
- *Report Federal Agencies' Contributions to Reduction of Carbon Emissions.* This initiative will develop an appropriate measurement methodology to convert currently available data on Federal energy use to carbon emissions to aid national carbon reduction efforts.

3. Building for the 21st Century

- *Establish a new level of excellence for Federal building construction and renovation that incorporates energy efficiency, quality, affordability, and sustainability.* By using the latest construction techniques and tapping the knowledge of the building community and local partners, agencies will work to ensure that new Federal buildings achieve energy efficiency increases of 30-50 percent by 2000 as compared to existing facilities. This will be accomplished through a "whole building" approach that treats buildings as integrated systems rather than a series of independent component selections.
- *Deploy solar technologies in Federal buildings.* Show Federal leadership by installing solar photovoltaic and solar thermal systems on 20,000 Federal roofs by 2010 in support of the President's 'Million Solar Roof Initiative'. Utilize alternative financing methods to provide the rapid infusion of investment necessary to support the cost-effective installation of these systems.
- *Expand the use of combined heat and power generation at Federal facilities.* Combined heat and power makes greater use of the waste heat produced in the generation of electricity.
- *Use biomass fuels in Federal boilers.* Biomass would come from agricultural and wood waste and methane from landfill and treatment plant operations.
- *Expand public awareness of energy efficient technologies.* By showcasing energy efficient and

renewable energy technologies at National Parks, Federal offices, embassies, military bases, and other facilities the public will be more aware of their potential to reduce pollution and lower costs.

- *Seek increased resources for civilian agency staffing to expand energy management activities and complete energy efficiency projects.* In recent years, budgets for energy management in several key agencies have been cut by more than 80 percent. These Federal appropriations often provide the most cost-effective funding for Federal energy efficiency projects.

4. Improve Aircraft, Ship, and Heavy Vehicle Fuel Efficiency

- *Public-Private partnerships to improve the energy efficiency of Federal aircraft, ships and vehicles.* Energy use in Federal aircraft, ships and vehicles, predominantly in the military services, is responsible for 43 percent of the \$8 billion Federal energy bill. This initiative would improve the energy efficiency of main propulsion systems, with particular emphasis on medium and heavy diesel engines and high performance turbine technology. The initiative -- designed along the lines of the Partnership for a New Generation of Vehicles -- would involve a partnership between Federal agencies and the private sector. Advances under this initiative will have significant application in commercial markets. In addition, the initiative will focus on near-term energy efficiency opportunities such as lighting retrofits on ships.
- *Increase the use of alternative fueled vehicles (AFVs) in the Federal fleet.* Federal agencies are increasing the use of alternative fuel vehicles which, among other things, helps reduce emissions of greenhouse gases. This initiative would enhance the focus of the current program on AFVs such as electrics, hybrid-electrics, natural gas and renewable-fueled vehicles.

5. Greenhouse Gas Assessments

- Federal agencies will be required to assess their greenhouse gas emissions in major actions they undertake.

FACT SHEET ON U.S. GLOBAL CHANGE RESEARCH PROGRAM

October 22, 1997

Background: The U.S. Global Change Research Program (USGCRP) is a National Research Program conducted under the auspices of the National Science and Technology Council (NSTC) Committee on Environment and Natural Resources. The NSTC is a cabinet-level council established by President Clinton in November 1993 to coordinate Federal science and technology efforts. The program's fundamental purpose is to increase understanding of the Earth system, and of human and naturally induced changes in the Earth's environment, and thus provide a sound scientific basis for decision making on global change issues. The USGCRP began as a Presidential Initiative, and was codified by the Global Change Research Act of 1990. The overall FY 1997 USGCRP budget was \$1.81 billion.

The core program of the USGCRP is focused on four key scientific areas:

- *Seasonal to Interannual Climate Variability:* The development and refinement of forecasts of seasonal and interannual climate variability, including study and prediction of the El Niño phenomena.
- *Climate Change Over Decades to Centuries:* Analysis and projection of the effects of long-term climate change on natural resources, public health, and socio-economic sectors.
- *Changes in Ozone, UV Radiation, and Atmospheric Chemistry:* Research on the causes, rate, magnitude, and human health and ecological consequences of changes in stratospheric ozone, UV radiation, and atmospheric chemistry.
- *Changes in Land Cover and Terrestrial and Aquatic Ecosystems:* Research on the causes and consequences of land-cover changes, and on basic processes governing the functions and structure of terrestrial, aquatic, and marine ecosystems.

New Research Directions: Global change research is providing the information about the changing Earth system, and in particular, about climate change, that is needed to achieve a sustainable future. New research efforts include:

- *A National Assessment of Climate Change Impacts* to aggregate information across regions and sectors, analyze national-scale consequences, and support development of mitigation and adaptation strategies.
- *Improved Regional-scale Analyses*, including regional estimates of the rate and magnitude of climate change, analyses of the environmental and socio-economic consequences of climate change in the context of other stresses, and integrated assessments of the implications for society and the environment of climate change.
- *Regional Workshops* to examine the vulnerabilities of various regions of the United States to climate change.

FACT SHEET ON PNGV

October 22, 1997

Announced at the White House on September 29, 1993 by President Clinton, Vice President Gore, and the CEOs of the domestic auto makers, the Partnership for a New Generation of Vehicles (PNGV) is a partnership between the U.S. Federal government (7 agencies and 20 federal laboratories) and Chrysler, Ford, and General Motors that aims to strengthen America's competitiveness by developing technologies for a new generation of vehicles. Its programs include research support for over 350 automotive suppliers, universities, and small businesses.

PNGV's long-term goal is to develop production prototypes of an attractive, affordable car that can meet all applicable environmental and safety times and achieve up to three times the fuel efficiency of a comparable automobile sold today. This would mean that a typical midsize car would be able to achieve 80 mpg. The partnership also aims to (i) improve automotive manufacturing, and (ii) introduce efficiency technologies into production vehicles as soon as they are economically justified.

There are numerous reasons for pursuing PNGV, including:

- **Environmental:** Automobiles are a major contributor to atmospheric carbon dioxide, a major greenhouse gas. Already, concentrations of carbon dioxide are 25 percent higher than pre-industrial levels and are expected to double within the next century. Since the number of registered vehicles in the United States is expected to climb from 194 million in 1993, to as many as 270 million in 2010, PNGV's success is critical to any program of controlling US and world greenhouse gas emissions. It will also result in low cost methods for controlling the emissions that contribute to urban air pollution.
- **Reducing U.S. Dependence on Foreign Oil:** The United States currently imports 50 percent of the oil we consume -- this share is expected to grow to more than 60 percent by 2010. Petroleum imports make up ten percent of our country's import inventory and account for a large chunk of the nation's trade deficit. This dependence on foreign oil makes the United States vulnerable.

PNGV Status Report: The industrial partners are now in the process of selecting technologies that will be included in concept vehicles that will be completed by the turn of the century. The federal agencies are working to revise their research priorities to support both technologies that can be incorporated in production prototypes for 2004 and that can be integrated into even more advanced vehicles that would be designed in later years.

The goal of the program, while extremely ambitious, still seems possible given the advances in key technology that have been achieved during the life of the program. These include advances in production of low-cost, light-weight materials for the vehicle body and frame; electrical control systems, batteries; and compact, inexpensive fuel cells -- including the new technology for using gasoline to power fuel cells announced yesterday; and, advanced internal combustion engines for use in hybrid vehicles.

FACT SHEET ON FUEL CELLS

October 22, 1997

THE BREAKTHROUGH: A gasoline-powered technology that would allow you to double the fuel efficiency of a car and emit half the greenhouse gases and virtually no other air pollution. For the first time, gasoline was used to produce electricity from a pollution-free fuel cell, allowing the use of the existing gasoline infrastructure. Previously, fuel cells have been powered by hydrogen or methanol, which are less convenient for use in cars.

The Department of Energy, together with Los Alamos National Laboratory, and A.D. Little, have developed a breakthrough fuel processor, which can extract hydrogen from gasoline and other fuels such as ethanol and natural gas. Last week, this fuel processor was combined with a fuel cell from Plug Power to demonstrate for the first time that a fuel cell electric car could be fueled by gasoline or ethanol. This eliminates the limited driving range and lengthy recharging times associated with electric cars that run on batteries.

WHAT IS A FUEL CELL: The fuel cell converts the chemical energy of a fuel directly into usable electricity and heat without combustion. Fuel cells are similar to batteries in that both produce a direct current by means of an electrochemical process, but fuel cells can operate indefinitely as long as fuel is supplied to them. Fuel cells can provide power for cars and other applications, such as electricity and hot water for buildings.

The Department of Energy working with its partners has brought down the cost of proton exchange membrane (PEM) fuel cells by a factor of twenty in the last ten years. Continued R&D, coupled with the economies of scale from mass production of fuel cells as they enter the marketplace, should allow us to maintain this pace of cost reduction for another decade.

PARTNERSHIP FOR A NEW GENERATION OF VEHICLES (PNGV): The fuel cell breakthrough was accomplished as part of President Clinton's PNGV initiative, an innovative partnership between the government, the national laboratories, the big three automakers, and their suppliers. PNGV's goal is to develop a family-sized vehicle with triple the fuel efficiency of today's cars, without compromising cost or convenience.

POTENTIAL GREENHOUSE GAS REDUCTIONS: One-third of the nation's carbon dioxide emissions comes from the transportation sector, primarily cars. Fuel cell technology alone can directly double fuel efficiency and cut carbon dioxide emissions in half. In combination with other PNGV advances, such as lightweight materials and regenerative braking, fuel cells will allow a tripling of fuel efficiency and a further reduction in greenhouse gas emissions. Powering the fuel cell with renewable fuels, such as ethanol, could eliminate automotive greenhouse gas emissions entirely in the long run. The buildings sector also generates one-third of the nation's emissions of carbon dioxide. A building that uses the electricity and hot water from a fuel cell fueled by natural gas would have about half of the greenhouse gas emissions of the average building today. Plug Power expects to introduce fuel cells for homes and other buildings in 2000 that will provide electricity for less than the current residential rate. By 2010, fuel cells in buildings could be providing emissions savings of five million metric tons of carbon.

FACT SHEET ON PATH

October 22, 1997

What is PATH? We are working to develop a partnership for 21st century housing bringing together government and industry to develop, demonstrate and deploy housing technologies, designs and practices that can significantly improve the quality of housing without raising the cost of construction. The **Partnership for Advancing Technologies in Housing** includes government (DOE, HUD, EPA, Labor, Commerce, FEMA, and DOD) and industry working together develop, demonstrate and deploy housing technologies and practices so that homes can be built cheaper, more environmentally sustainable, more disaster resistant, and provide a safer working environment.

PATH has a five-part approach:

- Industry-driven research on new technologies and practices
- Working with industry on pilot programs building thousands of marketable houses
- Streamlining of federal, state and local codes and regulations
- Judicious use of existing authority on standards
- Information campaign to influence consumer demand

R&D: Support more funds for accelerated research and demonstration of inexpensive, highly efficient, highly attractive housing. Link with million solar roofs program.

Standards: The success of PATH will in some part be based on utilizing existing authorities on standards for a select few products that have the potential for great savings. There are five appliance/products currently under review by DoE; Clothes Washers, Ranges/Ovens, Ballasts, Residential water heaters, transformers. Of these, the Clothes Washers and Water Heaters seem to have greatest potential.

Creating Markets: The key to making the Partnership successful will be the ability to create markets and consumer demands for homes that meet the PATH goals. The Partnership will work with states and communities to help them understand the benefits of building these homes, and the opportunities it affords the communities for economic growth. The Partnership will attempt to gain agreements between communities that PATH homes can go through an expedited permitting process.

Education and Outreach: Marketing the benefits of these homes to consumers and to encourage consumers to begin to ask for homes that are built to the quality level of >PATH= homes. This will need to be an intensive campaign of getting the message out to communities, builders and developers. This will provide incentives for more and more builders to want to build these homes.

Pilots: The pilots will play an important role in the success of PATH. The pilot sites will begin of developing the markets and demonstrate the feasibility of the homes. The pilot sites can also act as training sites for builders and community leaders to learn about the benefits of the technologies and as a classroom for training on how to use the technologies. Sites under consideration are Stapleton Airport, Denver (Redevelopment of old airport site near downtown) and Florida (Working with the State to link energy and environment to disaster resistance and affordability).

Regulatory Streamlining: Working with states and communities on making the code approval process more efficient and less time consuming.

FACT SHEET ON POTENTIAL INDUSTRY SECTOR SAVINGS

October 22, 1997

The industrial sector produces approximately one-third of total U.S. emissions. We can cut emissions substantially in this sector through the right mix of tax incentives, accelerated research and development, electricity restructuring, and environmental regulatory reinvention. According to a recently released report from five of the nation's energy laboratories, programs such as the ones below can reduce emissions in the industrial sector in 2010 by 28 million metric tons even with no increase in energy prices.

Increasing Energy Efficiency: Energy audits encourage systematic approaches to energy efficiency that typically have high yields. Southwire Corporation, a large manufacturer of wire, rod, and cable, cut their use of natural gas by 60 percent and cut electricity use by 40 percent per pound of product produced. Motors consume 70 percent of industrial electricity used, and there is room for improving their efficiency. The Greenville Tube Company, for example, increased productivity by 15 percent, increased energy efficiency by 30 percent, reduced scrap by 15 percent, and achieved \$77,000 per year savings -- a 6 month payback -- by improving the efficiency of their motors.

Cogeneration (Combined Heat and Power): New technologies available in the industrial sector will allow us to capture the waste heat the U.S. now throws away. With the right policies, industrial cogeneration of natural gas or biomass could cut annual carbon emission significantly by 2010. Advanced turbines developed by DOE with industry will be available in three years (orders are already being taken). They have an overall efficiency of 80 percent to 90 percent, produce steam together with low-cost electricity and significantly reduce NOx emissions. These turbines can run on natural gas or biomass. Some industries have their own low-cost biomass feedstocks (for example, black liquor gasification in the pulp and paper industry), which makes possible cogeneration with nearly zero carbon emissions.

Expanding Industries of the Future: The seven most energy-intensive industries—steel, aluminum, petroleum refining, chemicals, pulp and paper products, glass, and metal casting—account for about 80 percent of the carbon emissions in U.S. manufacturing and more than 90 percent of the hazardous waste. Industry, partnering with the Department of Energy, has developed long-term visions of energy-efficient, low-polluting, highly competitive "Industries of the Future" as well as technology roadmaps to identify an R&D and deployment pathway to achieving the vision. Visions typically foresee annual energy efficiency improvements of 1.0 percent to 1.5 percent for two decades.

FACT SHEET ON POTENTIAL BUILDINGS SECTOR SAVINGS

October 22, 1997

The buildings sector also produces approximately one-third of total U.S. emissions. There is substantial opportunity to improve the energy efficiency of our buildings and the appliances in them. Many of these technologies improve the quality of service delivered (i.e. higher quality lighting), and have also been documented in a number of cases to improve productivity. According to a recently released report from five of the nation's energy laboratories, programs such as the ones below can reduce emissions in the buildings sector in 2010 by 25 million metric tons even with no increase in energy prices.

Standards: Substantial carbon emissions reductions in 2010 can be achieved through existing authority of the Department of Energy to establish market-oriented efficiency standards for appliances, such as refrigerators and air conditioners. The Department of Energy uses a consensus-based approach in which manufacturers, environmentalists, consumer advocates, and the states work together to develop applicable standards.

Voluntary Programs: Significant carbon reductions in 2010 could also be achieved by expanding voluntary programs such as the joint EPA-DOE Energy Star program. Energy Star labeling has already transformed a number of markets. For example, it has cut the energy used by computers, monitors, and printers by 50 percent at virtually no incremental cost. It is now being extended to dozens of other products.

Adopting Best Electricity Engineering Practices: Electronic equipment consumes electricity in stand-by mode (even when not being used) generating 12 MMTs of carbon emission each year. Preliminary analysis suggests that 80 percent of that could be saved through adopting best engineering practices without reducing service.

Research and Development: Designing buildings with advanced technology can reduce energy consumption by 25 to 50 percent without increasing the building's initial cost. The extra cost of some of the energy-efficient equipment is offset by the smaller required heating and cooling system.

Combined Heat and Power: As in industry, we can reduce the carbon intensity of the buildings sector by accelerating the use of combined heat and power (CHP). Two CHP technologies—small turbines and proton-exchange membrane (PEM) fuel cells—can convert natural gas to useful energy with 80 to 90 percent efficiency, significantly cutting carbon emissions from a building.

FACT SHEET ON POTENTIAL TRANSPORTATION SECTOR SAVINGS

October 22, 1997

The transportation sector produces approximately one-third of total U.S. emissions. According to a recently released report from five of the nation's energy laboratories, programs such as the ones below can reduce emissions in the transportation sector in 2010 by 73 million metric tons even with no increase in energy prices.

High Efficiency Cars And Light Trucks: The goal of the President's Partnership for a New Generation of Vehicles is to produce cars that are three times more efficient than current vehicles with no compromise in size, safety, comfort or cost. The objective is a production prototype vehicle with a fuel efficiency of 80 mpg in 2004 and commercial availability soon after. A variety of efficient technologies such as hybrid vehicle design, advanced engines, regenerative braking and lightweight materials are under development. These technologies are also applicable to light trucks and sport utility vehicles, so that a PNGV for these heavier passenger vehicles is quite possible with an expanded research effort.

High efficiency heavy trucks: Ongoing federal R&D on advanced diesel engines and lightweight materials have the potential to substantially reduce carbon emissions from heavy trucks. These technologies are projected to be available by about 2003 and be quickly adopted by trucking manufacturers since energy is a major cost component of freight transportation (a truck typically gets 7 to 8 miles per gallon while traveling over 50,000 miles a year).

Advanced Efficient Aircraft and Rail: Ongoing federal R&D on advanced aircraft engines, improved airframes, and air traffic control have the potential to improve aircraft energy efficiency by 35 percent, with an additional increment of carbon emissions reductions achieved by increasing the efficiency of trains.

Low-Carbon Fuel: Government-industry R&D partnerships have brought the cost of ethanol from cellulosic waste (such as crop waste) and dedicated crops (such as switchgrass) from \$3.60 per gallon in 1980 to \$1.20 per gallon today. Such fuels are carbon neutral because the crops capture carbon dioxide when they grow and release it during combustion.

Statement By
Under Secretary for Global Affairs Timothy E. Wirth
House Committee on International Relations
November 13, 1997

Thank you for this opportunity to inform your committee about the status of the international climate change negotiations. The U.S. delegation finished its work two weeks ago at the eighth session of the Ad Hoc Group on the Berlin Mandate (AGBM) which was to have been the last formal "pre-negotiation meeting" prior to the meeting of the Third Conference of the Parties (COP-3) in Kyoto. Because further preparatory work remains, governments will reconvene for a half day on November 30 and a half day on December 1 before COP-3 begins on the afternoon of December 1.

President Clinton's announcement of the U.S. target on October 22 changed the dynamic of the negotiations. His speech marked the beginning of a new initiative to undertake realistic and achievable efforts to reduce greenhouse gas emissions. In his speech, the President outlined a flexible, market-based and cost-effective approach, backed by a comprehensive domestic program to help meet the ambitious target to return greenhouse gas emissions to 1990 levels in a budget period between 2008 and 2012. This target will be followed by a reduction below 1990 levels in the five-year period thereafter, and an effort to make further reductions in the years beyond that. Unlike the EU and others' proposals, the U.S. plan takes a comprehensive view with regard to the gases to be included. We are prepared to address a broad range that includes carbon, the extremely potent greenhouse gases such as HFCs, PFCs, SF₆, and all land use and forest sinks.

A major element of the President's proposal is the call for both industrialized and developing countries to participate in meeting the challenge of climate change. While developed countries must lead, he stated that key developing nations must meaningfully participate; otherwise, the United States will not assume binding obligations. Their involvement is vital to addressing the global problem we face. These nations have an opportunity to chart a different energy future.

The President also placed great emphasis on the need to rely on a series of flexible mechanisms for achieving binding limits and lowering costs. Innovations such as emissions trading and joint implementation with credit can cut worldwide pollution and help developing countries protect their own environments without sacrificing economic growth.

Our negotiators worked with other delegates at the Bonn meeting to develop the text for a protocol or other legal instrument for consideration at COP-3 that is consistent with the U.S. proposal. Although we saw movement in some areas critical to the overall U.S. position, most important issues within the text remain bracketed and are far from agreed. These include sections on emissions trading, joint implementation, commitments by developing countries, harmonized policies and measures, multi-year emissions budgets,

the treatment of carbon sinks, and the level of target reductions of greenhouse gas emissions by Annex I countries.

Reaching consensus with other negotiating Parties on these issues has been and will continue to be a difficult task: the Group of 77 countries and China worked to block the text in several areas and reintroduced text to reflect its insistence that there be no new commitments from developing countries, and to obtain new concessions from developed countries on financing and the transfer of "climate-friendly" technologies. Thus, with less than one month until the Conference of the Parties at Kyoto, much work needs to be done on many outstanding and difficult issues.

Last week, I met with Environment Ministers from the European Union "Troika." It was a constructive meeting, and I believe that our dialogue served to further understanding of our respective approaches. We have committed to undertaking intense consultations with the EU over the coming weeks.

I also went to Japan over the weekend to lead a U.S. delegation to an informal meeting at the ministerial level in Tokyo. That session provided an opportunity to meet with our EU colleagues again, as well as ministers from other developed and developing country Parties. The session provided the first opportunity for most ministers to hear for themselves each other's concerns -- and as such was quite helpful. We continue to look for areas of common ground with our developed country partners, including on such elements as the budget period (where we agree on a five year duration) and on the long term need to involve all sources and sinks of all gases and all sectors, and to fully engage developing countries.

Unfortunately, some of the key developing countries did not attend the ministerial in Tokyo (China, India and Saudi Arabia each were invited but did not come). We did find some flexibility from developing country attendees (including Argentina, Brazil, Indonesia, Korea, Mexico, Samoa -- representing the Alliance of Small Island States and Tanzania -- representing the entire Group of 77 and China). However, we still have a long way to go with developing countries.

Initiated in January of this year, U.S. policy on climate change became fully fleshed out with President Clinton's announcement of the U.S. target last month. Kyoto marks the next step in a series of steps that will enable the United States and all nations to fulfill the Climate Convention's ultimate objective. It will not be an easy road to Kyoto, but through an intensive, comprehensive diplomatic effort, we will increase our chances for success considerably.

GLOBAL CLIMATE CHANGE:

U.S. Policy Directions

Dirk Forrister

Chairman

White House Climate Change Task Force

U.S. CLIMATE CHANGE POLICY

THE PRESIDENT'S PRINCIPLES

- **Science is Clear & Compelling**
- **America Must Lead**
- **Flexibility will Reduce Costs**
- **All Nations Must Participate**

U.S. CLIMATE CHANGE POLICY

PRESIDENT'S INTERNATIONAL AGENDA

- **Emissions Budget: 2008 - 2012**
- **International Emissions Trading & Joint Implementation**
- **Key Developing Countries Meaningfully Participate**

U.S. CLIMATE CHANGE POLICY

U.S. ACTION AGENDA

- **\$5 Billion: Tax Cuts & RD&D**
- **Industry Consultations & Early Action Credits**
- **Domestic & International Emissions Trading**
- **Encourage Energy Efficient Products**

Electricity Restructuring & Climate

Federal Energy Use

Improve Transition Assistance

U.S. CLIMATE CHANGE POLICY

ROAD TO KYOTO

Rio 1992: “Earth Summit”

Berlin 1995: 1st Conference of Parties

Geneva 1996: 2nd Conference of Parties

Kyoto 1997: 3rd Conference of Parties

U.S. CLIMATE CHANGE POLICY

2,000 WORLD SCIENTISTS

- **Earth's Climate is Changing**
- **Discernable Human Interference**
- **Concentrations Are Rising**
- **Justifies Actions Beyond “No Regrets”**

U.S. CLIMATE CHANGE POLICY

RISKS OF INACTION

- **More Extreme Weather Events**
- **Floods & Droughts**
- **Sea Level Rise**
- **Vector-Borne Disease**

U.S. CLIMATE CHANGE POLICY

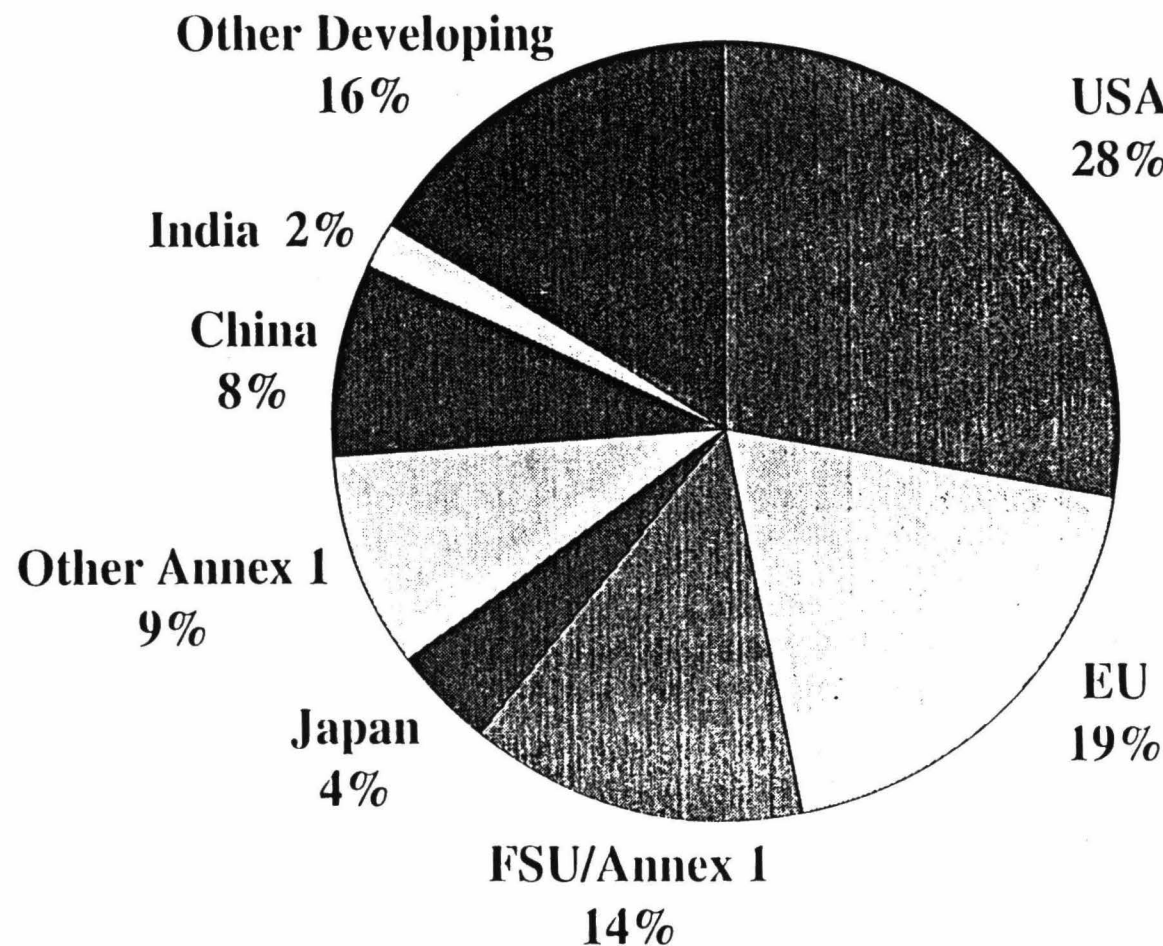
2,000 ECONOMISTS

- **Risks Justify Preventive Steps**
- **Policies**
 - **Not Harm American Living Standards**
 - **May Improve U.S. Productivity**
- **Market Based Policies = Most Efficient**
 - **International Emissions Trading**

U.S. CLIMATE CHANGE POLICY

CUMULATIVE GLOBAL EMISSIONS OF CO₂ 1950-92

Fossil Fuel and Cement Sources Only

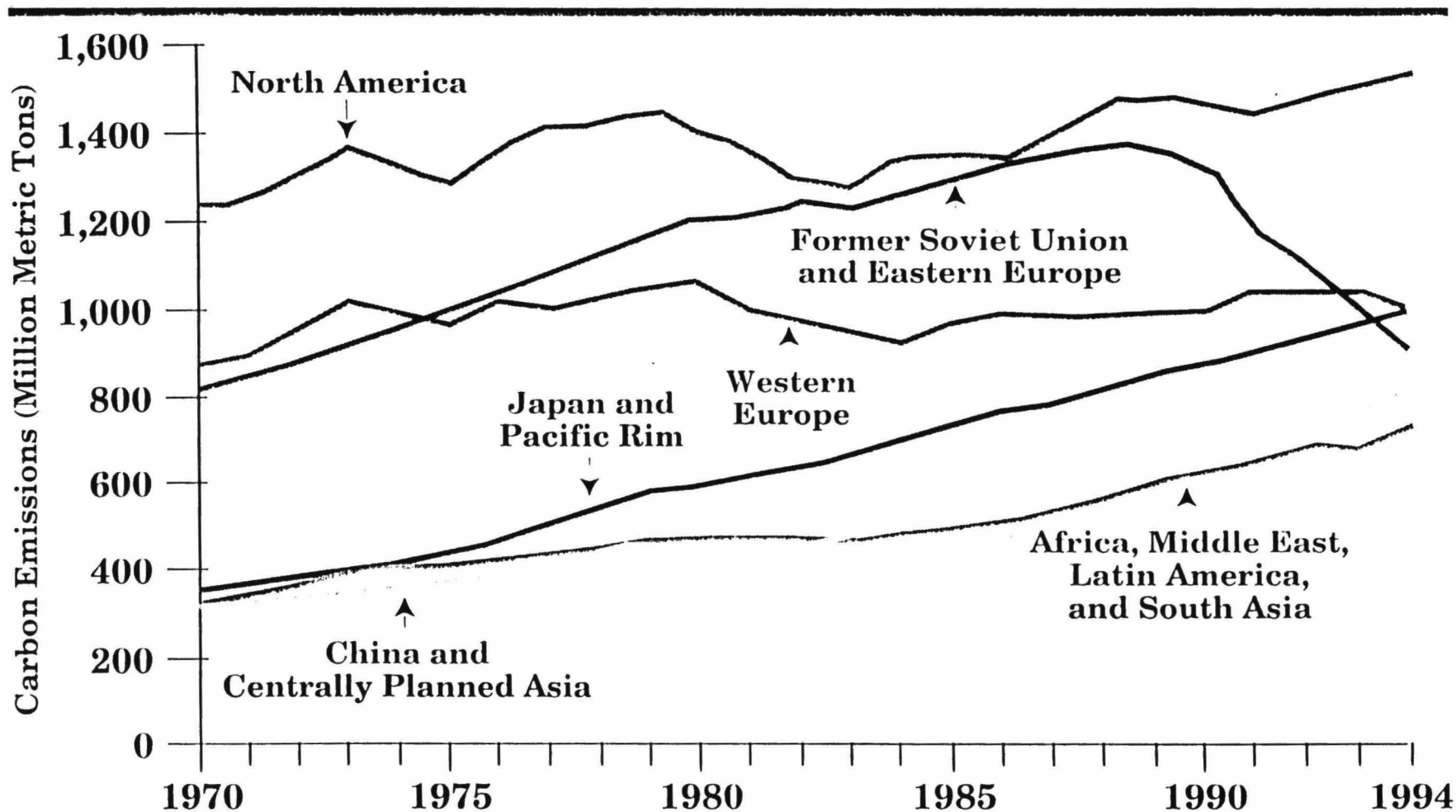


Annex 1 = 74%

Source: Oak Ridge National Laboratory

U.S. CLIMATE CHANGE POLICY

ENERGY-RELATED CO₂ EMISSIONS BY REGION, 1970-94



Source: EIA, Emissions of Greenhouse Gases in the US 1995

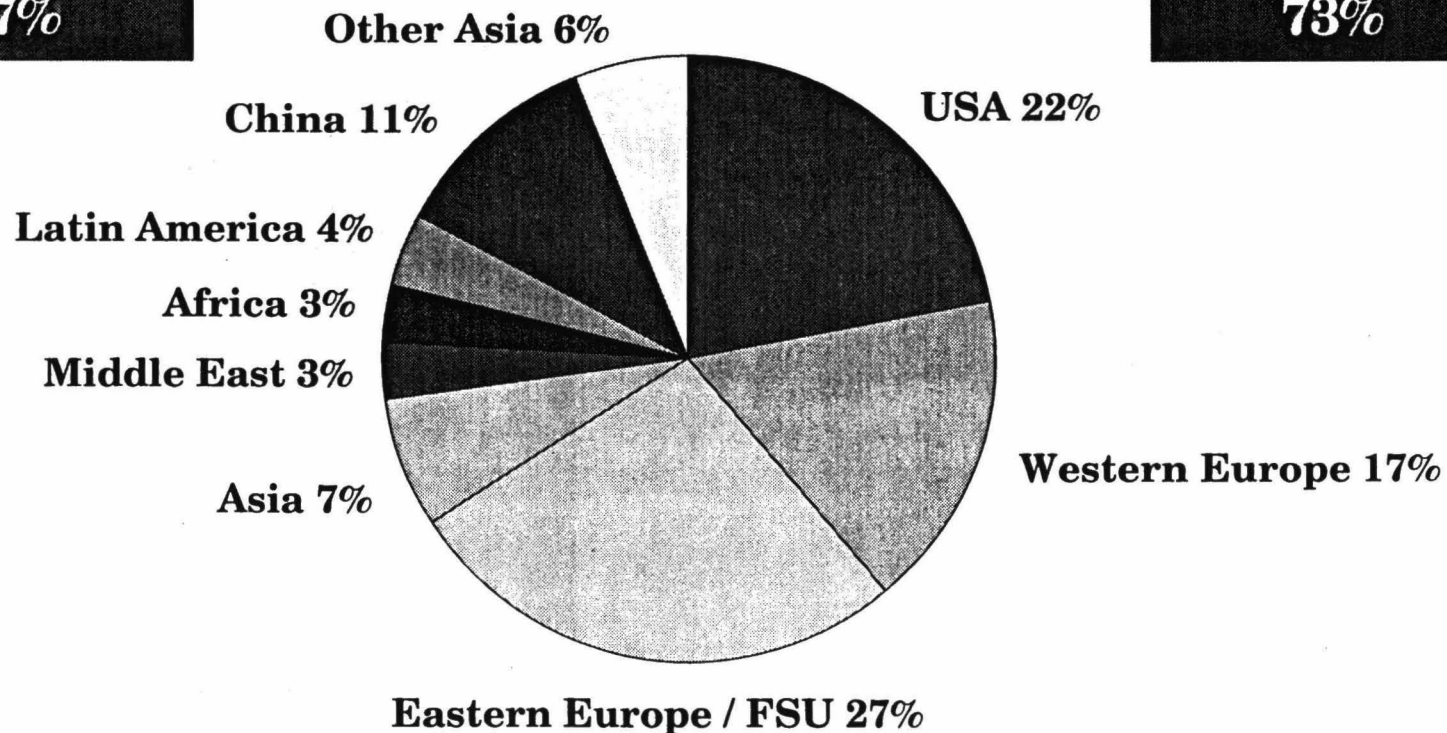
U.S. CLIMATE CHANGE POLICY

TOTAL WORLD EMISSIONS

1995

**Developing
World
27%**

**Developed
World
73%**



Total = 6.46 Billion Tons CO₂

Source: IPCC, IS92A
Emissions Scenario

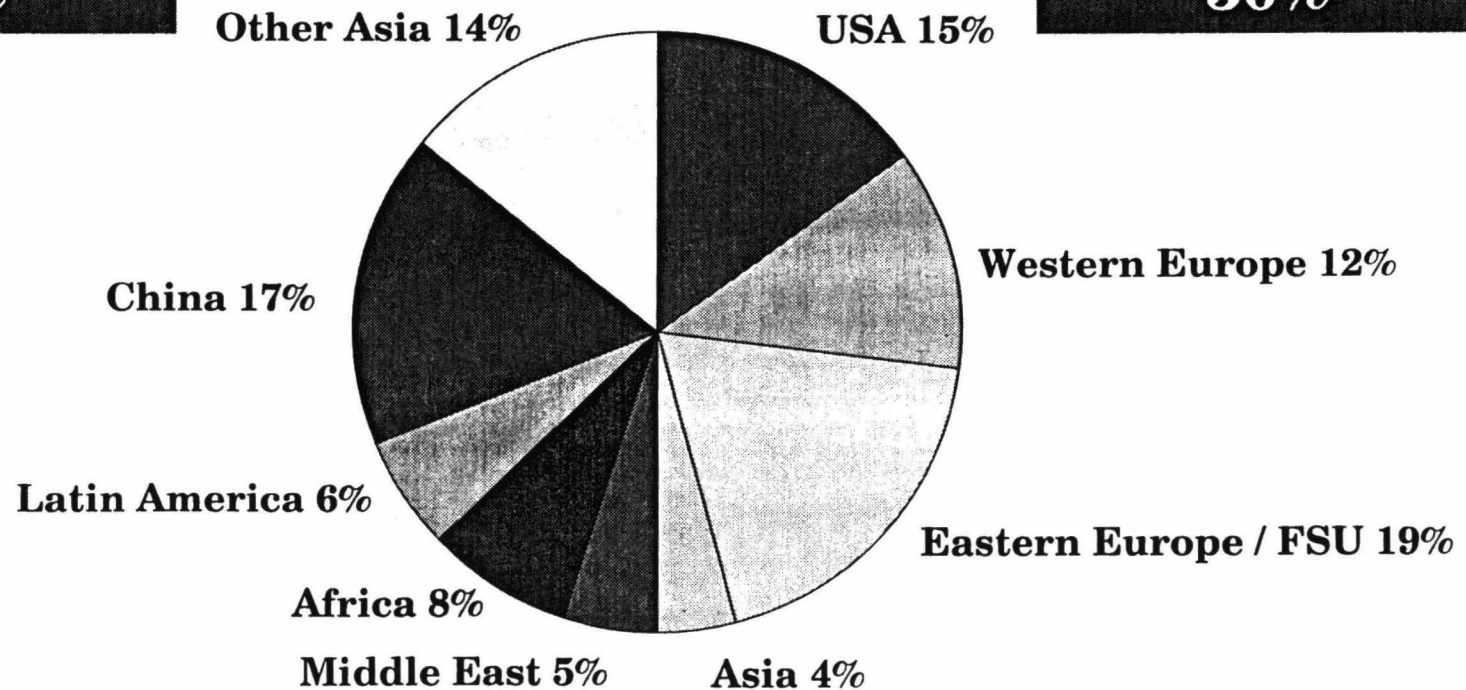
U.S. CLIMATE CHANGE POLICY

TOTAL WORLD EMISSIONS

**Developing
World
50%**

2035

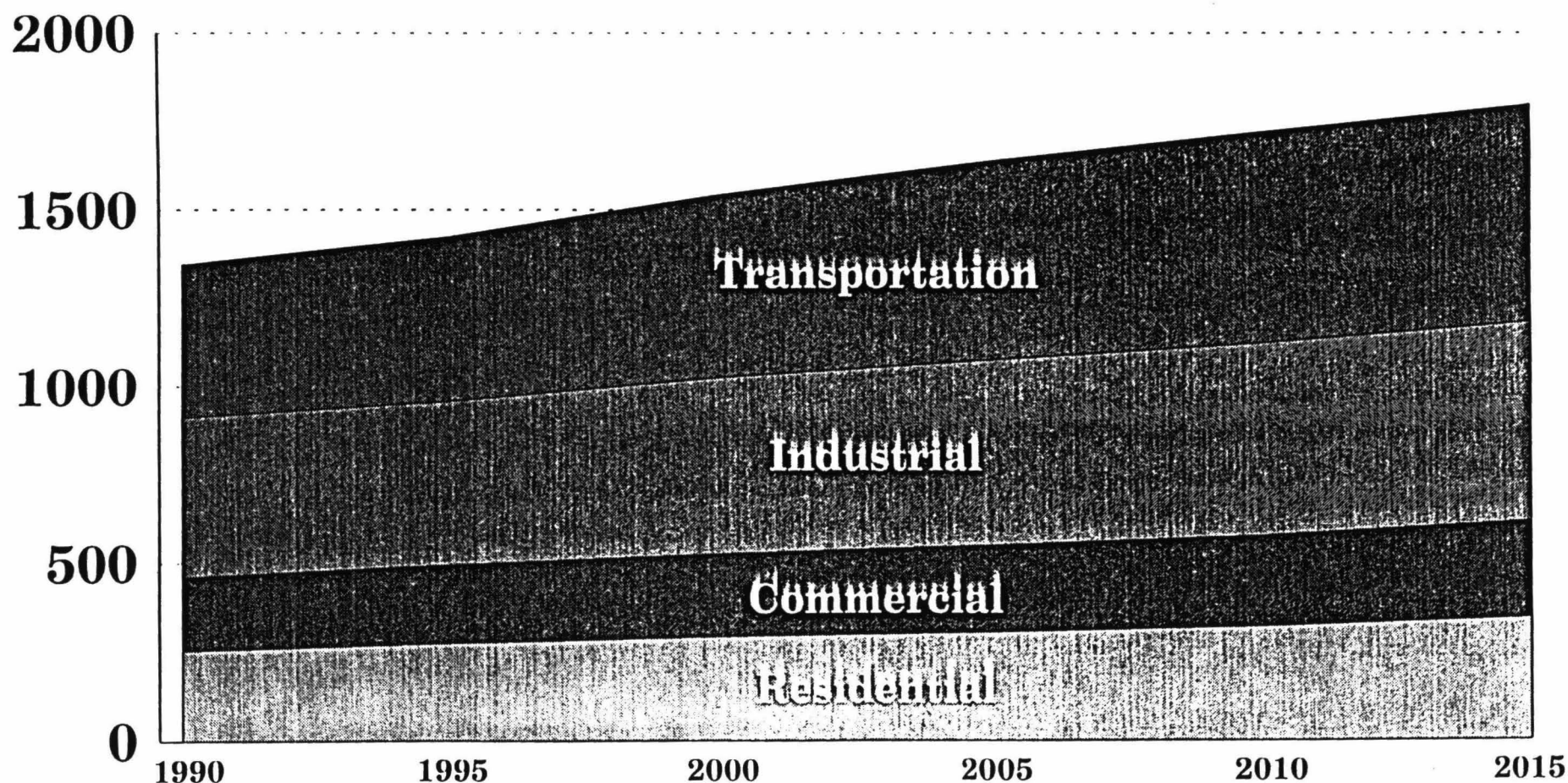
**Developed
World
50%**



Total = 11.71 Billion Tons CO₂

U.S. CLIMATE CHANGE POLICY

PROJECTIONS OF ENERGY-RELATED CARBON EMISSIONS BY SECTOR, 1990-2015

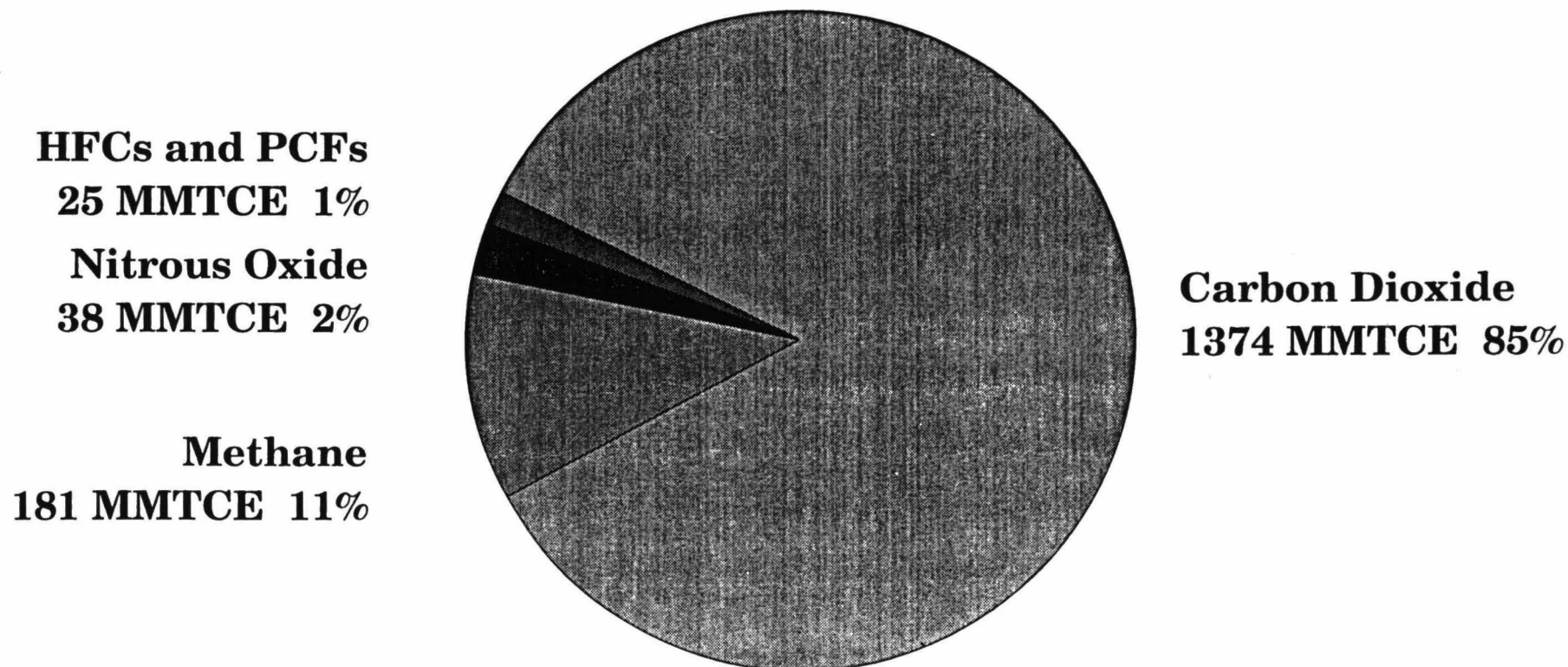


Source: 1997 Annual Energy Outlook

U.S. CLIMATE CHANGE POLICY

1990 U.S. GREENHOUSE GAS EMISSIONS

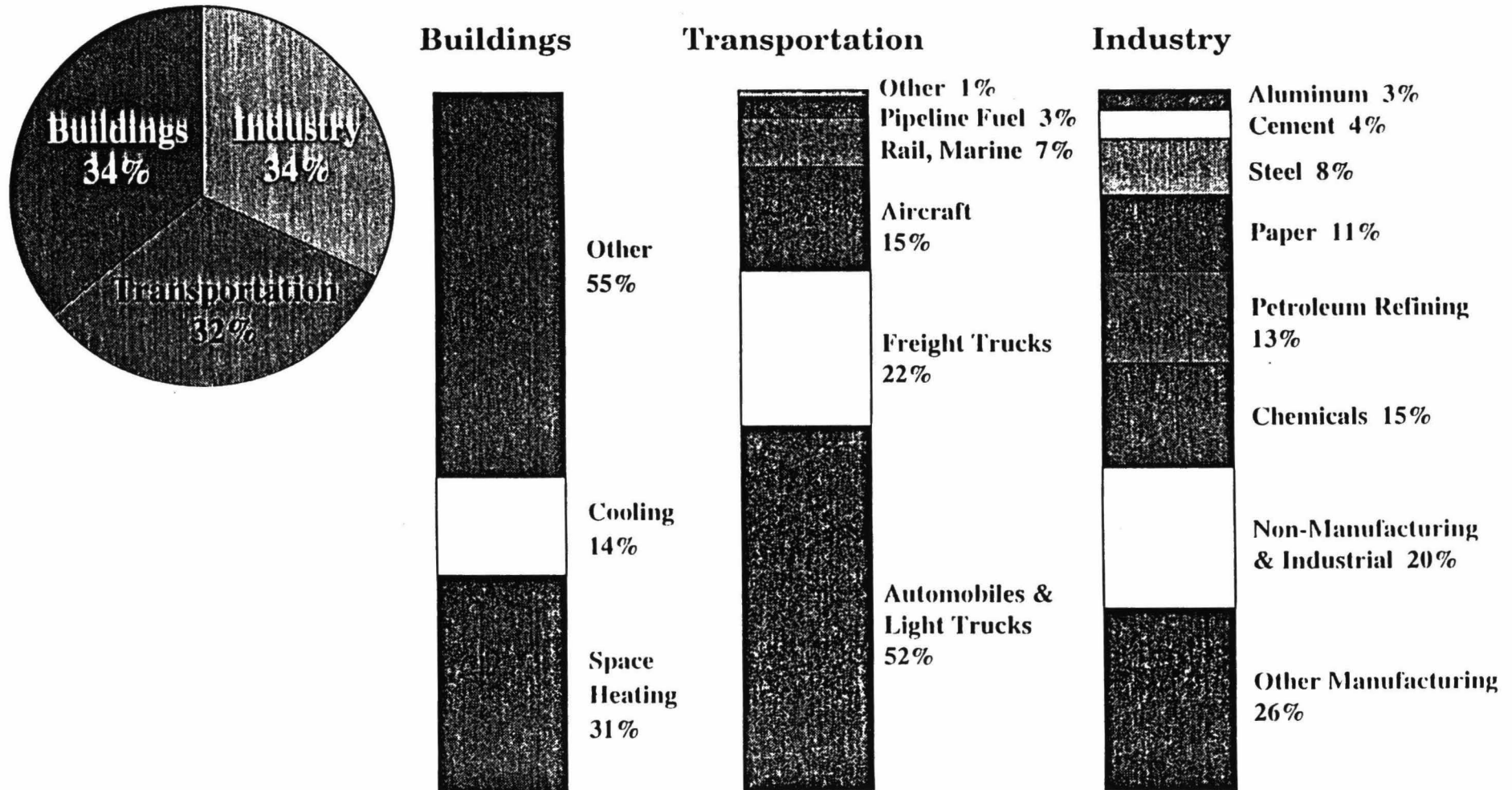
Total 1618 MMTCE



Source: Emissions of Greenhouse Gases in the U.S., 1996

U.S. CLIMATE CHANGE POLICY

1990 U.S. CO₂ EMISSIONS BY SECTOR



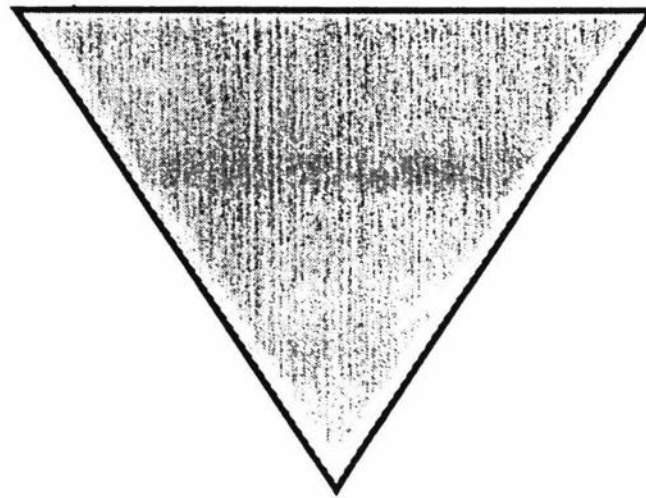
Source: EIA Annual Energy Outlook, 1992; EIA Emissions from Greenhouse Gases in US 1987-94

U.S. CLIMATE CHANGE POLICY

PRINCIPLES FOR KYOTO LEADERSHIP

Compliance With Binding Targets

Maximum
Flexibility



National
Implementation

Realistic & Achievable

+ Steps Towards a Longer Term Solution

U.S. CLIMATE CHANGE POLICY

EMISSIONS BUDGETS

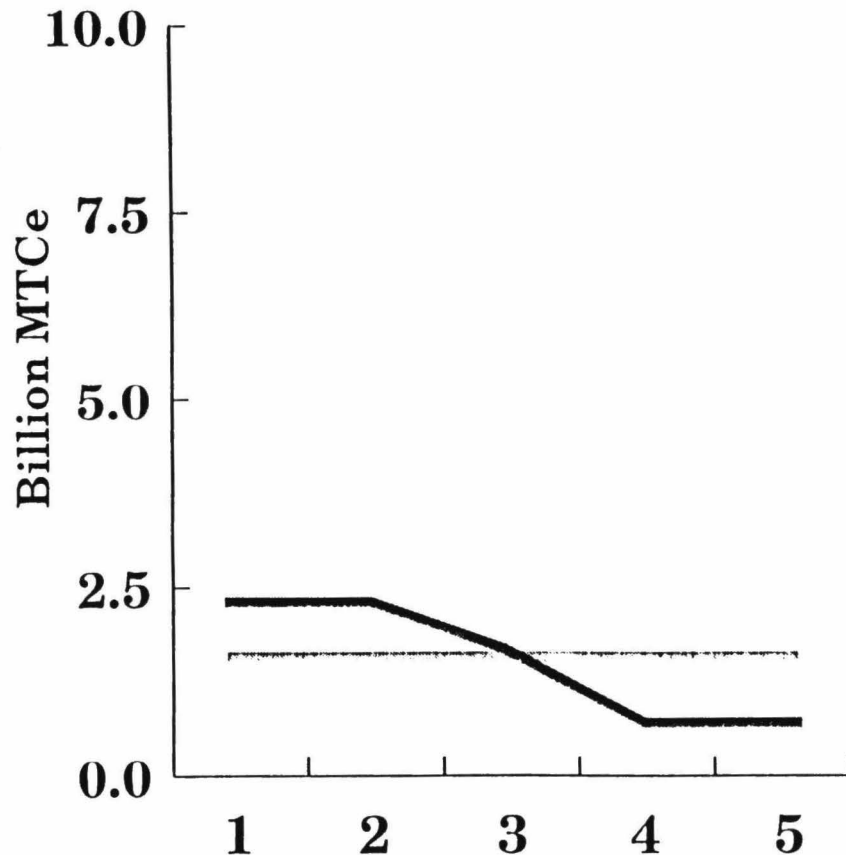
A Party's Emissions Budget Equals:

- The Party's Initial Allocation
 - *Plus* Any Amounts Banked
 - *Plus* Any Amounts Borrowed
 - *Plus* Any Amounts Acquired Through International Emissions Trading or JI
 - *Minus* Any Amounts Transferred to Other Parties Through International Emissions Trading

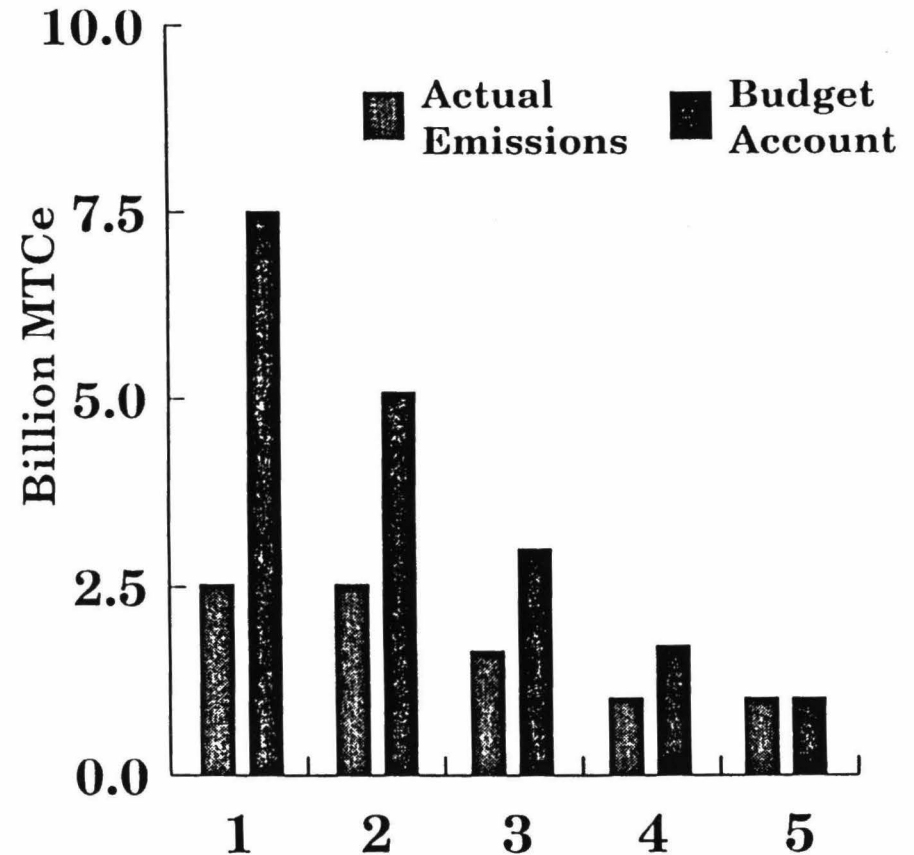
U.S. CLIMATE CHANGE POLICY

BASIC COMPLIANCE STRATEGY

Emissions Path



Budget Balances



U.S. CLIMATE CHANGE POLICY

INTERNATIONAL EMISSIONS TRADING

- **Parties with Emissions Budgets May Buy or Sell “Tonnes Allowed”**
 - “High-Cost” Parties Will Have Incentives to Buy
 - “Low-Cost” Parties Will Have Incentives to Sell
- **Parties Report Purchases or Sales Each Year, Adding To or Subtracting From Their Budgets**
- **Private Sector Can Facilitate Trades**
- **No New International Organization Needed**

U.S. CLIMATE CHANGE POLICY

JOINT IMPLEMENTATION

- **Project-Based, Not Budget-Based**
- **Developing Countries May Undertake Projects That Generate New “Tonnes Allowed”**
 - **Eligible Projects: Supporting National Environment and Developing Strategies, Providing Additional Reductions**
 - **Provisions for Measurement, Verification, Review, etc.**
- **Party May Keep the Credits, or Transfer Them in Return for Investment and Development Resources**
- **Developed Countries, Private Sector Can Facilitate JI Projects**

U.S. CLIMATE CHANGE POLICY

FAIR AND EQUITABLE PARTICIPATION

Developing Countries Adopt and Report on “No Regrets” Measures, With Assistance and Cooperation from Developed Countries

Voluntary Participation in Annex B

– Opt-In to Emissions Budgets, Emissions Trading

Evolution

U.S. CLIMATE CHANGE POLICY

NATIONAL ACCOUNTABILITY

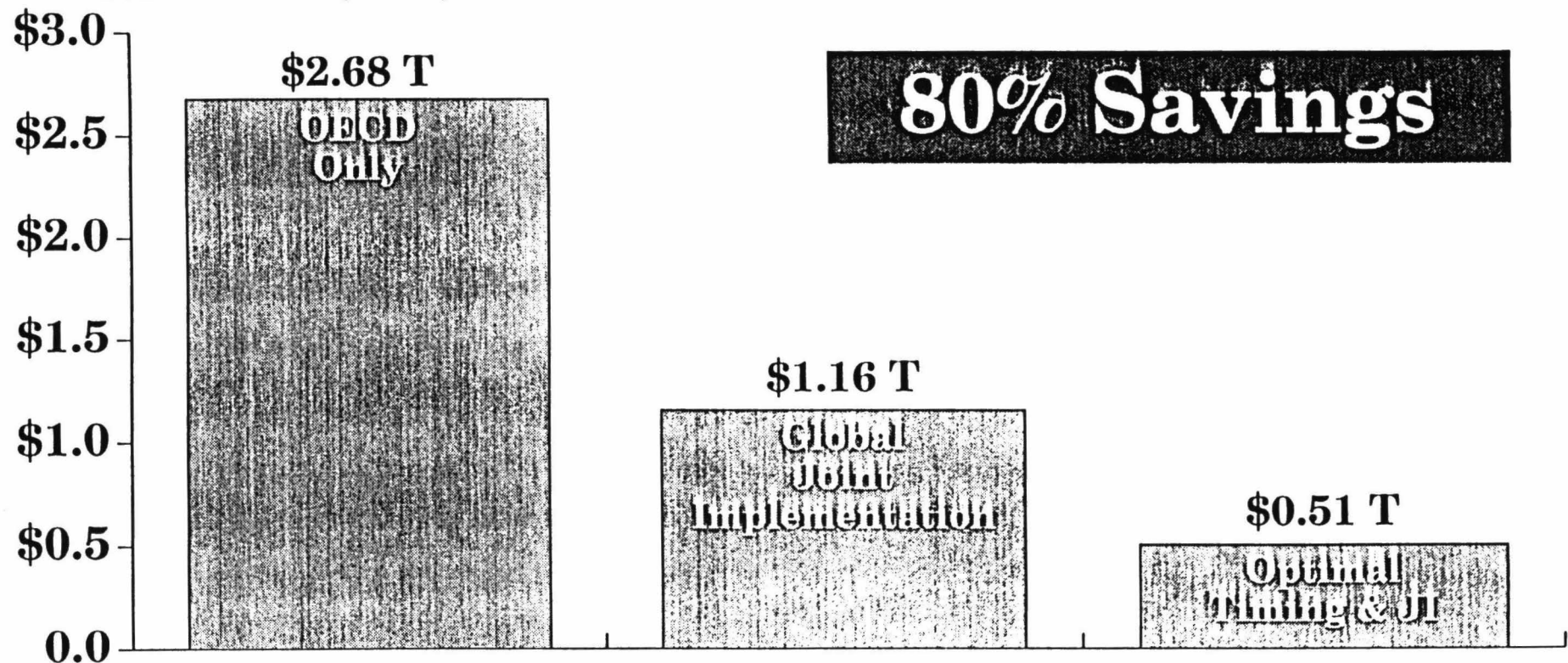
Parties With Emissions Budgets Must:

- **Adopt National Systems for Accurate Emissions Measurement**
- **Adopt National Compliance and Enforcement Programs**
- **Report on Policies and Measures Employed to Meet Budgets**
- **Report Annually on Emissions and Budget Consumption**

U.S. CLIMATE CHANGE POLICY

TARGET LIMITED CAPITAL TO GREATEST GOOD

Trillion Dollars (1990)

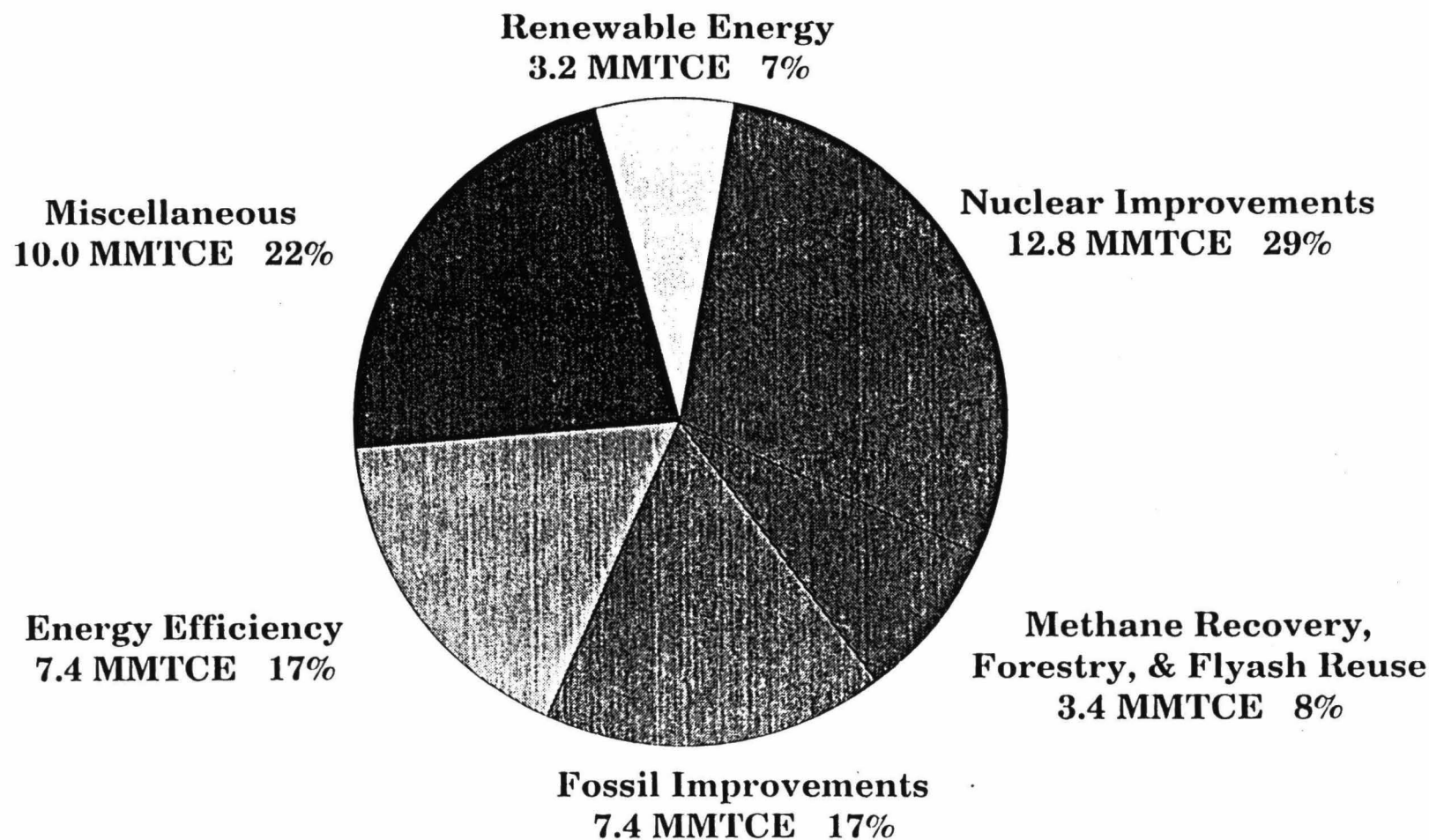


World Compliance Costs

* The 2.2 trillion savings between the first and third columns is roughly equivalent in value to 1/3 of current annual U.S. economic output. Source: Electric Power Research Institute, 1995

U.S. CLIMATE CHANGE POLICY

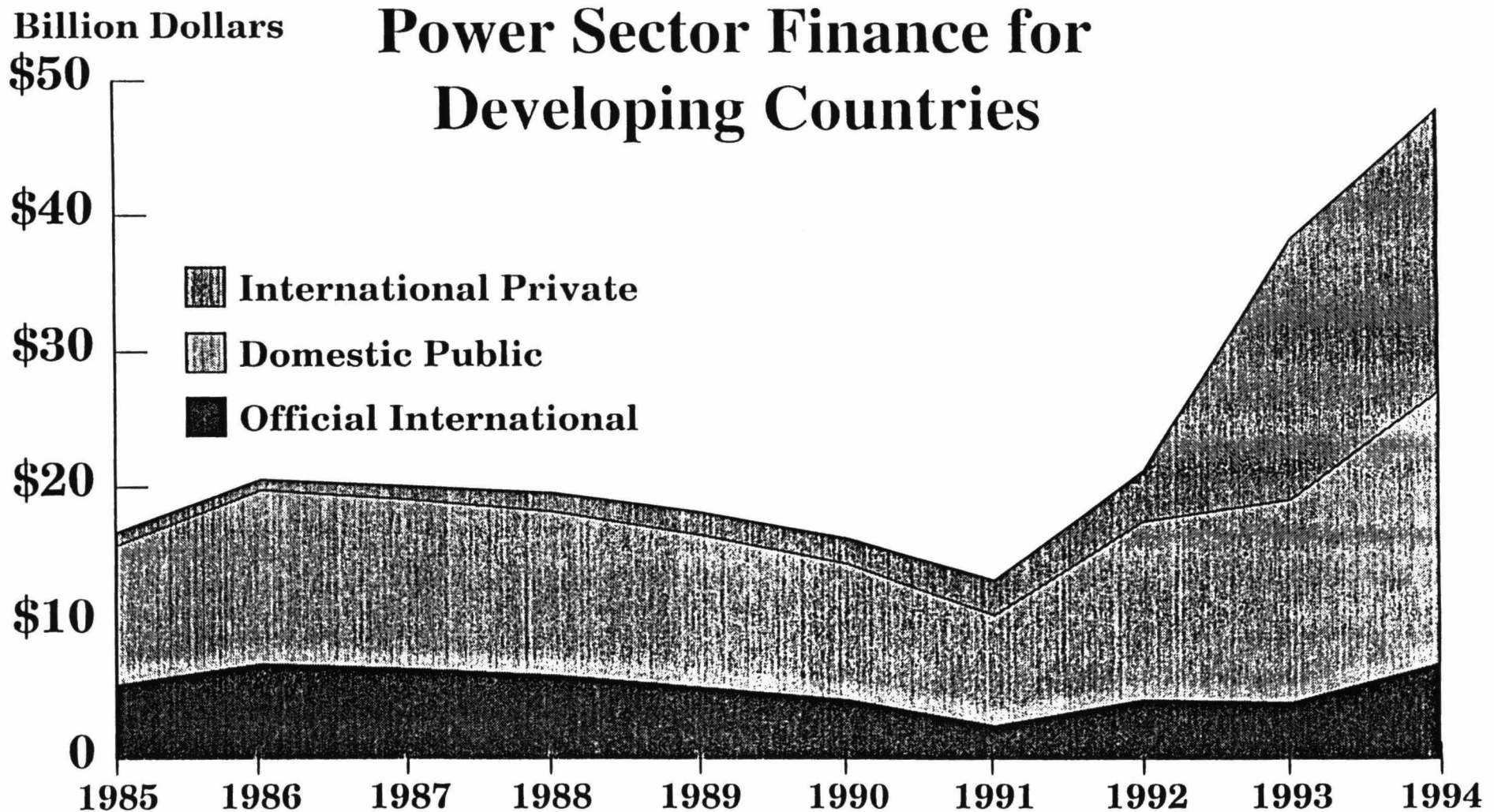
GHG REDUCTIONS PLEDGED BY CLIMATE CHALLENGE UTILITIES



Source: Climate Challenge Program Report, December 1996

U.S. CLIMATE CHANGE POLICY

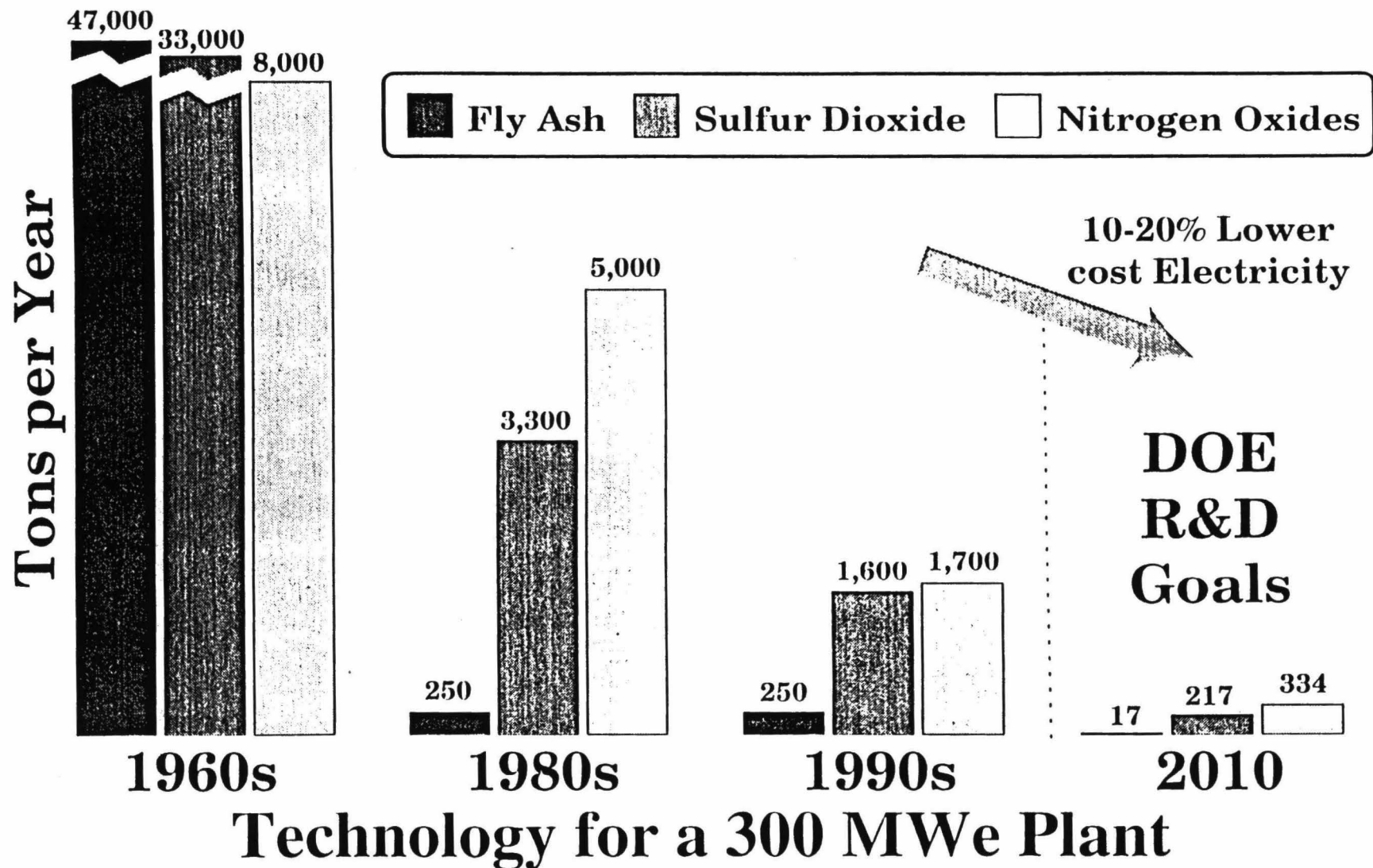
MOBILIZE PRIVATE POWER FINANCE



Source: Resource Dynamics Corp. 1996 for DOE

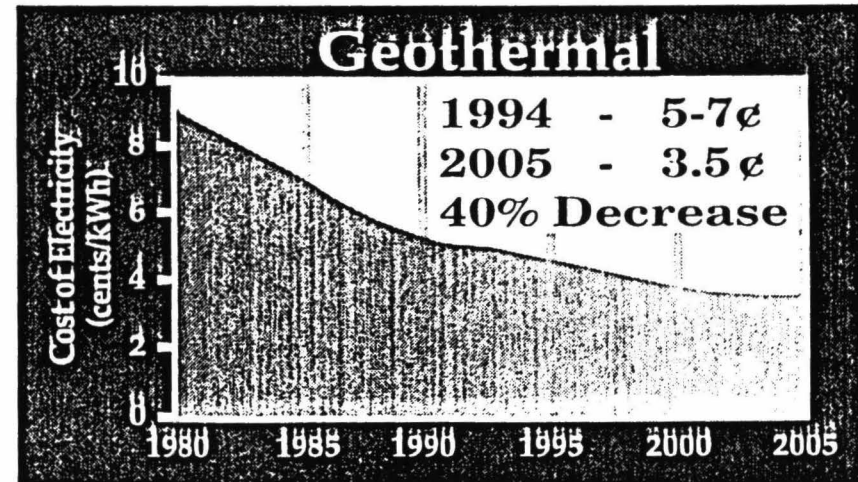
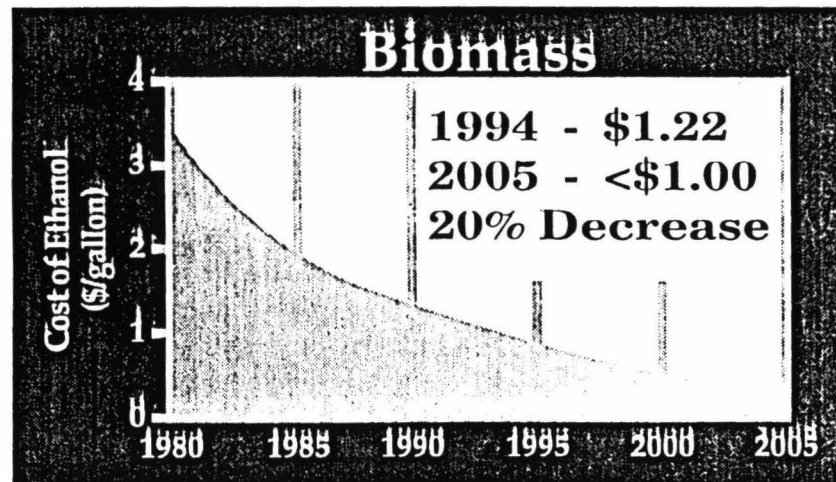
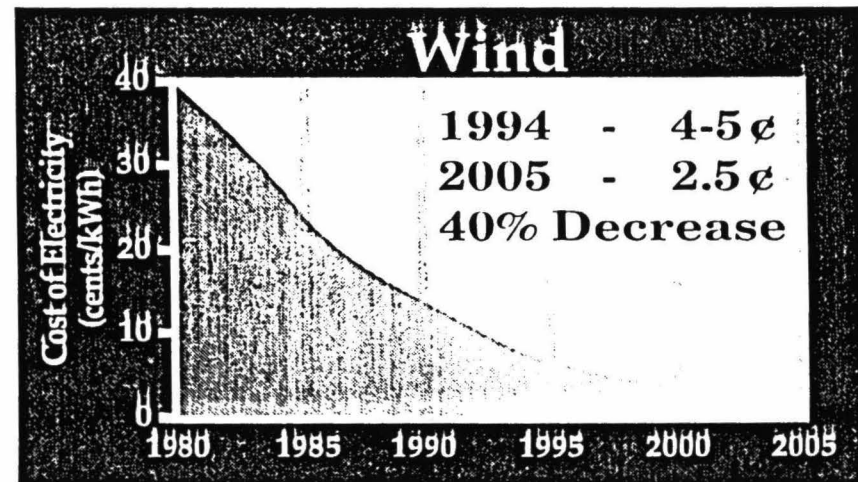
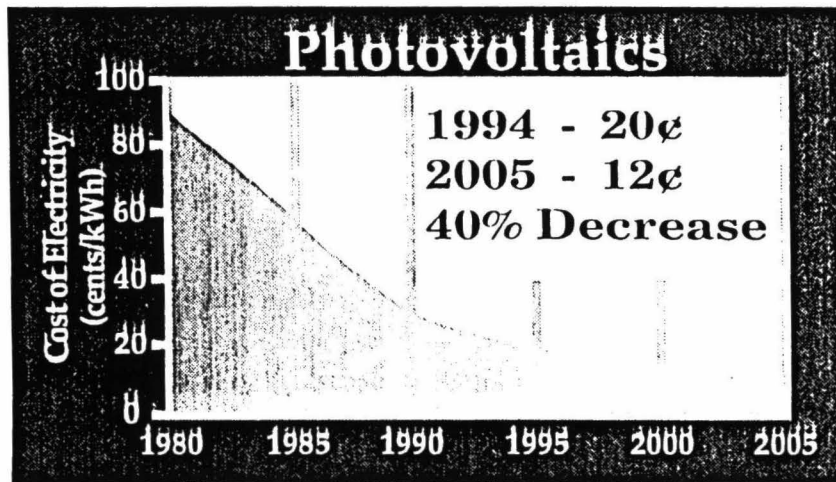
U.S. CLIMATE CHANGE POLICY

BENEFITS OF COAL R&D



U.S. CLIMATE CHANGE POLICY

RENEWABLES: PROGRESS



U.S. CLIMATE CHANGE POLICY

KEY PROPOSALS FOR KYOTO

	AOSIS	G-77/China	EU	Japan	U.S.
Target	20% = 2005	0% = 2000 7.5% = 2005 15% = 2010 35% = 2020	7.5% = 2005 15% = 2010	5% (adjusts) = 2008 - 2012	0% = 2008 - 2012
Emissions Budgets	NO	NO	NO	YES	YES
JI	NO	NO	Annex I Only	YES	YES
Int'l Trading in Annex I	NO	NO	Maybe	YES	YES
Banking / Borrowing	NO	NO	Banking Maybe; Borrowing No	YES	YES
All Nations Take Action	NO	NO	NO	NO	YES
All 6 Gases & Sinks	NO	NO (But Phase Out Next 3)	NO (3 Gases Later)	NO	YES
Differentiation	NO	NO	NO (Outside EU Bubble)	YES	NO
Compensation / Penalty Fund	NO	YES	NO	NO	NO
Mandatory Harmonization	NO	NO	YES	NO (Voluntary)	NO
Bubble for EU Only	NO	NO	YES	NO	NO
Detailed Compliance Mechanism	NO	NO	NO	NO	YES

Source: Drawn From Submissions to FCCC Secretariat

U.S. CLIMATE CHANGE POLICY

OPPORTUNITIES

No Other Approach Delivers . . .

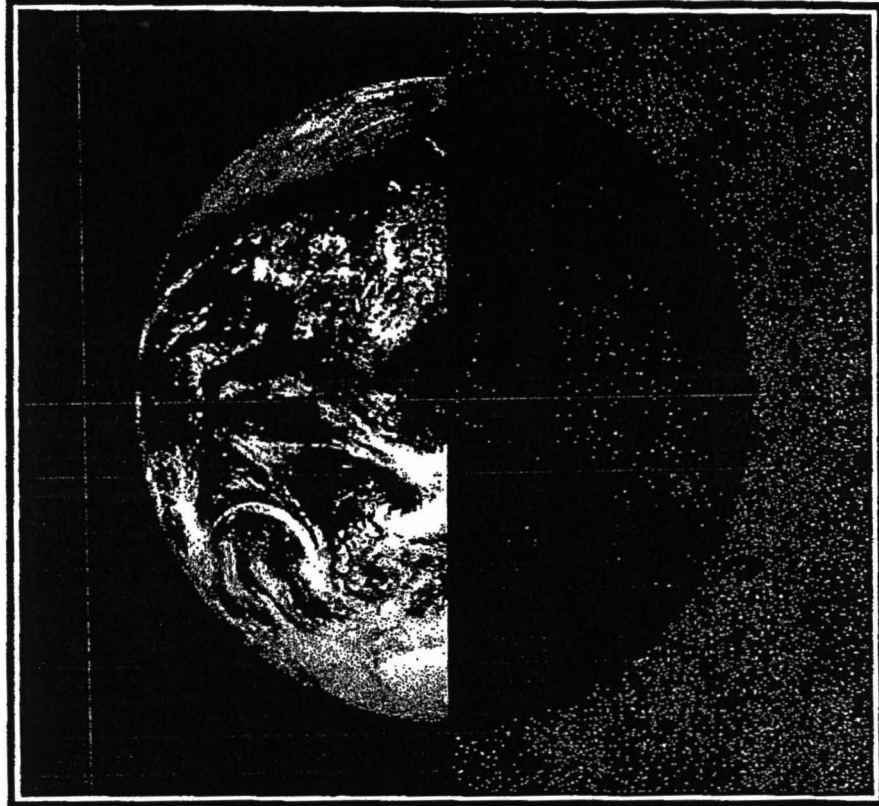
More Environmental Benefit for Limited Funds

More Private Sector Funds & Technology

Technology to Greatest Reduction Potential

Likelihood of Political Success

CLIMATE CHANGE



INITIATIVE

D E C E M B E R 1 9 9 7



**U.S. Agency for
International
Development**

The USAID Climate Change Initiative

Speaking at the United Nations in June of this year, President Clinton announced that the U.S. would provide at least one billion dollars over the next five years to collaborate with developing nations to reduce the threat of climate change. That announcement signaled a renewed U.S. Government commitment to facilitate technology transfer and collaborate with developing countries to achieve the goals of the U.N. Framework Convention on Climate Change.

USAID is leading the Federal Government in implementing the President's pledge. While the proposed Initiative builds on the U.S. Government's on-going efforts, it will include significant new elements. Specifically, it will:

- Provide \$250 million in new resources to promote "climate friendly" development
- Create a strategic partnership with key developing countries
- Assert U.S. leadership of bilateral and multilateral donors on climate change
- Expand the private sector role in technology cooperation
- Fulfill U.S. obligations under the Berlin Mandate to assist developing nations
- Mainstream climate change in the U.S. sustainable development agenda

The over-arching objective of the Initiative will be to promote sustainable development that minimizes the associated growth in greenhouse gas emissions and reduces vulnerability to climate change. The Agency will focus on activities that simultaneously promote sustainable development and combat climate change.

USAID's Initiative will have three areas of emphasis:

- Decreasing the rate of growth in net greenhouse gas emissions by decreasing greenhouse gas sources and maintaining or enhancing greenhouse gas sinks
- Increasing developing country participation in the U.N. Framework Convention on Climate Change
- Decreasing developing country vulnerability to the threats posed by climate change

To achieve these results, USAID will focus on promoting technology cooperation, partnerships with the private sector, collaboration and coordination with other bilateral and multilateral donors, training and capacity building, and the use of credit to foster private trade and investment. Resources will be concentrated in nine key countries and three regions: Brazil, Central Africa, Central America, Central Asian Republics, India, Indonesia, Mexico, Philippines, Poland, Russia, South Africa and Ukraine. Although China is another large emitter of greenhouse gases, USAID currently does not operate in China.

Foreword

Coping with climate change is an issue that cuts across science, politics, public policy, economics, finance and health. It will necessitate a partnership among all nations. In democracies such as ours, wrestling with these issues is particularly complex. Americans have grown used to a vigorous economy as we demand a clean environment and a positive outlook for the future. Addressing climate change will require international innovation and collaboration. It will require that nations focus on developing global solutions today in order to avoid the costs of inaction tomorrow. While reaching global agreement on climate change will be a major challenge, USAID looks forward to working in partnership with the global community to take on a public policy issue that simply cannot be ignored.

Current levels of carbon dioxide are the highest in 200,000 years and will soon reach double the concentrations of the pre-industrial age. If this trend continues, scientists expect that global temperatures will rise by 1 to 3.5 degrees centigrade over the next century. Among the effects of this rise in temperature, sea levels could rise one-and-a-half feet, putting 100 million people around the world at risk from flooding and storm surges. Coastal areas and island nations could be devastated. Incidents of malaria, dengue fever and other diseases could rise dramatically. Crop yields and forest productivity could decline causing considerable social and political dislocation.

Mark Twain once observed that "everyone talks about the weather, but nobody does anything about it." That is no longer the case. Collectively, we are changing the weather. As President Clinton noted at the United Nations in June 1997, the science on climate change is clear and compelling. Two thousand eminent scientists serving on the Intergovernmental Panel on Climate Change concluded in 1995 that human activity is having a "discernible impact on global climate."

The potential to work with developing nations to reduce the threat of climate change is as great as the implications of climate change for those countries. Developing countries and the poorest members of their societies are most at risk, and will be the least able to cope with change. At the same time, greenhouse gas emissions from those developing nations are rising most rapidly. Critical in promoting long-term sustainable development will be a comprehensive program to combat the threat of climate change. The U.S. Agency for International Development presents this Climate Change Initiative as part of the Clinton Administration's efforts to help mitigate global climate change.

J. Brian Atwood
Administrator
U.S. Agency for International Development

Introduction

Global climate change poses profound threats to international economic development and ecological balance. If greenhouse gas emissions continue to grow unabated, all sectors of the global economy, all realms of the natural environment and all countries of the world will be affected. The greatest costs, however, will be felt by developing and transition countries, the countries least able to cope with crisis and adapt to change.

As the foreign assistance arm of the U.S. Government, the U.S. Agency for International Development (USAID) advances U.S. national interests by working in collaboration with developing nations to promote sustainable development and provide humanitarian relief. Helping developing and transition countries balance economic growth with environmentally sustainable development protects the global environment and serves the United States' national interest.

For many years, USAID has implemented environmental programs that, though targeted on other goals (e.g., energy efficiency, forestry and biodiversity conservation), have had a direct impact on greenhouse gas emissions. USAID also has supported efforts that implicitly help decrease the threat climate change poses by reducing population growth, promoting economic development, and improving human health and nutrition.

In 1990 when the Agency published its report, *"Greenhouse Gas Emissions in Developing Countries: The USAID Response,"* USAID began explicitly to address the threat of climate change. Since then, the Agency has actively managed a portfolio of climate change-related programs focused on decreasing emissions from the energy sector and increasing carbon sequestration in forests. USAID progress in this regard was documented in a 1994 Report to Congress, *"Global Climate Change: The USAID Response,"* which outlined the portfolio of climate change-related programs and reviewed the Agency strategy.

Speaking at the United Nations in June of this year, President Clinton announced that the U.S. would provide at least \$1 billion dollars over the next five years to collaborate with developing nations and countries in transition to reduce the threat of climate change. That announcement signaled a renewed U.S. Government commitment to facilitate technology transfer and collaborate with developing and transition countries to achieve the goals of the U.N. Framework Convention on Climate Change (FCCC).

USAID has been given the lead on behalf of the Federal Government in implementing the President's Initiative. This description of the USAID Climate Change Initiative focuses on how the Agency will help make the President's commitment a reality. The Initiative is very significant in several ways. It will:

- Ensure a substantial financial commitment to climate change-related programs in developing nations over the next five years
- Result in credit instruments being used to leverage an additional \$250 million to foster "climate friendly" investment in developing and transition countries
- Foster a broader vision of development assistance that recognizes that reducing the climate change threat is central to successfully promoting sustainable development
- Strengthen the U.S. Government's ability to measure the global impact of its foreign assistance program, and focus and prioritize efforts on the basis of global imperatives
- Enhance U.S. leadership of the donor community in collaborating with developing nations to combat climate change
- Fulfill U.S. obligations to assist developing nations under the Berlin Mandate

The overarching objective of the Initiative will be to promote sustainable development that minimizes the associated growth in greenhouse gas emissions and reduces vulnerability to climate change. The Agency will focus on activities that are "win-win"—simultaneously promoting sustainable development and combating climate change. Using the Climate Change Initiative as a starting point, USAID will strive to integrate fully climate change-related concerns into its range of programs in order to ensure an awareness of how development may affect and be affected by climate change, and foster recognition that reducing the climate change threat will be centrally important to successfully promoting sustainable development.

The President's Initiative includes three components: a minimum \$750 million in grant assistance over the next five years, up to \$250 million in "climate-friendly" investment stimulated through the use of credit instruments, and a \$25 million inter-agency climate change program. This document outlines a strategy for the first two components. It was developed in a highly participatory process that involved technical and geographic experts from throughout the Agency, Federal Government, and private and non-governmental sectors. The first section summarizes the state of knowledge regarding climate change and its likely impact on developing and transition countries. The second section discusses the relationships between global climate change and sustainable development, and outlines the major issues posed by these relationships. It is followed by a description of the approach USAID will use to implement the President's commitment. The Initiative is a starting point that will provide a framework for moving forward. It identifies priorities and highlights several of the planned programs.

Executive Summary

Global climate change poses profound threats to international economic development and ecological balance. The greatest costs will be borne by poor nations least able to cope with crisis and adapt to change.

Speaking at the United Nations (U.N.) General Assembly Special Session on Environment on June 27, 1997, President Clinton announced that the U.S. would provide \$1 billion over the next five years to collaborate with developing nations and countries in transition in reducing the threat of climate change. That announcement signaled the United States' renewed commitment to facilitate technology transfer and help developing and transition countries to meet the spirit and obligations of the United Nations Framework Convention on Climate Change (FCCC). The Initiative announced by President Clinton includes three components: a minimum \$750 million in grant assistance over the next five years, up to \$250 million in "climate-friendly" investment stimulated through the use of credit instruments, and a \$25 million inter-agency climate change program. This document focuses on how USAID will work to make the President's commitment a reality.

Climate Change and Developing Nations

Changes in the climate could affect all sectors of the global economy and all realms of the natural environment. The impact will vary from country to country and region to region; different sections of nations will be affected differently and at different times. It is expected that the impacts of climate change will, however, be felt most by many of the countries that are least responsible for the problem. Developing nations and transition countries will face the greatest risks for a variety of reasons, including the fact that many of these nations are low-lying or island states, have limited water resources, have economies that are highly dependent upon natural resources and agriculture, or have limited capacity or means to adapt and cope with change.

At the same time that developing nations are most vulnerable to climate change, their contribution to emissions is growing. While annual emissions from industrialized countries represent over half of global greenhouse gas emissions, the growth in emissions from developing nations is accelerating. If current growth trends continue, in 2035, developing countries will account for almost half of annual emissions from industrial sources.

Strategies for addressing climate change must strive to reconcile social and economic aspirations with the need to address local and global environmental threats. At the same time, efforts to promote development need to incorporate programs to help nations decrease vulnerability to the threats climate change poses.

Climate change will almost certainly increase the need for international collaboration and humanitarian relief around the world. The challenge will be to ensure that efforts to mitigate and adapt to climate change are not compromised by the demands for emergency relief. As more and more resources are expended to deal with the human costs of climate change, the ability of societies and the international community to address root causes of emissions and foster long-term adaptation may be compromised.

The Role of USAID and the Objectives of the Climate Change Initiative

As the development assistance arm of the U.S. Government, USAID has a critical role to play in working with developing nations to reduce the rate of growth in emissions of greenhouse gases and decrease the threat climate change poses to sustainable development. This overview of the Climate Change Initiative outlines the strategy USAID will use to address comprehensively the climate change threat.

The underlying principle of the Initiative is that efforts to reduce greenhouse gas emissions and vulnerability to climate change will be critical if USAID is to promote development that is sustainable. In the long-term, economic development will be enhanced, not compromised, by efforts to reduce greenhouse gas emissions. In the immediate term, there is a vast array of activities that can promote economic development, reduce the rate of growth in greenhouse gas emissions and decrease vulnerability to climate change.

Using the Climate Change Initiative as a starting point, USAID will promote sustainable development that minimizes the associated growth in greenhouse gas emissions and vulnerability to climate change. The Agency will undertake activities that are "win-win"—simultaneously promoting sustainable development and combating climate change. USAID will examine its full range of programs to see how efforts to promote development may affect and be affected by climate change. By applying a climate change "filter" when developing and implementing programs, USAID hopes to be able to better promote development that is truly sustainable.

While the U.S. commitment to dedicate at least \$1 billion to reduce the climate change threat is significant, USAID recognizes that those resources are far less than what will be required to eliminate the climate change threat. The Agency therefore will focus on leveraging and fostering the involvement of other bilateral and multilateral donors, international financiers, the public and private sectors and non-governmental organizations. USAID will strive to serve as an effective catalyst. The Agency's success partly will be measured by the extent to which others engage actively.

An Overview of the Initiative

The Climate Change Initiative represents a significant commitment on the part of the U.S. Government in several ways. Most basically, it will ensure a substantial financial commitment to climate change-related programs in developing nations over the next five years. If the use of credit instruments is approved, the Initiative will result in the commitment of an additional \$250 million to foster "climate friendly" investment in developing and transition countries. The Initiative will also have a significant impact on the Agency's approach to foreign assistance; it will foster a broader vision of development assistance that recognizes that reducing the climate change threat is central to successfully promoting sustainable development. The Initiative will also strengthen the U.S. Government's ability to measure the global impact of its foreign assistance program, and focus and prioritize efforts on the basis of global imperatives, enhance U.S. leadership of the donor community, and demonstrate a U.S. commitment to fulfill its obligations to assist and collaborate with developing nations under the Framework Convention on Climate Change.

Under the Climate Change Initiative, USAID will concentrate resources and attention on a set of countries and regions selected because of their contribution (and predicted future contribution) to net global greenhouse gas emissions and/or their governments' receptivity to taking concrete action. Nine countries and three regions will receive priority: Brazil, Central Africa (Cameroon, the Central African Republic, the Republic of Congo, the Democratic Republic of Congo, Equatorial Guinea and Gabon), Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan), India, Indonesia, Mexico, Philippines, Poland, Russia, South Africa and Ukraine. Although China is another large emitter of greenhouse gases, USAID currently does not operate in China.

The Initiative specifies three areas of emphasis:

- Decreasing the rate of growth in net greenhouse gas emissions by decreasing greenhouse

- gas sources and maintaining or increasing greenhouse gas sinks
- Increasing developing and transition country participation in the United Nations' Framework Convention on Climate Change (FCCC)
- Decreasing developing and transitional country vulnerability to the threats posed by climate change

1. Decreasing the rate of growth in net emissions

In the energy sector, USAID will focus on activities that result in the following improvements in the energy sector:

- Substitution of less carbon-emitting fuel sources
- Use of non-fossil renewable energy sources
- Increased efficiency in power generation, transmission and distribution
- Increased end-use energy efficiency
- Decreased use or increased combustion efficiency of carbon-emitting fuels in transportation
- Substitution of less carbon-emitting fuels in transportation
- Reduced market barriers to and increased incentives for less carbon-intense energy use

In the land use sector, USAID will pursue activities that either increase the storage of carbon in ecosystems or land use systems (act as carbon "sinks"), or decrease the release of carbon stored in biomass due to human activities, including the following:

- The preservation, re-establishment or more sustainable management and use of forests, trees and denuded lands
- The maintenance and preservation of wetlands and mangroves
- Decreased burning of savanna, rangeland, forest and brushland
- Increased agricultural productivity to stabilize the agricultural frontier
- Increased soil organic matter and decreased soil erosion
- Increased use of biofuels
- Improved animal husbandry

In urban areas and industry, USAID will complement efforts to reduce emissions that result from energy supply and use with programs that result in:

- Increased capture of methane from urban sewage and solid waste
- Increased industrial and municipal adoption of environmental management systems
- Regulatory frameworks and credit mechanisms that facilitate environmental investments
- Increased industrial and municipal investments in clean technologies
- More environmentally sound infrastructure
- More environmentally sound urban transportation systems

2. Increasing developing and transition country participation in the FCCC

Participation in the negotiation and implementation of the terms and spirit of the FCCC will be fundamental to finding a global solution to climate change. The U.S. Country Studies Program and the U.S. Initiative on Joint Implementation (JI), two inter-agency U.S. government climate change programs, are important vehicles for collaborating with developing nations. In consultation with the inter-agency process, USAID will seek to enhance developing and transition country participation in the FCCC through:

- Creation of national emissions inventories, baselines and budgets, national action plans and national communications

- Enhanced capacity to track, monitor, report and verify greenhouse gas emissions and project baselines
- Enhanced capacity to monitor and project vulnerability to climate change
- Agreements to cooperate in facilitating public-private partnerships that transfer environmentally sound technology that mitigates climate change
- Acceptance of greater developing country commitments under the FCCC
- Stimulation of JI projects and participation in JI regimes
- Establishment of legislative, regulatory and market structures, and local capacity to participate in emissions trading regimes, in appropriate countries and subject to recognition by the FCCC
- Integration of climate change concerns into national sustainable development strategies building on lessons learned from other related efforts

3. Decreasing vulnerability to the threats posed by climate change

Given its broad experience in development, USAID is uniquely positioned to help increase the capacity of developing countries and countries in transition to adapt to change and cope with the predicted impacts of climate change. Programs that have the following results will be an integral part of the Agency's Climate Change Initiative:

- Increased preparedness for natural disasters
- Increased adaptability and efficiency of agricultural systems, municipal management, water resources management and public health systems
- Improved domestic and international capacities for conflict-resolution regarding shared resources, such as water

To achieve the results outlined above USAID will use a range of tools and approaches, including policy reform, institutional capacity building, education and outreach, and information collection and dissemination. USAID also will place particular emphasis on four additional tools: technology cooperation; partnerships with the private sector; collaboration and coordination with other bilateral and multilateral donors; and the use of loans and loan guarantees to foster private trade and investment in environmentally sound technologies and projects that mitigate climate change.

USAID will have a wide range of public, private and non-government partners in implementing the Initiative. In addition to USAID's developing country partners, collaborators will include other agencies and departments of the U.S. Government, multilateral development banks, other multilateral and bilateral donors, and public, private and non-governmental organizations throughout the world.

Through the Initiative, USAID will highlight several new areas of emphasis including the following:

- Quantifying the health and productivity costs associated with local air pollution that fossil fuel combustion generates in an effort to expand the definition of "win-win" efforts to decrease greenhouse gas emissions.
- Analyzing the specific regional and local vulnerabilities climate change poses. This study will be used to identify areas of particular vulnerability that USAID needs to address.
- Facilitating private sector transfer of clean energy technology to key countries and regions; a first step in this direction is the promulgation of model "Global Climate Change Technology Cooperation Agreements" with key countries.

- Reducing the vulnerability of urban populations, property and infrastructure to the threats posed by climate change.
- Enhancing environmental education and outreach to involve non-governmental organizations, the private sector and governments in efforts to promote development while reducing the rate of growth in net greenhouse gas emissions.
- Working with the donor community to more effectively promote development that minimizes the growth in greenhouse gas emissions.

While the commitment of \$1 billion over five years is significant for the U.S. Government, it is a small share of the resources necessary to minimize the threats climate change poses to developing and transition countries. A concerted global effort will be required. The creation of close partnerships with a variety of actors will be critical to the success of the Climate Change Initiative. USAID will work with multilateral and bilateral donors, international organizations, the private sector, and other agencies and departments of the U.S. Government. By intensifying coordination, USAID will multiply the impact of its programs, and increase the pace and durability of reforms in partner nations.

USAID Management of the Climate Change Initiative

USAID programs are designed and implemented in collaboration with developing nations to target local priorities and develop locally-appropriate solutions. The Climate Change Initiative provides a framework and a set of priorities based upon which activities will be designed and implemented. Programs under the Initiative will combine an emphasis on meeting local needs with a greater focus on global goals and objectives. Activities will be developed in partnership with beneficiaries to address local priorities while combating the rate of growth in net emissions of greenhouse gases.

USAID will form a Climate Change Committee to make proposals and decisions over issues of policy related to implementation of the USAID Climate Change Initiative. The Committee will include representatives from each bureau within USAID. An Agency-wide Climate Change Team will continue to serve as the locus for information sharing on programming, current events, results reporting and USAID collaboration with other Agencies and development partners.

Consistent with its role as Agency technical representative on climate change, the USAID Global Bureau Center for Environment will continue to facilitate the Climate Change Team, and serve as USAID representative to all inter-agency climate change programs. The USAID Policy and Program Coordination Bureau will continue to oversee the consistent application of policy on climate change Agency-wide, ensure that climate change receives a high level of attention on the Agency's development partnering agenda, and facilitate the involvement of other USAID stakeholders in this area. The USAID Bureau for Management will ensure that obligations are commensurate with fulfilling the President's commitment.

Budget

The obligation of resources under the USAID Climate Change Initiative will be focused on mitigating net greenhouse gas emissions, and fostering developing and transition country participation in the FCCC. USAID obligations as part of the Initiative will include at least \$750 million in grant assistance, and the use of credit tools to leverage at least \$250 million in additional climate change-related trade and investment. A minimum of \$150 million per year will be obligated by the Agency for climate change-related activities in each of the next five years. Of the total \$750 million in climate change-related grant assistance, at least forty percent will be obligated to

programs in the Agency's key climate change countries and regions. A significant additional percentage will be obligated to the Agency's program in Egypt. Climate change-related programs in other USAID-assisted countries will comprise the remainder of obligations as part of the Initiative. Assuming Congressional approval for the use of credit, at least two-thirds of the investment USAID stimulates through the use of credit instruments as part of the Initiative will also be focused on USAID key climate change countries and regions.

Monitoring and Measuring Results

Monitoring and measuring the results achieved will be among the Agency's highest priorities. Under the Initiative a concerted effort will be made to measure the impact of programs, assess the most effective strategies for combating the threat of climate change, and hone and focus the Agency's approach. An Agency Special Objective for climate is being established, and will be used to track programs and obligations. By April 1998, USAID will have developed its climate change performance monitoring plan. Reporting will begin at the end of FY 1998.

Organization of the Report

The first section of this document summarizes the state of knowledge regarding climate change, its underlying causes and likely impact on developing and transition countries. It identifies population growth, economic development, urbanization and technology as contributors to growing net greenhouse gas emissions, and reviews the predicted impact of a warmer world on human health, freshwater resources, biodiversity, coastal zones, infrastructure and political systems. The second section discusses the relationships between global climate change and development assistance. The third section describes the Agency's strategy to combat the threat of climate change and the approach USAID will use to implement the President's commitment. The final chapter outlines USAID's proposed management plan for the Initiative.

The U.S. Position on Targets and Timetables
The U.S. Intervention to the Non-Group
on Quantified Emissions Limitation and Reduction Objectives
October 23, 1997

Thank you Mr. Chairman.

On June 26 of this year, at the Special Session of the United Nations General Assembly in New York, President Clinton outlined the importance which the United States attaches to the problem of global warming, calling it one of the greatest challenges facing the globe in coming decades. Acknowledging the compelling importance of the science, the President also noted the significant contribution made by the United States to this problem. He undertook to personally engage the American public on this issue and to pronounce an aggressive program to reach an outcome in Kyoto based on objectives which are realistic and achievable. This is what the President promised in June. And he has delivered on that promise.

In terms of public education, the President took the lead to hold a series of meetings and symposia at the White House or under White House auspices which brought together renowned scientists, meteorologists, economists, academics, NGOs, and leaders of commerce, industry and labor in a nearly unprecedented effort to inform, listen, and urge a vast sampling of U.S. public opinion on the threats of global warming and of the opportunities and challenges which this critical problem provides. There is little doubt that, although some television announcers may still have trouble pronouncing global warming, this is a problem whose seriousness has been awakened anew in much of the American public.

This is no trivial matter. As the President has repeatedly reported, the United States -- while producing over 22 percent of the world's wealth, also produces about a quarter of its greenhouse gas emissions. This is a trend which must be stopped, but stopped in a way in which economic considerations are balanced with environmental priorities.

I am sure that many of you are aware that last night, local time, the President of the United States made one of the most significant speeches on the climate change issue -- and perhaps on any issue in the pantheon of international affairs -- of our era. President Clinton's speech marked the beginning of a globally more aggressive effort to combat the threat of climate change. His speech also marked the beginning of a new effort to undertake realistic and achievable -- yet aggressive -- efforts to reduce greenhouse gas emissions. Make no mistake about it: the enormous capacity of the United States has, with this extraordinary commitment, been channeled to combating the threat of climate change.

Let me review for you some of the specifics of our proposal. Through a flexible, market based, and cost-effective approach, we are committed to an agreement which includes three elements:

- First: we commit to a binding and realistic target of returning emissions to 1990 levels in a budget period between 2008 and 2012. We will commit to reducing net emissions of all GHG below 1990 levels in the five year period thereafter (between 2013 and 2018) -- and will work for further reductions in the years beyond that. Let me set this in context: in absolute levels of emissions reductions, this commitment is the equivalent of cutting almost 30 percent from our baseline -- in relative terms, a reduction greater than that proposed by the European Union. With our proposal to include all gases, including HFCs, PFCs and SF₆, it becomes even larger and further highlights the aggressiveness of our approach compared to others. In actual tons of emissions reduced, we are proposing to cut more than 400 million metric tons annually from our budget -- more than the total emissions of most countries in the world. Historically, it will reverse an emissions growth trend that has been part of the U.S. economic and development pattern since the industrial revolution. Even during the oil shocks of the 1970's, our emissions did not stabilize -- yet in a period of less than a decade, we are proposing to restructure our concept of how to consider economic growth. We are proposing to redevelop our world around a new vision of sustainable development -- one that would

delink the economy from greenhouse gas emissions, allowing the former to grow, while the latter shrinks.

- Second, the President proposed a series of flexible mechanisms for achieving legally binding limits. He called upon the world to recognize the enormous potential provided through such market mechanisms as emissions trading and joint implementation. As he made plain, these innovations will cut world-wide pollution and help developing countries protect their own environments without sacrifice to economic growth. The advantages of these mechanisms are patently obvious: economic analysis supports them, practical experience supports them; and to ensure that we hand a climate-friendly world to our children and grandchildren, we too should support them.
- Third, the President reiterated a call for both industrialized and developing countries to participate in meeting the challenge of climate change. He recognized that developed countries must lead -- but insisted that developing countries also be engaged. Let me reiterate his view: "The United States will not assume binding obligations unless key developing nations meaningfully participate in this effort...a global problem such as climate change requires a global answer." His comments reflect the facts: if the entire industrialized world reduces emissions over the next several decades but emissions from developing countries continue to grow at their current pace, concentrations of greenhouse gases in the atmosphere will continue to climb. Developing countries have an opportunity to chart a different energy future -- consistent with their growth potential and their legitimate economic aspirations. We must see to it this alternative road is traveled; the present course surely leads to a climate disaster.

Unlike many other governments which announced emissions goals, President Clinton simultaneously announced a domestic program to meet this ambitious target. He proposed an unprecedented \$5 billion series of tax incentives and research and development investments to encourage energy efficiency and the use of cleaner energy. He proposed providing incentives for early action by the private sector, with credit for companies which show the way to a lower greenhouse gas future. He proposed the creation of a domestic market-based system for reducing emissions -- a system that will tie both our national efforts and the international program into a cost-effective global emissions market. He proposed "reinventing" the way the U.S. federal government (our nation's largest energy consumer) buys and uses energy. And, he proposed a bold new plan for electricity restructuring, which is anticipated both to reduce emissions and save on consumer energy costs.

Many here will undoubtedly criticize this plan as being insufficient. Last night, for example, I heard someone who sounded remarkably like a distinguished colleague in this room articulate his concerns on the CNN "Q & A" ("questions and answers") program that the U.S., with the great capacities acknowledged by the President, could not immediately move to reduce emissions in line with some of the other proposals currently before us. In fact, Mr. Chairman, as I have briefly outlined to our "non-group" this morning, we are moving in a way in which the capacities of the American people for technological innovation and economic enterprise will be immediately and intensively engaged to respond to the climate change challenge. The Berlin Mandate called upon nations to begin a process to enable appropriate action for the period beyond 2000. Our proposal not only begins the process -- it sets in motion a whole new paradigm through which the nations of the world can ultimately anticipate relief from the potential catastrophe of unchecked global warming. It is a first step -- but a first step which establishes a structure for additional steps to follow. We anticipate that the governments represented in this room will recognize this initiative for what it is: an extraordinary and constructive proposal that points the way to a success in Kyoto in December. We look forward to working with you all to make this vision a reality.

Mr. Chairman, it is clear that in light of the President's statement, we will have a number of changes to propose to the texts of the various articles to be considered in this non-group. We will address those during the course of our review of individual articles and paragraphs. Thank you, Mr. Chairman.

Intervention by the United States of America
on Reaction to its Target Proposal
AGBM-8, Plenary Meeting
27 October 1997

Thank you, Mr. Chairman. We appreciate very much the comments made by the EU, Samoa and others on our most recent proposal -- even though we do not agree with all of them. In our view, the U.S. proposal is far more aggressive in many respects in its emissions reductions than many of the other proposals announced thus far. Some of these, for example, do not check the growth of the trace gases nor protect our precious forest and soil sinks.

In addition, the U.S. target proposal is fully compatible with long-term concentration targets that have been put forward by other Parties (i.e., 550 ppmv). Avoiding such concentrations, however, will depend far more on how developing countries decide to address climate change than on what Annex I Parties do under the agreement to be reached in Kyoto.

I would like to clarify that President Clinton has proposed a domestic program that can achieve its proposed greenhouse gas budget. No other Party is ready to attack its domestic program so expeditiously. We believe that the neglect of other Parties to put together their own strategies to meet their proposals has led them to propose targets that are unrealistically aggressive for them, and which, in many cases, fail to address the "tough" greenhouse gases such as HFC, PFC SF6 and all land use and forest sinks.

The realism of the U.S. target is reinforced by our persistent advocacy of the legally binding nature of the emission targets. The U.S. provided the most detailed and comprehensive proposals for an effective compliance system. Our intentions are evidenced by the effort we have put into developing a domestic strategy, and we sincerely hope that all other Parties make their proposals with as great a will to achieve what they propose.

Mr. Chairman, the U.S. proposes an aggressive and realistic target that protects our climate system and that also protects the global economy. An economic shock to the U.S. and other industrialized Parties is no good for us, nor for our trading partners in the developing world, nor for the environment. Indeed, it is a robust private sector, investing in cleaner technologies, that will achieve the emissions reductions we seek.

The U.S. believes that we can demonstrate, by reducing our greenhouse gases by 30 percentage points from anticipated 2010 levels, that strong economic growth and a safe environment can be achieved simultaneously -- both in the industrialized and in the developing world. Our own proposed target and domestic plan will do just that. We further believe that promptly beginning the process of agreeing on commitments for developing countries will help them to avoid the emission-intensive paths that we previously and unintentionally pursued.

Further, the process of setting commitments will help developing countries to focus and integrate their sustainable development strategies, so that they can prepare themselves most effectively to take advantage of the advancing, clean technologies that will result from our commitments. We firmly believe that opting in now will help all of us to achieve our development and environmental goals together, and not leave some countries vulnerable to technological obsolescence and environmental catastrophe. Thank you, Mr. Chairman.

STATEMENT OF THE UNITED STATES OF AMERICA
REGARDING A PROVISION ON MILITARY OPERATIONS FOR COLLECTIVE
SECURITY

October 31, 1997

Our delegation would appreciate the support of all members of this body in examining how we can protect world peace while preserving our planet through some kind of provision concerning military operations necessary for collective security and self-defense. This Protocol must not create a conflict between our collective ability to preserve peace and the need to reduce greenhouse gas emissions. We must pursue both goals. We believe we have an obligation to the world community, our individual nations, and to the men and women who serve in our military forces to carefully consider how we address the implications of this Protocol for military operations.

Statement by the United States of America
on the Follow-on Process to Kyoto
AGBM Session
22 October 1997

Mr. Chairman: We appreciate very much the time and effort that has gone into producing the draft negotiating text before us, and the extensive consultations which you have conducted in seeking to move the negotiating process forward toward agreement in Kyoto. We are prepared to work with your text in our discussions here in Bonn, recognizing, however, that there is as yet no consensus on the elements of this text, and that it will be necessary to work diligently with all of our colleagues to craft provisions that can gain the broadest possible support. To this end, we anticipate announcing our own proposal for emissions budgets of Annex I countries shortly.

At the same time, Mr. Chairman, we are extremely disappointed that the text you have produced omits a fundamental provision of the proposal we made last January. As you will recall, the United States proposed that we agree no later than 2005 on legally-binding emissions limitations for all Parties and on automatic mechanisms for graduation based on agreed criteria. We made this proposal for a specific article in the protocol in recognition that climate change is a global problem that can only be solved by a truly global response, recognizing our common but differentiated responsibilities and respective capabilities.

In our view, this proposal is fully consistent with the Berlin Mandate -- it imposes no new substantive commitments on developing countries now. Instead, it calls for such commitments -- that is, quantified greenhouse gas emissions limitations for all Parties -- to be worked out after the Kyoto Conference.

Mr. Chairman, we believe that the negotiations, which we earnestly hope will culminate in the conclusion of a protocol or another legal instrument in Kyoto in December, will be a critical part of a rolling series of negotiations that will be needed in the coming years to accommodate increased scientific knowledge and understanding of the problems associated with global warming. Our proposed text should be viewed in this light. In our view, the outcome in Kyoto will be incomplete if we, as concerned nations of the world, fail to set in motion a process that recognizes the very real, global nature of the problem before us.

In paragraph three of the introduction to your revised draft, you indicate that the consolidated negotiating text will be presented to the AGBM for its consideration without prejudice to the earlier negotiating text prepared by the Chairman and the original proposals from Parties contained in the relevant miscellaneous documents.

Accordingly, Mr. Chairman, we urge in the strongest possible terms that an article on this matter, such as the one contained in the U.S. proposal, be reinserted into the text in brackets and forwarded to the Third Conference of the Parties for its full consideration - and, we hope, adoption -- in Kyoto.

Thank you very much.

Clinton Presidential Records Digital Records Marker

This is not a presidential record. This is used as an administrative marker by the William J. Clinton Presidential Library Staff.

This marker identifies the place of a tabbed divider. Given our digitization capabilities, we are sometimes unable to adequately scan such dividers. The title from the original document is indicated below.

Divider Title: _____ **F** _____

Regional/Country Summaries

European Union

In March 1997, the EU presented a "burden-sharing" arrangement for an overall reduction of 15 percent of greenhouse gas emissions (limited to carbon dioxide, methane and nitrous oxide) by 2010, whereby Germany and the U.K., which, largely due to national circumstances can make sizable reductions in their greenhouse gas (GHG) emissions, will offset increases by Spain, Sweden and others. Denmark, Italy, and the Netherlands have also agreed on reductions while France will have no change. The EU also supports "harmonized" policies and measures for all developed (Annex I) countries to reduce GHG emissions.

Select JUSCANZ (Japan, Australia, Canada, New Zealand, Norway)

Japan favors differentiation of commitments (between stabilization at 1990 levels and 5% below based on specific criteria) so that energy efficient countries are given some credit for their actions. They also support emissions trading and joint implementation under certain conditions. In a November 20 speech, PM Howard of Australia has made it clear that Australia is not prepared to stabilize or reduce its emissions at or below 1990 but will instead reduce its projected emissions by one third (28% growth down to 18%) by 2010 through domestic measures. Australia has also insisted on a "differentiated" target derived from consideration of variables such as per capita GDP and dependence on fossil fuel exports. Norway has taken a similar approach. Canada has announced its interest in a 1990 stabilization target by 2010 (although this has not yet been confirmed as official government policy). New Zealand has not announced its preferred target level, but supports emissions trading and joint implementation.

Russian Federation

Because of economic circumstances, the Russian Federation's GHG emissions have dwindled to very low levels. They seek flexibility in selecting a base year (although they would choose 1990), emissions trading, and the ability to bank all emissions credits before the beginning of the first budget period.

Other Countries with Economies in Transition

Like the Russian Federation, these nations in Central and Eastern Europe have slightly less stringent commitments than other Annex I countries particularly with respect to issues such as reporting and the choice of base year, and have requested similar special treatment in the legal instrument now under consideration. However, many also support the EU on a number of points (e.g., harmonized policies and measures) in anticipation of joining the EU some time in the future.

Newer OECD members (Mexico, Korea)

Currently, Mexico and Korea are not in Annex I but the U.S. and the EU would like to see them take on new commitments. The U.S. proposed a voluntary "Annex B" which now takes the form of "Article 10" in the negotiating text and provides for countries such as Mexico and Korea to adopt voluntarily binding emissions commitments.

Rapidly Industrializing Developing Nations (Thailand, Malaysia, Indonesia, and Israel)

Thailand, Malaysia, and Indonesia have concerns similar to those of Mexico and Korea. They have vehemently stressed that the current negotiations are limited to new commitments for developed countries only. Israel, which only recently became a Party to the Convention, has not been an active participant in the negotiations. However, its level of economic development places it on the threshold for inclusion in a group of countries which could be asked to assume new commitments.

Large Developing Countries (China, Brazil, and India)

The GHG emissions from these three nations are increasing rapidly as their economies and populations grow. China is currently the second largest emitter of GHG after the U.S. and is expected to surpass us after the year 2010. These countries have pushed the issue of technology transfer, pressing Annex I countries to meet their Convention commitments in this area prior to agreeing to a new protocol or other legal instrument. They have also sought to keep discussion of their future commitments, particularly those that might apply to developing countries, off the table. We have had some success in raising their awareness of the problem and the need to take action.

OPEC Countries

The OPEC bloc is concerned that actions taken by developed countries to reduce their emissions will lead to lower levels of fossil fuel consumption. Saudi Arabia, Kuwait, Iran, Venezuela, Nigeria and the others have proposed a mechanism under the agreement to compensate them for their potential future economic losses. These proposals have not received much support from Parties outside the group.

Other Developing Countries

Many developing countries make little or no contribution to the climate change problem and will disproportionately suffer the impacts. All have stressed the necessity for Annex I countries to fulfill their Convention commitments on funding, technology transfer, and technical assistance.

Small Island Nations

One group of countries, the Alliance of Small Island States (AOSIS), is especially vulnerable to sea level rise. It has called for aggressive measures (20 percent reduction in CO₂ emissions by 2005).

**Ranking of the world's top countries in 1995 total CO2 emissions
from fossil-fuel burning, cement production, and gas flaring.***

RANK	NATION	CO2 Emissions, 1995 ¹ (tmt C)	Emissions Per Capita, 1995 ² (mt C)	Per Capita GDP, 1993 ³ (PPP; in Intl \$)	CO2 Emissions per GDP, 1993 ⁴ (mt / 1000 Intl \$)
1	UNITED STATES OF AMERICA	1,492,512	5.59	23,220	0.82
2	CHINA (MAINLAND)	871,311	0.73	1,838	1.25
3	RUSSIAN FEDERATION	496,182	3.34	8,320	1.72
4	JAPAN	307,520	2.46	19,920	0.44
5	INDIA	248,017	0.27	1,633	0.54
6	GERMANY	227,920	2.79	20,197	0.67
7	UNITED KINGDOM	147,964	2.53	16,302	0.60
8	UKRAINE	119,599	2.31	5,768	2.06
9	CANADA	118,927	4.04	20,970	0.69
10	ITALY (INCLUDING SAN MARINO)	111,895	1.96	16,724	0.43
11	REPUBLIC OF KOREA	101,963	2.27	9,565	0.70
12	MEXICO	97,662	1.07	7,867	0.48
13	FRANCE (INCLUDING MONACO)	92,818	1.6	18,232	0.35
14	POLAND	92,261	2.39	4,907	1.82
15	SOUTH AFRICA	83,462	2.01	3,885	1.93
16	INDONESIA	80,822	0.41	2,601	0.39
17	AUSTRALIA	79,096	4.43	18,500	0.83
18	ISLAMIC REPUBLIC OF IRAN	71,987	1.05	4,161	0.91
19	DEMOCRATIC PEOPLE S REPUBLIC OF KOREA	70,138	3.17	3,067	4.16
20	SAUDI ARABIA AND PART OF THE NEUTRAL ZONE	69,392	3.8	9,390	1.54
21	BRAZIL	68,012	0.43	4,912	0.29
22	SPAIN	63,211	1.59	12,986	0.44
23	KAZAKHSTAN	60,447	3.59	4,929	3.61
24	VENEZUELA	49,193	2.25	8,449	0.68
25	THAILAND	47,773	0.82	5,018	0.39
26	OTHER FAR EAST	47,539	2.23	N/A	N/A
27	TURKEY	45,283	0.74	4,893	0.51
28	NETHERLANDS	37,093	2.4	17,373	0.53
29	ARGENTINA	35,334	1.02	5,921	0.61
30	ROMANIA	33,049	1.45	2,130	2.52

* Does not include land use-related emissions.

¹ In thousand metric tonnes of Carbon; Source: Oak Ridge National Laboratory (1995 data)

² In metric tonnes of carbon per person; Source: Oak Ridge National Laboratory (1995 data)

³ Based on purchasing power parity; Source: World Resources Institute 1996-97 (1993 data)

metric tonnes per International \$1,000 (PPP-based); Source: World Resources Institute 1996-97 (1993 data)

Energy-Related CO₂ Emissions Projections
(million metric tons)

Source: U.S. Department of Energy and DRI/McGraw Hill

Country --	2000	% of global emissions	2010	% of global emissions
United States	5,657.7	22.2	6,314.0	20.3
Germany	942.3	3.7	1,034.0	3.3
UK	597.7	2.3	715.0	2.3
Japan	1,327.3	5.2	1,481.3	4.8
Netherlands	234.7	0.9	260.3	0.8
Canada	590.3	2.3	656.3	2.1
India	946.0	3.7	1,375.0	4.4
China	3,703.3	14.5	5,067.3	16.3
Brazil	341.0	1.3	410.7	1.3
Total	14,340.3	56.3	17,314.0	55.6

CO₂ Emission Projections for European Union
and for Selected EU Countries
(million metric tons)

Source: U.S. Department of Energy and DRI/McGraw Hill

Country	1990	2000	2005	2010
Total EU	3,311	3,443	3,714	3,832
Germany	1,082	942	1,023	1,060
UK	590	598	n.a.	715
Italy	425	480	517	546
France	418	444	499	524
Spain	235	304	337	374
Netherlands	205	246	264	275
Belgium	125	136	139	143

EU projections represent a 4% increase above 1990 emissions in 2000; 12% above in 2005; and 16% above in 2010.

**Ranking of the world's top countries in 1995 total CO2 emissions
from fossil-fuel burning, cement production, and gas flaring.***

RANK	NATION	CO2 Emissions, 1995 ¹ (tmt C)	Emissions Per Capita, 1995 ² (mt C)	Per Capita GDP, 1993 ³ (PPP; in Intl \$)	CO2 Emissions per GDP, 1993 ⁴ (mt / 1000 Intl \$)
1	UNITED STATES OF AMERICA	1,492,512	5.59	23,220	0.82
2	CHINA (MAINLAND)	871,311	0.73	1,838	1.25
3	RUSSIAN FEDERATION	496,182	3.34	8,320	1.72
4	JAPAN	307,520	2.46	19,920	0.44
5	INDIA	248,017	0.27	1,633	0.54
6	GERMANY	227,920	2.79	20,197	0.67
7	UNITED KINGDOM	147,964	2.53	16,302	0.60
8	UKRAINE	119,599	2.31	5,768	2.06
9	CANADA	118,927	4.04	20,970	0.69
10	ITALY (INCLUDING SAN MARINO)	111,895	1.96	16,724	0.43
11	REPUBLIC OF KOREA	101,963	2.27	9,565	0.70
12	MEXICO	97,662	1.07	7,867	0.48
13	FRANCE (INCLUDING MONACO)	92,818	1.6	18,232	0.35
14	POLAND	92,261	2.39	4,907	1.82
15	SOUTH AFRICA	83,462	2.01	3,885	1.93
16	INDONESIA	80,822	0.41	2,601	0.39
17	AUSTRALIA	79,096	4.43	18,500	0.83
18	ISLAMIC REPUBLIC OF IRAN	71,987	1.05	4,161	0.91
19	DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	70,138	3.17	3,067	4.16
20	SAUDI ARABIA AND PART OF THE NEUTRAL ZONE	69,392	3.8	9,390	1.54
21	BRAZIL	68,012	0.43	4,912	0.29
22	SPAIN	63,211	1.59	12,986	0.44
23	KAZAKHSTAN	60,447	3.59	4,929	3.61
24	VENEZUELA	49,193	2.25	8,449	0.68
25	THAILAND	47,773	0.82	5,018	0.39
26	OTHER FAR EAST	47,539	2.23	N/A	N/A
27	TURKEY	45,283	0.74	4,893	0.51
28	NETHERLANDS	37,093	2.4	17,373	0.53
29	ARGENTINA	35,334	1.02	5,921	0.61
30	ROMANIA	33,049	1.45	2,130	2.52

* Does not include land use-related emissions.

¹ In thousand metric tonnes of Carbon; Source: Oak Ridge National Laboratory (1995 data)

² In metric tonnes of carbon per person; Source: Oak Ridge National Laboratory (1995 data)

³ Based on purchasing power parity; Source: World Resources Institute 1996-97 (1993 data)

⁴ In metric tonnes per International \$1,000 (PPP-based); Source: World Resources Institute 1996-97 (1993 data)

Energy-Related CO₂ Emissions Projections
(million metric tons)

Source: U.S. Department of Energy and DRI/McGraw Hill

Country --	2000	% of global emissions	2010	% of global emissions
United States	5,657.7	22.2	6,314.0	20.3
Germany	942.3	3.7	1,034.0	3.3
UK	597.7	2.3	715.0	2.3
Japan	1,327.3	5.2	1,481.3	4.8
Netherlands	234.7	0.9	260.3	0.8
Canada	590.3	2.3	656.3	2.1
India	946.0	3.7	1,375.0	4.4
China	3,703.3	14.5	5,067.3	16.3
Brazil	341.0	1.3	410.7	1.3
Total	14,340.3	56.3	17,314.0	55.6

CO₂ Emission Projections for European Union
and for Selected EU Countries
(million metric tons)

Source: U.S. Department of Energy and DRI/McGraw Hill

Country	1990	2000	2005	2010
Total EU	3,311	3,443	3,714	3,832
Germany --	1,082	942	1,023	1,060
UK	590	598	n.a.	715
Italy	425	480	517	546
France	418	444	499	524
Spain	235	304	337	374
Netherlands	205	246	264	275
Belgium	125	136	139	143

EU projections represent a 4% increase above 1990 emissions in 2000; 12% above in 2005; and 16% above in 2010.

Clinton Presidential Records Digital Records Marker

This is not a presidential record. This is used as an administrative marker by the William J. Clinton Presidential Library Staff.

This marker identifies the place of a tabbed divider. Given our digitization capabilities, we are sometimes unable to adequately scan such dividers. The title from the original document is indicated below.

Divider Title: _____ **G**

اتفاقية الأمم المتحدة الإطارية
بشأن تغير المناخ

联合国气候变化纲要公约

UNITED NATIONS FRAMEWORK CONVENTION
ON CLIMATE CHANGE

CONVENTION-CADRE DES NATIONS UNIES
SUR LES CHANGEMENTS CLIMATIQUES

РАМОЧНАЯ КОНВЕНЦИЯ
ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ
ОБ ИЗМЕНЕНИИ КЛИМАТА

CONVENCION MARCO DE LAS NACIONES UNIDAS
SOBRE EL CAMBIO CLIMATICO



UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

The Parties to this Convention,

Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind,

Concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind,

Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,

Aware of the role and importance in terrestrial and marine ecosystems of sinks and reservoirs of greenhouse gases,

Noting that there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof,

Acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions,

Recalling the pertinent provisions of the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972,

Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,

Reaffirming the principle of sovereignty of States in international cooperation to address climate change,

Recognizing that States should enact effective environmental legislation, that environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply, and that standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries,

Recalling the provisions of General Assembly resolution 44/228 of 22 December 1989 on the United Nations Conference on Environment and Development, and resolutions 43/53 of 6 December 1988, 44/207 of 22 December 1989, 45/212 of 21 December 1990 and 46/169 of 19 December 1991 on protection of global climate for present and future generations of mankind,

Recalling also the provisions of General Assembly resolution 44/206 of 22 December 1989 on the possible adverse effects of sealevel rise on islands and coastal areas, particularly low-lying coastal areas and the pertinent provisions of General Assembly resolution 44/172 of 19 December 1989 on the implementation of the Plan of Action to Combat Desertification,

Recalling further the Vienna Convention for the Protection of the Ozone Layer, 1985, and the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, as adjusted and amended on 29 June 1990,

Noting the Ministerial Declaration of the Second World Climate Conference adopted on 7 November 1990,

Conscious of the valuable analytical work being conducted by many States on climate change and of the important contributions of the World Meteorological Organization, the United Nations Environment Programme and other organs, organizations and bodies of the United Nations system, as well as other international and intergovernmental bodies, to the exchange of results of scientific research and the coordination of research,

Recognizing that steps required to understand and address climate change will be environmentally, socially and economically most effective if they are based on relevant scientific, technical and economic considerations and continually re-evaluated in the light of new findings in these areas,

Recognizing that various actions to address climate change can be justified economically in their own right and can also help in solving other environmental problems,

Recognizing also the need for developed countries to take immediate action in a flexible manner on the basis of clear priorities, as a first step towards comprehensive response strategies at the global, national

and, where agreed, regional levels that take into account all greenhouse gases, with due consideration of their relative contributions to the enhancement of the greenhouse effect,

Recognizing further that low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to the adverse effects of climate change,

Recognizing the special difficulties of those countries, especially developing countries, whose economies are particularly dependent on fossil fuel production, use and exportation, as a consequence of action taken on limiting greenhouse gas emissions,

Affirming that responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty,

Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial,

Determined to protect the climate system for present and future generations,

Have agreed as follows:

ARTICLE 1

DEFINITIONS*

For the purposes of this Convention:

1. "Adverse effects of climate change" means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of

* Titles of articles are included solely to assist the reader.

natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.

2. "Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

3. "Climate system" means the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions.

4. "Emissions" means the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time.

5. "Greenhouse gases" means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.

6. "Regional economic integration organization" means an organization constituted by sovereign States of a given region which has competence in respect of matters governed by this Convention or its protocols and has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to the instruments concerned.

7. "Reservoir" means a component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored.

8. "Sink" means any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.

9. "Source" means any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.

ARTICLE 2

OBJECTIVE

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

ARTICLE 3

PRINCIPLES

In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, inter alia, by the following:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.
2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.
3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.
4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.
5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

ARTICLE 4

COMMITMENTS

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

(a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change;

(c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;

(d) Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems;

(e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;

(f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change;

(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;

(h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;

(i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations; and

(j) Communicate to the Conference of the Parties information related to implementation, in accordance with Article 12.

2. The developed country Parties and other Parties included in annex I commit themselves specifically as provided for in the following:

(a) Each of these Parties shall adopt national 1/ policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;

1/ This includes policies and measures adopted by regional economic integration organizations.

(b) In order to promote progress to this end, each of these Parties shall communicate, within six months of the entry into force of the Convention for it and periodically thereafter, and in accordance with Article 12, detailed information on its policies and measures referred to in subparagraph (a) above, as well as on its resulting projected anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the period referred to in subparagraph (a), with the aim of returning individually or jointly to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol. This information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7;

(c) Calculations of emissions by sources and removals by sinks of greenhouse gases for the purposes of subparagraph (b) above should take into account the best available scientific knowledge, including of the effective capacity of sinks and the respective contributions of such gases to climate change. The Conference of the Parties shall consider and agree on methodologies for these calculations at its first session and review them regularly thereafter;

(d) The Conference of the Parties shall, at its first session, review the adequacy of subparagraphs (a) and (b) above. Such review shall be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information. Based on this review, the Conference of the Parties shall take appropriate action, which may include the adoption of amendments to the commitments in subparagraphs (a) and (b) above. The Conference of the Parties, at its first session, shall also take decisions regarding criteria for joint implementation as indicated in subparagraph (a) above. A second review of subparagraphs (a) and (b) shall take place not later than 31 December 1998, and thereafter at regular intervals determined by the Conference of the Parties, until the objective of the Convention is met;

(e) Each of these Parties shall:

- (i) coordinate as appropriate with other such Parties, relevant economic and administrative instruments developed to achieve the objective of the Convention; and
- (ii) identify and periodically review its own policies and practices which encourage activities that lead to greater levels of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol than would otherwise occur;

(f) The Conference of the Parties shall review, not later than 31 December 1998, available information with a view to taking decisions

regarding such amendments to the lists in annexes I and II as may be appropriate, with the approval of the Party concerned;

(g) Any Party not included in annex I may, in its instrument of ratification, acceptance, approval or accession, or at any time thereafter, notify the Depositary that it intends to be bound by subparagraphs (a) and (b) above. The Depositary shall inform the other signatories and Parties of any such notification.

3. The developed country Parties and other developed Parties included in annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.

4. The developed country Parties and other developed Parties included in annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.

5. The developed country Parties and other developed Parties included in annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies.

6. In the implementation of their commitments under paragraph 2 above, a certain degree of flexibility shall be allowed by the Conference of the Parties to the Parties included in annex I undergoing the process of transition to a market economy, in order to enhance the ability of these Parties to address climate change, including with regard to the historical level of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol chosen as a reference.

7. The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their

commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.

8. In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on:

- (a) Small island countries;
- (b) Countries with low-lying coastal areas;
- (c) Countries with arid and semi-arid areas, forested areas and areas liable to forest decay;
- (d) Countries with areas prone to natural disasters;
- (e) Countries with areas liable to drought and desertification;
- (f) Countries with areas of high urban atmospheric pollution;
- (g) Countries with areas with fragile ecosystems, including mountainous ecosystems;
- (h) Countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products; and
- (i) Land-locked and transit countries.

Further, the Conference of the Parties may take actions, as appropriate, with respect to this paragraph.

9. The Parties shall take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding and transfer of technology.

10. The Parties shall, in accordance with Article 10, take into consideration in the implementation of the commitments of the Convention the situation of Parties, particularly developing country Parties, with economies that are vulnerable to the adverse effects of the implementation of measures to respond to climate change. This applies notably to Parties with economies that are highly dependent on income

generated from the production, processing and export, and/or consumption of fossil fuels and associated energy-intensive products and/or the use of fossil fuels for which such Parties have serious difficulties in switching to alternatives.

ARTICLE 5

RESEARCH AND SYSTEMATIC OBSERVATION

In carrying out their commitments under Article 4, paragraph 1 (g), the Parties shall:

(a) Support and further develop, as appropriate, international and intergovernmental programmes and networks or organizations aimed at defining, conducting, assessing and financing research, data collection and systematic observation, taking into account the need to minimize duplication of effort;

(b) Support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries, and to promote access to, and the exchange of, data and analyses thereof obtained from areas beyond national jurisdiction; and

(c) Take into account the particular concerns and needs of developing countries and cooperate in improving their endogenous capacities and capabilities to participate in the efforts referred to in subparagraphs (a) and (b) above.

ARTICLE 6

EDUCATION, TRAINING AND PUBLIC AWARENESS

In carrying out their commitments under Article 4, paragraph 1 (i), the Parties shall:

(a) Promote and facilitate at the national and, as appropriate, subregional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:

- (i) the development and implementation of educational and public awareness programmes on climate change and its effects;
- (ii) public access to information on climate change and its effects;
- (iii) public participation in addressing climate change and its effects and developing adequate responses; and

- (iv) training of scientific, technical and managerial personnel.
- (b) Cooperate in and promote, at the international level, and, where appropriate, using existing bodies:
 - (i) the development and exchange of educational and public awareness material on climate change and its effects; and
 - (ii) the development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries.

ARTICLE 7

CONFERENCE OF THE PARTIES

1. A Conference of the Parties is hereby established.
2. The Conference of the Parties, as the supreme body of this Convention, shall keep under regular review the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt, and shall make, within its mandate, the decisions necessary to promote the effective implementation of the Convention. To this end, it shall:
 - (a) Periodically examine the obligations of the Parties and the institutional arrangements under the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge;
 - (b) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention;
 - (c) Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention;
 - (d) Promote and guide, in accordance with the objective and provisions of the Convention, the development and periodic refinement of comparable methodologies, to be agreed on by the Conference of the

Parties, inter alia, for preparing inventories of greenhouse gas emissions by sources and removals by sinks, and for evaluating the effectiveness of measures to limit the emissions and enhance the removals of these gases;

(e) Assess, on the basis of all information made available to it in accordance with the provisions of the Convention, the implementation of the Convention by the Parties, the overall effects of the measures taken pursuant to the Convention, in particular environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved;

(f) Consider and adopt regular reports on the implementation of the Convention and ensure their publication;

(g) Make recommendations on any matters necessary for the implementation of the Convention;

(h) Seek to mobilize financial resources in accordance with Article 4, paragraphs 3, 4 and 5, and Article 11;

(i) Establish such subsidiary bodies as are deemed necessary for the implementation of the Convention;

(j) Review reports submitted by its subsidiary bodies and provide guidance to them;

(k) Agree upon and adopt, by consensus, rules of procedure and financial rules for itself and for any subsidiary bodies;

(l) Seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies; and

(m) Exercise such other functions as are required for the achievement of the objective of the Convention as well as all other functions assigned to it under the Convention.

3. The Conference of the Parties shall, at its first session, adopt its own rules of procedure as well as those of the subsidiary bodies established by the Convention, which shall include decision-making procedures for matters not already covered by decision-making procedures stipulated in the Convention. Such procedures may include specified majorities required for the adoption of particular decisions.

4. The first session of the Conference of the Parties shall be convened by the interim secretariat referred to in Article 21 and shall take place not later than one year after the date of entry into force of the

Convention. Thereafter, ordinary sessions of the Conference of the Parties shall be held every year unless otherwise decided by the Conference of the Parties.

5. Extraordinary sessions of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one-third of the Parties.

6. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not Party to the Convention, may be represented at sessions of the Conference of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by the Convention, and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties as an observer, may be so admitted unless at least one-third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

ARTICLE 8

SECRETARIAT

1. A secretariat is hereby established.

2. The functions of the secretariat shall be:

(a) To make arrangements for sessions of the Conference of the Parties and its subsidiary bodies established under the Convention and to provide them with services as required;

(b) To compile and transmit reports submitted to it;

(c) To facilitate assistance to the Parties, particularly developing country Parties, on request, in the compilation and communication of information required in accordance with the provisions of the Convention;

(d) To prepare reports on its activities and present them to the Conference of the Parties;

(e) To ensure the necessary coordination with the secretariats of other relevant international bodies;

(f) To enter, under the overall guidance of the Conference of the Parties, into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and

(g) To perform the other secretariat functions specified in the Convention and in any of its protocols and such other functions as may be determined by the Conference of the Parties.

3. The Conference of the Parties, at its first session, shall designate a permanent secretariat and make arrangements for its functioning.

ARTICLE 9

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

1. A subsidiary body for scientific and technological advice is hereby established to provide the Conference of the Parties and, as appropriate, its other subsidiary bodies with timely information and advice on scientific and technological matters relating to the Convention. This body shall be open to participation by all Parties and shall be multidisciplinary. It shall comprise government representatives competent in the relevant field of expertise. It shall report regularly to the Conference of the Parties on all aspects of its work.

2. Under the guidance of the Conference of the Parties, and drawing upon existing competent international bodies, this body shall:

(a) Provide assessments of the state of scientific knowledge relating to climate change and its effects;

(b) Prepare scientific assessments on the effects of measures taken in the implementation of the Convention;

(c) Identify innovative, efficient and state-of-the-art technologies and know-how and advise on the ways and means of promoting development and/or transferring such technologies;

(d) Provide advice on scientific programmes, international cooperation in research and development related to climate change, as well as on ways and means of supporting endogenous capacity-building in developing countries; and

(e) Respond to scientific, technological and methodological questions that the Conference of the Parties and its subsidiary bodies may put to the body.

3. The functions and terms of reference of this body may be further elaborated by the Conference of the Parties.

ARTICLE 10

SUBSIDIARY BODY FOR IMPLEMENTATION

1. A subsidiary body for implementation is hereby established to assist the Conference of the Parties in the assessment and review of the effective implementation of the Convention. This body shall be open to participation by all Parties and comprise government representatives who are experts on matters related to climate change. It shall report regularly to the Conference of the Parties on all aspects of its work.
2. Under the guidance of the Conference of the Parties, this body shall:
 - (a) Consider the information communicated in accordance with Article 12, paragraph 1, to assess the overall aggregated effect of the steps taken by the Parties in the light of the latest scientific assessments concerning climate change;
 - (b) Consider the information communicated in accordance with Article 12, paragraph 2, in order to assist the Conference of the Parties in carrying out the reviews required by Article 4, paragraph 2 (d); and
 - (c) Assist the Conference of the Parties, as appropriate, in the preparation and implementation of its decisions.

ARTICLE 11

FINANCIAL MECHANISM

1. A mechanism for the provision of financial resources on a grant or concessional basis, including for the transfer of technology, is hereby defined. It shall function under the guidance of and be accountable to the Conference of the Parties, which shall decide on its policies, programme priorities and eligibility criteria related to this Convention. Its operation shall be entrusted to one or more existing international entities.
2. The financial mechanism shall have an equitable and balanced representation of all Parties within a transparent system of governance.
3. The Conference of the Parties and the entity or entities entrusted with the operation of the financial mechanism shall agree upon

arrangements to give effect to the above paragraphs, which shall include the following:

(a) Modalities to ensure that the funded projects to address climate change are in conformity with the policies, programme priorities and eligibility criteria established by the Conference of the Parties;

(b) Modalities by which a particular funding decision may be reconsidered in light of these policies, programme priorities and eligibility criteria;

(c) Provision by the entity or entities of regular reports to the Conference of the Parties on its funding operations, which is consistent with the requirement for accountability set out in paragraph 1 above; and

(d) Determination in a predictable and identifiable manner of the amount of funding necessary and available for the implementation of this Convention and the conditions under which that amount shall be periodically reviewed.

4. The Conference of the Parties shall make arrangements to implement the above-mentioned provisions at its first session, reviewing and taking into account the interim arrangements referred to in Article 21, paragraph 3, and shall decide whether these interim arrangements shall be maintained. Within four years thereafter, the Conference of the Parties shall review the financial mechanism and take appropriate measures.

5. The developed country Parties may also provide and developing country Parties avail themselves of, financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels.

ARTICLE 12

COMMUNICATION OF INFORMATION RELATED TO IMPLEMENTATION

1. In accordance with Article 4, paragraph 1, each Party shall communicate to the Conference of the Parties, through the secretariat, the following elements of information:

(a) A national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, to the extent its capacities permit, using comparable methodologies to be promoted and agreed upon by the Conference of the Parties;

(b) A general description of steps taken or envisaged by the Party to implement the Convention; and

(c) Any other information that the Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculations of global emission trends.

2. Each developed country Party and each other Party included in annex I shall incorporate in its communication the following elements of information:

(a) A detailed description of the policies and measures that it has adopted to implement its commitment under Article 4, paragraphs 2 (a) and 2 (b); and

(b) A specific estimate of the effects that the policies and measures referred to in subparagraph (a) immediately above will have on anthropogenic emissions by its sources and removals by its sinks of greenhouse gases during the period referred to in Article 4, paragraph 2 (a).

3. In addition, each developed country Party and each other developed Party included in annex II shall incorporate details of measures taken in accordance with Article 4, paragraphs 3, 4 and 5.

4. Developing country Parties may, on a voluntary basis, propose projects for financing, including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects, along with, if possible, an estimate of all incremental costs, of the reductions of emissions and increments of removals of greenhouse gases, as well as an estimate of the consequent benefits.

5. Each developed country Party and each other Party included in annex I shall make its initial communication within six months of the entry into force of the Convention for that Party. Each Party not so listed shall make its initial communication within three years of the entry into force of the Convention for that Party, or of the availability of financial resources in accordance with Article 4, paragraph 3. Parties that are least developed countries may make their initial communication at their discretion. The frequency of subsequent communications by all Parties shall be determined by the Conference of the Parties, taking into account the differentiated timetable set by this paragraph.

6. Information communicated by Parties under this Article shall be transmitted by the secretariat as soon as possible to the Conference of the Parties and to any subsidiary bodies concerned. If necessary, the

procedures for the communication of information may be further considered by the Conference of the Parties.

7. From its first session, the Conference of the Parties shall arrange for the provision to developing country Parties of technical and financial support, on request, in compiling and communicating information under this Article, as well as in identifying the technical and financial needs associated with proposed projects and response measures under Article 4. Such support may be provided by other Parties, by competent international organizations and by the secretariat, as appropriate.

8. Any group of Parties may, subject to guidelines adopted by the Conference of the Parties, and to prior notification to the Conference of the Parties, make a joint communication in fulfilment of their obligations under this Article, provided that such a communication includes information on the fulfilment by each of these Parties of its individual obligations under the Convention.

9. Information received by the secretariat that is designated by a Party as confidential, in accordance with criteria to be established by the Conference of the Parties, shall be aggregated by the secretariat to protect its confidentiality before being made available to any of the bodies involved in the communication and review of information.

10. Subject to paragraph 9 above, and without prejudice to the ability of any Party to make public its communication at any time, the secretariat shall make communications by Parties under this Article publicly available at the time they are submitted to the Conference of the Parties.

ARTICLE 13

RESOLUTION OF QUESTIONS REGARDING IMPLEMENTATION

The Conference of the Parties shall, at its first session, consider the establishment of a multilateral consultative process, available to Parties on their request, for the resolution of questions regarding the implementation of the Convention.

ARTICLE 14

SETTLEMENT OF DISPUTES

1. In the event of a dispute between any two or more Parties concerning the interpretation or application of the Convention, the Parties

concerned shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.

2. When ratifying, accepting, approving or acceding to the Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute concerning the interpretation or application of the Convention, it recognizes as compulsory ipso facto and without special agreement, in relation to any Party accepting the same obligation:

(a) Submission of the dispute to the International Court of Justice, and/or

(b) Arbitration in accordance with procedures to be adopted by the Conference of the Parties as soon as practicable, in an annex on arbitration.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with the procedures referred to in subparagraph (b) above.

3. A declaration made under paragraph 2 above shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary.

4. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the arbitral tribunal, unless the parties to the dispute otherwise agree.

5. Subject to the operation of paragraph 2 above, if after twelve months following notification by one Party to another that a dispute exists between them, the Parties concerned have not been able to settle their dispute through the means mentioned in paragraph 1 above, the dispute shall be submitted, at the request of any of the parties to the dispute, to conciliation.

6. A conciliation commission shall be created upon the request of one of the parties to the dispute. The commission shall be composed of an equal number of members appointed by each party concerned and a chairman chosen jointly by the members appointed by each party. The commission shall render a recommendatory award, which the parties shall consider in good faith.

7. Additional procedures relating to conciliation shall be adopted by the Conference of the Parties, as soon as practicable, in an annex on conciliation.

8. The provisions of this Article shall apply to any related legal instrument which the Conference of the Parties may adopt, unless the instrument provides otherwise.

ARTICLE 15

AMENDMENTS TO THE CONVENTION

1. Any Party may propose amendments to the Convention.
2. Amendments to the Convention shall be adopted at an ordinary session of the Conference of the Parties. The text of any proposed amendment to the Convention shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate proposed amendments to the signatories to the Convention and, for information, to the Depositary.
3. The Parties shall make every effort to reach agreement on any proposed amendment to the Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.
4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three-fourths of the Parties to the Convention.
5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.
6. For the purposes of this Article, "Parties present and voting" means Parties present and casting an affirmative or negative vote.

ARTICLE 16

ADOPTION AND AMENDMENT OF ANNEXES TO THE CONVENTION

1. Annexes to the Convention shall form an integral part thereof and, unless otherwise expressly provided, a reference to the Convention constitutes at the same time a reference to any annexes thereto. Without

prejudice to the provisions of Article 14, paragraphs 2 (b) and 7, such annexes shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Annexes to the Convention shall be proposed and adopted in accordance with the procedure set forth in Article 15, paragraphs 2, 3, and 4.

3. An annex that has been adopted in accordance with paragraph 2 above shall enter into force for all Parties to the Convention six months after the date of the communication by the Depositary to such Parties of the adoption of the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex. The annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

4. The proposal, adoption and entry into force of amendments to annexes to the Convention shall be subject to the same procedure as that for the proposal, adoption and entry into force of annexes to the Convention in accordance with paragraphs 2 and 3 above.

5. If the adoption of an annex or an amendment to an annex involves an amendment to the Convention, that annex or amendment to an annex shall not enter into force until such time as the amendment to the Convention enters into force.

ARTICLE 17

PROTOCOLS

1. The Conference of the Parties may, at any ordinary session, adopt protocols to the Convention.

2. The text of any proposed protocol shall be communicated to the Parties by the secretariat at least six months before such a session.

3. The requirements for the entry into force of any protocol shall be established by that instrument.

4. Only Parties to the Convention may be Parties to a protocol.

5. Decisions under any protocol shall be taken only by the Parties to the protocol concerned.

ARTICLE 18

RIGHT TO VOTE

1. Each Party to the Convention shall have one vote, except as provided for in paragraph 2 below.
2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States that are Parties to the Convention. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.

ARTICLE 19

DEPOSITARY

The Secretary-General of the United Nations shall be the Depositary of the Convention and of protocols adopted in accordance with Article 17.

ARTICLE 20

SIGNATURE

This Convention shall be open for signature by States Members of the United Nations or of any of its specialized agencies or that are Parties to the Statute of the International Court of Justice and by regional economic integration organizations at Rio de Janeiro, during the United Nations Conference on Environment and Development, and thereafter at United Nations Headquarters in New York from 20 June 1992 to 19 June 1993.

ARTICLE 21

INTERIM ARRANGEMENTS

1. The secretariat functions referred to in Article 8 will be carried out on an interim basis by the secretariat established by the General Assembly of the United Nations in its resolution 45/212 of 21 December 1990, until the completion of the first session of the Conference of the Parties.
2. The head of the interim secretariat referred to in paragraph 1 above will cooperate closely with the Intergovernmental Panel on Climate Change to ensure that the Panel can respond to the need for objective scientific

and technical advice. Other relevant scientific bodies could also be consulted.

3. The Global Environment Facility of the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development shall be the international entity entrusted with the operation of the financial mechanism referred to in Article 11 on an interim basis. In this connection, the Global Environment Facility should be appropriately restructured and its membership made universal to enable it to fulfil the requirements of Article 11.

ARTICLE 22

RATIFICATION, ACCEPTANCE, APPROVAL OR ACCESSION

1. The Convention shall be subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. It shall be open for accession from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization which becomes a Party to the Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to the Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

ARTICLE 23

ENTRY INTO FORCE

1. The Convention shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.
2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.
3. For the purposes of paragraphs 1 and 2 above, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of the organization.

ARTICLE 24

RESERVATIONS

No reservations may be made to the Convention.

ARTICLE 25

WITHDRAWAL

1. At any time after three years from the date on which the Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.
2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.
3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from any protocol to which it is a Party.

ARTICLE 26

AUTHENTIC TEXTS

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

DONE at New York this ninth day of May one thousand nine hundred and ninety-two.

ANNEX I

Australia
Austria
Belarus a/
Belgium
Bulgaria a/
Canada
Czechoslovakia a/
Denmark
European Community
Estonia a/
Finland
France
Germany
Greece
Hungary a/
Iceland
Ireland
Italy
Japan
Latvia a/
Lithuania a/
Luxembourg
Netherlands
New Zealand
Norway
Poland a/
Portugal
Romania a/
Russian Federation a/
Spain
Sweden
Switzerland
Turkey
Ukraine a/
United Kingdom of Great
Britain and Northern Ireland
United States of America

a/ Countries that are undergoing the process of transition to a market economy.

ANNEX II

Australia
Austria
Belgium
Canada
Denmark
European Community
Finland
France
Germany
Greece
Iceland
Ireland
Italy
Japan
Luxembourg
Netherlands
New Zealand
Norway
Portugal
Spain
Sweden
Switzerland
Turkey
United Kingdom of Great
Britain and Northern Ireland
United States of America

Update on Ratification of the Convention - 13 May 1997

1. Mauritius	04/09/92	57. Paraguay	24/02/94	113. Saudi Arabia*	28/12/94
2. Seychelles	22/09/92	58. Austria	28/02/94	114. Solomon Islands	28/12/94
3. Marshall Islands	08/10/92	59. Brazil	28/02/94	115. Thailand	28/12/94
4. United S. of America	15/10/92	60. Argentina	11/03/94	116. Venezuela	28/12/94
5. Zimbabwe	03/11/92	61. Malta	17/03/94	117. Lao People's D.R.*	04/01/95
6. Maldives	09/11/92	62. Barbados	23/03/94	118. Jamaica	06/01/95
7. Monaco	24/11/92	63. France	25/03/94	119. Zaire	09/01/95
8. Canada	04/12/92	64. Bahamas	29/03/94	120. Kiribati	07/02/95
9. Australia	30/12/92	65. Ethiopia	05/04/94	121. Lesotho	07/02/95
10. China	05/01/93	66. Italy	15/04/94	122. Oman	08/02/95
11. Saint Kitts and Nevis	07/01/93	67. Bangladesh	15/04/94	123. Togo	08/03/95
12. Antigua and Barbuda	02/02/93	68. Ireland	20/04/94	124. Central African R.	10/03/95
13. Ecuador	23/02/93	69. Malawi	21/04/94	125. Colombia	22/03/95
14. Fiji	25/02/93	70. Nepal	02/05/94	126. Latvia	23/03/95
15. Mexico	11/03/93	71. Finland	03/05/94	127. Lithuania	24/03/95
16. Papua New Guinea	16/03/93	72. Luxembourg	09/05/94	128. Cape Verde	29/03/95
17. Vanuatu	25/03/93	73. Pakistan	01/06/94	129. Eritrea*	24/04/95
18. Cook Islands	20/04/93	74. Chad	07/06/94	130. Bulgaria	12/05/95
19. Guinea	07/05/93	75. Romania	08/06/94	131. Namibia	16/05/95
20. Armenia	14/05/93	76. Gambia	10/06/94	132. Azerbaijan	16/05/95
21. Japan	28/05/93	77. Liechtenstein	22/06/94	133. Kazakstan	17/05/95
22. Zambia	28/05/93	78. Trinidad and Tobago	24/06/94	134. Panama	23/05/95
23. Peru	07/06/93	79. Benin	30/06/94	135. Turkmenistan*	05/06/95
24. Algeria	09/06/93	80. Malaysia	13/07/94	136. Republic of Moldova	09/06/95
25. Saint Lucia	14/06/93	81. Estonia	27/07/94	137. Sierra Leone	22/06/95
26. Iceland	16/06/93	82. Poland	28/07/94	138. Niger	25/07/95
27. Uzbekistan*	20/06/93	83. Georgia *	29/07/94	139. Bhutan	25/08/95
28. Dominica*	21/06/93	84. Philippines	02/08/94	140. Mozambique	25/08/95
29. Sweden	23/06/93	85. Greece	04/08/94	141. Djibouti	27/08/95
30. Norway	09/07/93	86. Grenada	11/08/94	142. Ghana	06/09/95
31. Tunisia	15/07/93	87. Uruguay	18/08/94	143. Honduras	19/10/95
32. Burkina Faso	02/09/93	88. Indonesia	23/08/94	144. Guinea-Bissau	27/10/95
33. Uganda	08/09/93	89. Slovakia	25/08/94	145. Nicaragua	31/10/95
34. New Zealand	16/09/93	90. Costa Rica	26/08/94	146. Slovenia	01/12/95
35. Mongolia	30/09/93	91. Nigeria	29/08/94	147. El Salvador	04/12/95
36. Czech Republic	07/10/93	92. Guyana	29/08/94	148. Guatemala	15/12/95
37. Tuvalu	26/10/93	93. Kenya	30/08/94	149. Cambodia*	18/12/95
38. India	01/11/93	94. Bolivia	03/10/94	150. Morocco	28/12/95
39. Nauru	11/11/93	95. Albania*	03/10/94	151. United Arab Emirates*	29/12/95
40. Jordan	12/11/93	96. Senegal	17/10/94	152. Syrian Arab Rep.*	04/01/96
41. Micronesia	18/11/93	97. Cameroon	19/10/94	153. Belgium	16/01/96
42. Sudan	19/11/93	98. San Marino	28/10/94	154. Yemen	21/02/96
43. Sri Lanka	23/11/93	99. Belize	31/10/94	155. Niue*	28/02/96
44. United Kingdom	08/12/93	100. Comoros	31/10/94	156. Croatia	08/04/96
45. Germany	09/12/93	101. Viet Nam	16/11/94	157. Republic of Tanzania	17/04/96
46. Switzerland	10/12/93	102. Myanmar	25/11/94	158. Qatar*	18/04/96
47. Republic of Korea	14/12/93	103. Ivory Coast	29/11/94	159. Israel	04/06/96
48. Netherlands	20/12/93	104. Samoa	29/11/94	160. Iran	18/07/96
49. Denmark	21/12/93	105. D.P.R. of Korea	05/12/94	161. Haiti	25/09/96
50. Portugal	21/12/93	106. Egypt	05/12/94	162. Swaziland	07/10/96
51. Spain	21/12/93	107. Lebanon	15/12/94	163. Congo	14/10/96
52. E.E.C.	21/12/93	108. Chile	22/12/94	164. St. Vincent & Grenad.	02/12/96
53. Cuba	05/01/94	109. Bahrain	28/12/94	165. Burundi	06/01/97
54. Mauritania	20/01/94	110. Kuwait*	28/12/94	166. Ukraine	13/01/97
55. Botswana	27/01/94	111. Mali	28/12/94	*) = Accession	
56. Hungary	24/02/94	112. Russian Federation	28/12/94		

This newsletter provides general information only and does not represent the official views of the United Nations or any of its specialised agencies. Readers are welcome to reprint the contents giving appropriate credit. For a free subscription please contact IUC, UNEP, Geneva Executive Center, CP 356, 1219 Châtelaine, Switzerland. This bulletin is also available via the Internet at <http://www.unep.ch/ivcc.html> and <http://www.unfccc.de>.

I. DECISIONS ADOPTED BY THE CONFERENCE OF THE PARTIES

Decision 1/CP.1

The Berlin Mandate: Review of the adequacy of Article 4, paragraph 2 (a) and (b), of the Convention, including proposals related to a protocol and decisions on follow-up

The Conference of the Parties, at its first session,

Having reviewed Article 4, paragraph 2(a) and (b), of the United Nations Framework Convention on Climate Change, and

Having concluded that these subparagraphs are not adequate,

Agrees to begin a process to enable it to take appropriate action for the period beyond 2000, including the strengthening of the commitments of the Parties included in Annex I to the Convention (Annex I Parties) in Article 4, paragraph 2(a) and (b), through the adoption of a protocol or another legal instrument:

I

1. The process shall be guided, inter alia, by the following:

(a) The provisions of the Convention, including Article 3, in particular the principles in Article 3.1, which reads as follows: "The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof;"

(b) The specific needs and concerns of developing country Parties referred to in Article 4.8; the specific needs and special situations of least developed countries referred to in Article 4.9; and the situation of Parties, particularly developing country Parties, referred to in Article 4.10 of the Convention;

(c) The legitimate needs of the developing countries for the achievement of sustained economic growth and the eradication of poverty, recognizing also that all Parties have a right to, and should, promote sustainable development;

(d) The fact that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that the per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs;

(e) The fact that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions;

(f) Coverage of all greenhouse gases, their emissions by sources and removals by sinks and all relevant sectors;

(g) The need for all Parties to cooperate in good faith and to participate in this process.

II

2. The process will, inter alia:

(a) Aim, as the priority in the process of strengthening the commitments in Article 4.2(a) and (b) of the Convention, for developed country/other Parties included in Annex I, both

- to elaborate policies and measures, as well as
- to set quantified limitation and reduction objectives within specified time-frames, such as 2005, 2010 and 2020, for their anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol,

taking into account the differences in starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort, and also the process of analysis and assessment referred to in section III, paragraph 4, below;

(b) Not introduce any new commitments for Parties not included in Annex I, but reaffirm existing commitments in Article 4.1 and continue to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4.3, 4.5 and 4.7;

(c) Take into account any result from the review referred to in Article 4.2(f), if available, and any notification referred to in Article 4.2(g).

(d) Consider, as provided in Article 4.2(e), the coordination among Annex I Parties, as appropriate, of relevant economic and administrative instruments, taking into account Article 3.5;

(e) Provide for the exchange of experience on national activities in areas of interest, particularly those identified in the review and synthesis of available national communications; and

(f) Provide for a review mechanism.

III

3. The process will be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information, including, inter alia, reports of the Intergovernmental Panel on Climate Change. It will also make use of other available expertise.

4. The process will include in its early stages an analysis and assessment, to identify possible policies and measures for Annex I Parties which could contribute to limiting and reducing emissions by sources and protecting and enhancing sinks and reservoirs of greenhouse gases. This process could identify environmental and economic impacts and the results that could be achieved with regard to time horizons such as 2005, 2010, and 2020.

5. The protocol proposal of the Alliance of Small Island States (AOSIS), which contains specific reduction targets and was formally submitted in accordance with Article 17 of the Convention, along with other proposals and pertinent documents, should be included for consideration in the process.

6. The process should begin without delay and be conducted as a matter of urgency, in an open-ended ad hoc group of Parties hereby established, which will report to the second session of the Conference of the Parties on the status of this process. The sessions of this group should be scheduled to ensure completion of the work as early as possible in 1997, with a view to adopting the results at the third session of the Conference of the Parties.

*9th plenary meeting
7 April 1995*

CONFERENCE OF THE PARTIES
Third session
Kyoto, 1-10 December 1997
Item 5 of the provisional agenda

**ADOPTION OF A PROTOCOL OR ANOTHER LEGAL INSTRUMENT:
FULFILMENT OF THE BERLIN MANDATE**

Revised text under negotiation

Note by the secretariat

1. At its first session, the Conference of the Parties (COP) agreed to “begin a process to enable it to take appropriate action for the period beyond 2000, including the strengthening of the commitments of the Parties included in Annex I to the Convention (Annex I Parties) in Article 4, paragraph 2(a) and (b), through the adoption of a protocol or another legal instrument” (decision 1/CP.1, the “Berlin Mandate”).
2. The COP decided that this process should be conducted in an open-ended ad hoc group of Parties, the “Ad Hoc Group on the Berlin Mandate” (AGBM), “with a view to adopting the results at the third session of the Conference of the Parties” (decision 1/CP.1, para. 6).
3. The results of the work of the AGBM on a protocol or another legal instrument, as approved by the AGBM at the first part of its eighth session (see FCCC/AGBM/1997/8, para. 17), are contained in the revised text under negotiation which follows. This text has been prepared on the understanding that the consolidated negotiating text by the Chairman (FCCC/AGBM/1997/7), the reports by the Chairmen of informal consultations conducted at AGBM 7 (FCCC/AGBM/1997/INF.1), the negotiating text by the Chairman (FCCC/AGBM/1997/3/Add.1 and Corr.1) and the original proposals from Parties contained in relevant miscellaneous documents (FCCC/AGBM/1996/MISC.2/Add.1-4 and FCCC/AGBM/1997/MISC.1/Add.1-10), also remain under negotiation.

4. In the revised text under negotiation which follows, Parties may note that, in certain cases, the numbering of Articles and paragraphs and the letters used to denote Annexes differs from that used in previous texts.
5. The revised text under negotiation is presented to the Conference of the Parties at its third session as a basis for the fulfilment of the Berlin Mandate.

REVISED TEXT UNDER NEGOTIATION

Preamble

The Parties to this Protocol,

Being Parties to the United Nations Framework Convention on Climate Change, hereinafter referred to as the "Convention",

In pursuit of the ultimate objective of the Convention as stated in its Article 2,

Recalling the provisions of the Convention,

Being guided by its Article 3,

Pursuant to the Berlin Mandate adopted by decision 1/CP.1 of the Conference of the Parties to the Convention at its first session,

Have agreed as follows:

Article 1

For the purposes of this Protocol, the definitions contained in Article 1 of the Convention shall apply. In addition:

1. "Convention" means the United Nations Framework Convention on Climate Change, adopted in New York on 9 May 1992.
2. "Intergovernmental Panel on Climate Change" means the Intergovernmental Panel on Climate Change jointly established by the World Meteorological Organization and the United Nations Environment Programme in 1988.
3. "Montreal Protocol" means the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, as subsequently adjusted and amended.
4. "Parties present and voting" means Parties present and casting an affirmative or negative vote.
5. "Party" means, unless the text otherwise indicates, a Party to this Protocol.
6. "Party included in Annex I" means a Party included in Annex I to the Convention, and as may be subsequently amended by the Conference of the Parties to the Convention, or a Party which has made a notification under Article 4.2(g) of the Convention.

7. “Subsidiary bodies” means the subsidiary bodies established by Article 9 and Article 10 of the Convention.

8. *(Additional definitions, as necessary)*

Article 2

1. Each of the Parties included in Annex I [or acting under Article 10] shall:

(a) Adopt and implement policies and measures in achieving its commitments regarding quantified emission limitation and reduction objectives under Article 3, in order to promote sustainable development

Alternative A

, such as the following policies and measures, in accordance with its national circumstances:

- (i) Enhancement of energy efficiency in all sectors of the national economy;
- (ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol;
- (iii) Promotion, development and increased use of renewable forms of energy and of innovative environmentally sound technologies;
- (iv) Phasing out of market imperfections, fiscal incentives, tax exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention; and
- (v) Providing a continuous balance between those policies and measures aimed at reducing emissions of greenhouse gases in emitting sectors and those aimed at reducing consumption of their products.

Alternative B

, in particular, the following policies and measures:

- (i) Implement commitments in article 4.2(e)(ii) of the Convention and remove obstacles to the limitation and reduction of emissions of greenhouse gases and greenhouse gas precursors not controlled by the Montreal Protocol and to the enhancement of removals by sinks;

- (ii) Enhance energy efficiency in all sectors, including the energy production and transformation, industrial, transport, residential and commercial and agricultural sectors;
- (iii) Progressively reduce/phase out market imperfections and fiscal incentives that run counter to the objective of the Convention, including, *inter alia*, subsidies on all fossil fuels;
- (iv) Encourage appropriate reforms in the energy sector and regulatory regimes aimed at promoting policies and practices which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;
- (v) Promote, develop and increase the use of renewable forms of energy to ensure that a significant increase of the share of its energy supply is realized;
- (vi) Develop measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector including average fuel consumption targets for new vehicles, minimum excise duty on fuels, promotion of low emission transport modes and other instruments;
- (vii) Limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, through the International Civil Aviation Organization and the International Maritime Organization, respectively, in particular work towards introducing aviation fuel taxation;
- (viii) Protect and enhance sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol and promote sustainable forest management practices, afforestation and reforestation;
- (ix) Integrate climate change considerations into agricultural practices and promote sustainable forms of agriculture;
- (x) Research and develop innovative climate-friendly technologies, and promote the application and diffusion, including transfer of, such technologies, particularly to developing country Parties;
- (xi) Limit and/or reduce emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride;

- (xii) Apply economic instruments to ensure that market prices give appropriate signals to consumers and businesses to limit and reduce emissions of greenhouse gases; and
- (xiii) Reduce emissions of methane through recovery and use in the waste management sector, as well as in the production, transport and distribution of energy.

The Meeting of the Parties shall assess the application of these policies and measures;

Alternative A

(b) Implement policies and measures under this Article in such a way as to avoid adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4.8 and 4.9 of the Convention, taking into account Article 3.5 of the Convention.¹ The Conference of the Parties to the Convention may take further action, as appropriate, to promote the implementation of the provisions of this subparagraph;

Alternative B

(b) Implement policies and measure under this Article taking into account the adverse effects of climate change and/or the impacts of the implementation of policies and measures on developing country Parties, especially those identified in Article 4.8 of the Convention. The Meeting of the Parties may take actions, as appropriate, with respect to this paragraph;

(c) Co-operate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted and implemented under this Article, in accordance with Article 4.2(e)(i) of the Convention. To this end, these Parties shall take steps to share their experience and exchange information on these policies and measures, including developing ways of improving their comparability, transparency and effectiveness. The Meeting of the Parties shall, at its first session or as soon as practicable thereafter, consider ways to facilitate such co-operation, taking into account all relevant information.

[2. The Parties included in Annex I [or acting under Article 10] shall co-ordinate the implementation of those policies and measures identified in paragraph 1(a) above and in the development of methodologies to assess their effectiveness. The Meeting of the Parties shall, at its first session or as soon as practicable thereafter, consider ways and means to facilitate such co-ordination, including by instituting a process to develop recommendations to Parties in the

¹ This matter is linked with the issue of a compensation fund and a clean development fund. Cross-referencing may be introduced once the actual placement of the text on these funds is proposed.

form of guidelines, taking into account national circumstances and relevant work being done by other bodies.]

Article 3

Alternative A

1. Parties included in Annex I shall, individually or jointly, ensure that their net² aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their commitments, expressed in terms of emission budgets, inscribed in Attachment 1.

Alternative B

1. Each Party included in Annex I shall ensure that its net aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed its commitments, expressed in terms of emission budgets, inscribed in Attachment 1.

Alternative C

1. Each Party included in Annex I shall achieve quantified emission limitation and reduction objectives within time frames such as 2005, 2010 and 2020 for its anthropogenic emissions by sources and removals by sinks of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol.

Alternative A

2. The commitments for each Party included in Annex I shall be established using the process set out in Annex B and shall be inscribed in Attachment 1.³

Alternative B

2. Parties included in Annex I shall be subject to uniform commitments under this Article, which are as follows: *(to be completed)*.

² The use of the word "net" throughout this text will depend on the outcome of the ongoing consultations on the inclusion of sinks in the establishment of quantified emission limitation and reduction objectives.

³ For those Parties included in Annex I on the date of adoption of this Protocol, these commitments shall be established together with the adoption of this Protocol.

3. The Parties included in Annex I undergoing the process of transition to a market economy whose base year or period was established pursuant to decision 9/CP.2 of the Conference of the Parties to the Convention at its second session, shall use that base year or period for the implementation of their commitments under this Article.

4. Taking into account Article 4.6 of the Convention, in the implementation of their commitments other than those in Article 3, a certain degree of flexibility shall be allowed by the Meeting of the Parties to the Parties included in Annex I undergoing the process of transition to a market economy.

[5. Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.]

[6. Each Party acting under Article 10 shall ensure that its net aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed its commitments, expressed in terms of emission budgets and inscribed in Attachment 1, determined in accordance with the provisions of Article 10.]

[7. The first emission budget for each Party included in Annex I, from 200[] to 20[], shall be equal to [] per cent/the percentage inscribed for it in Attachment 1 for that budget period] of its net aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraphs 3 and 4 above, multiplied by five.]

[8. The second emission budget for each Party included in Annex I, from 20[] to 20[], shall be equal to [] per cent/the percentage inscribed for it in Attachment 1 for that budget period] of its net aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraphs 3 and 4 above, multiplied by five.]

[9. The first emission budget for each Party acting under Article 10 shall be equal to the percentage, determined in accordance with Article 10, of its net aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in the base year or period determined in accordance with Article 10, multiplied by five.]

[10. Any part of an emission budget, or any emission credits, which a Party acquires from another Party in accordance with the provisions of Article 6 or Article 7 shall be added to the emission budget of that Party.]

[11. Any part of an emission budget, or any emission credits, which a Party transfers to another Party in accordance with the provisions of Article 6 or Article 7 shall be subtracted from the emission budget of that Party.]

[12. The procedures established in paragraphs 7 to 11 above shall be used to calculate the emission budget of Parties included in Annex I [or acting under Article 10] for subsequent budget periods, unless otherwise decided by the Meeting of the Parties.]

[13. If a Party included in Annex I [or acting under Article 10] reduces its emissions during a budget period by a greater percentage than that required by its commitment under this Article, this difference shall, on request of that Party, be credited to its emission budget for subsequent budget periods.]

[14. If a Party included in Annex I [or acting under Article 10] exceeds its emission budget for a budget period, by up to and including [] per cent, that Party shall not be considered as being in a state of non-compliance if it subtracts the amount of excess emissions from its subsequent emission budget at a rate of [:1].]

[15. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Meeting of the Parties shall regularly review and, as appropriate, amend the list of greenhouse gases in Annex A with a view to including other greenhouse gases not controlled by the Montreal Protocol and source and sink categories. Any amendment to the list of greenhouse gases in Annex A shall be in accordance with the provisions set forth in Article 21, and shall only apply to those commitments under this Article that are adopted after the entry into force of that amendment.]

[16. Until such time as any greenhouse gases not controlled by the Montreal Protocol from any source and sink categories are covered by commitments under this Article, Parties included in Annex I [or acting under Article 10] shall make every effort to limit and reduce their anthropogenic emissions by sources and enhance their removals by sinks of such gases.]

[17. Each Party included in Annex I shall fulfil the commitments mentioned in paragraph 2 above in such a way as to minimise adverse social, environmental and economic impacts on developing country Parties, particularly those included in Article 4.8 of the Convention. A compensation fund shall be established by the Conference of the Parties to compensate the developing country Parties which may suffer social, environmental and/or economic loss as a result of actions taken to meet quantified emission limitation and reduction objectives.]

[18. A clean development fund shall be established by the Conference of the Parties to assist the developing country Parties to achieve sustainable development and contribute to the ultimate objective of the Convention. The clean development fund will receive contributions from those Parties included in Annex I found to be in non-compliance with their quantified emission

limitation and reduction objectives under this Protocol. The clean development fund will also be open for voluntary contributions from Parties included in Annex I.⁴

[Article 4⁵

1. Any Parties included in Annex I [or acting under Article 10] that have agreed that they shall jointly fulfil their obligations with respect to quantified emission limitation and reduction objectives shall be deemed to have met those obligations provided that their total combined level of emission reductions meets the levels as set out in Attachment 1 for those Parties.
2. Such agreement will become operative only if all Parties to it have notified the secretariat of the terms of the agreement which shall remain operative for the duration of this Protocol or until a decision to amend or rescind the agreement is notified to the secretariat by all Parties to the agreement.
3. The Parties to any such agreement shall notify the secretariat of the terms of the agreement on the date of deposit of their instruments of ratification, acceptance, approval or accession, or subsequently, in any event five years before the expiry of the period mentioned in Article 3. The secretariat shall in turn inform the other Parties of the terms of the agreement or any decision to amend or rescind it.
4. In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, the Parties to such an agreement shall be responsible for their levels of emissions according to the notifications made in accordance with this Article.
5. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 25, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.]

⁴ The Group of 77 and China requested that paragraphs 17 and 18 above, which reproduce part of that group's proposal contained in document FCCC/AGBM/1997/MISC.1/Add.6, be included in this text. It should be noted that, due to lack of time, it was not possible to enter into discussion on this matter during informal consultations conducted at the first part of the eighth session of the AGBM.

⁵ A Party previously proposed text, which can be found as paragraph 20 in annex I of document FCCC/AGBM/1997/INF.1, to cover the situation in which member States of regional economic integration organizations and the organizations themselves were Parties to this instrument and sought to undertake quantified emission limitation and reduction commitments as such. The text also covers possible future enlargement of regional economic integration organizations.

Article 5⁶

1. Each Party included in Annex I [or acting under Article 10] shall have in place, [no later than one year prior to the start of the first budget period,] a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Meeting of the Parties at its first session.

2. Methodologies for estimating anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties to the Convention at its third session. Where such methodologies are not used, appropriate adjustments shall be applied according to methodologies agreed upon by the Meeting of the Parties at its first session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Meeting of the Parties shall regularly review and, as appropriate, revise such methodologies and adjustments, taking fully into account any relevant decisions by the Conference of the Parties to the Convention. Any revision to methodologies or adjustments shall only be used for the purposes of ascertaining compliance with commitments under Article 3 in the case of those commitments that are adopted subsequent to that revision [, unless otherwise decided by the Meeting of the Parties].

[3. The global warming potentials used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol listed in Annex A shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties to the Convention at its third session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Meeting of the Parties shall regularly review and, as appropriate, revise the global warming potential of each such greenhouse gas, taking fully into account any relevant decisions by the Conference of the Parties to the Convention. Any revision to a global warming potential shall only apply to those commitments under Article 3 that are adopted subsequent to that revision [, unless otherwise decided by the Meeting of the Parties].]

⁶ The Alliance of Small Island States (AOSIS) has indicated that it would require further consultations on this Article, pending the elaboration of the term "net" under Article 3.1.

[Article 6⁷

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I [or acting under Article 10] may [, under the international framework to be established under paragraph 4 below,] transfer to or acquire from any other Party included in Annex I [or acting under Article 10] any of its emissions allowed under Article 3, provided that each such Party is in compliance with its obligations under Articles [2, 3,] 5 and 8, and has in place a national mechanism for the certification and verification of emission trades.
2. A Party may authorize intermediaries to participate, under the responsibility of that Party, in actions leading to the transfer or acquisition, under this Article, of emissions allowed.
3. Emissions trading, as defined in paragraph 1 above, shall be subject to the following criteria:
 - [(a) Emission levels achieved before the start of any trading system established under this Protocol can[not] be used as the basis for emissions trading;]
 - (b) Emissions trading shall be supplemental to domestic policies and measures [, which should provide the main means] [for the purposes] of meeting commitments under Article 3; and
 - (c) A Party whose emissions are in excess of its emissions budget in any budget period may acquire, but may not transfer, emissions allowed.
4. The Meeting of the Parties shall, at its first session or as soon as practicable thereafter, decide upon modalities, rules and guidelines for emissions trading, as provided for in paragraph 1 above, including methodologies for verification and reporting.
5. If a question of a Party's implementation of the requirements of Articles [2, 3,] 5 or 8 is identified in accordance with the provisions of Article 9, transfers and acquisitions of emissions allowed may continue to be made, provided that any such emissions allowed may not be used by any Party to meet its obligations under Article 3 until any issue of compliance is resolved. If a question of a Party's implementation of paragraph 3(c) above is identified in accordance with the provisions of Article 9, the provisions of this paragraph shall apply only to transfers of emissions allowed by that Party.]

⁷ The Group of 77 and China have requested the deletion of this Article.

[Article 7⁸

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I [or acting under Article 10] may receive from any other Party included in the same Annex [or acting under that Article], in conformity with the rules of this Article and the decisions adopted in accordance with paragraph 5 below, the carbon dioxide equivalent emission reductions resulting from joint implementation projects aimed at reducing anthropogenic emissions [or enhancing anthropogenic removals] of greenhouse gases listed in Annex A in any sector of the economy.
2. Parties participating in joint implementation projects have the right to share [among themselves] the credits attributed to the project.
3. In order to generate credits, joint implementation projects shall satisfy the following conditions:
 - (a) Parties participating in joint implementation projects shall be in compliance with their obligations under Articles 3, 5 and 8 of this Protocol, and shall have a national mechanism for the accounting, certification and verification of their greenhouse gas emissions;
 - (b) Participation in joint implementation projects shall be voluntary, and shall require prior acceptance, approval or endorsement by the participating Parties;
 - (c) Joint implementation projects shall bring about real, measurable and long-term environmental benefits related to the mitigation of climate change, whilst avoiding adverse environmental and social effects. Projects must provide a reduction in [or a removal by sinks of] emissions that is additional to any that would otherwise occur;
 - (d) Joint implementation projects must be compatible with, and supportive of, national environment and development priorities and strategies, and must contribute to cost-effectiveness in achieving global benefits;
 - [(e) Joint implementation projects can be undertaken by two or more Parties;]
 - (f) Joint implementation projects shall be supplemental to domestic policies and measures [, which should provide the main means of meeting commitments under Article 3];

⁸ The Group of 77 and China have requested the deletion of this Article. Other Parties, including the United States and the European Community and its member States, have indicated that they would require further consultations on this Article.

(g) Joint implementation projects shall be assessed on a project basis. Credits shall be calculated and allocated on an annual basis. They shall be subject to stringent emission reduction [or removal] verification and accountability methodologies. For each project, a baseline shall be established, against which the net environmental benefits of greenhouse gas emission mitigation and reduction achieved by the joint implementation project can be compared; and

(h) Parties shall report on joint implementation projects in their national communications using guidelines to be adopted by the Meeting of the Parties at its first session and periodically reviewed thereafter.

4. A Party may authorize intermediaries to participate, under the responsibility of that Party, in actions leading to the generation, transfer or receipt of credits for joint implementation projects under this Article.

5. The Meeting of the Parties shall adopt at its first session, and periodically review thereafter:

[(a) Criteria and guidelines for the attribution of emission credits to projects;]

(b) Guidelines for reporting on joint implementation projects and for the accounting, certification and verification of greenhouse gas emissions [and removals];

(c) Methodologies for calculating project baselines and actual emissions [or removals] in order to assess the incremental impact of the project; and

(d) Methodologies for the verification and auditing of actual emission reductions [or removals].

[6. If a decision is taken by the Conference of the Parties to the Convention at the conclusion of the pilot phase of activities implemented jointly, in accordance with decision 5/CP.1 of the Conference of the Parties to the Convention at its first session, to allow joint implementation with Parties not included in Annex I, then Parties included in Annex I [or acting under Article 10] may, jointly with other Parties, undertake projects aimed at limiting or reducing anthropogenic emissions of greenhouse gases listed in Annex A in any sector of the economy, in conformity with the rules of this Article and the decisions adopted for this purpose by the Meeting of the Parties.]

7. If a question of a Party's implementation of the requirements of this Article is identified in accordance with the provisions of Article 9, transfers and acquisitions of emission credits may continue to be made after the question has been identified, provided that any such credits may not be used by any Party to meet its obligations under Article 3 until any issue of compliance is resolved.]

Article 8

1. Each Party included in Annex I [or acting under Article 10] shall incorporate in its annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, taking into account the relevant decisions of the Conference of the Parties to the Convention, the necessary supplementary information for the purposes of ensuring compliance with Article 3 of this Protocol, to be determined in accordance with paragraph 4 below.
2. Each Party included in Annex I [or acting under Article 10] shall incorporate in its national communication, submitted under Article 12 of the Convention, the supplementary information necessary to demonstrate compliance with its commitments under this Protocol, including Articles 2, 3, 5, 6 and 7, to be determined in accordance with paragraph 4 below.
3. Each Party included in Annex I [or acting under Article 10] shall submit the information required under this Article as part of the first national communication due under the Convention after this Protocol has entered into force for that Party and after the adoption of guidelines as provided for in paragraph 4 below. The frequency of subsequent communications under this Article shall be determined by the Meeting of the Parties.
4. The Meeting of the Parties shall adopt at its first session, and review periodically thereafter, guidelines for the submission of the information required under this Article, taking into account guidelines for the submission of national communications adopted by the Conference of the Parties to the Convention. The Meeting of the Parties shall also, prior to the first budget period, decide upon modalities for the accounting of emission budgets.

Article 9

1. The national communications submitted under Article 8 by each Party included in Annex I [or acting under Article 10] including the annual inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol submitted over the reporting period, shall be reviewed by expert review teams as part of the review of communications conducted in accordance with guidelines to be adopted by the Meeting of the Parties, taking into account guidelines adopted for this purpose by the Conference of the Parties to the Convention:
 - (a) Expert review teams shall be co-ordinated by the secretariat and shall be composed of experts selected from those nominated by Parties to the Convention and, as appropriate, by intergovernmental organizations, in accordance with guidelines adopted for this purpose by the Conference of the Parties to the Convention;
 - (b) The review process shall provide a thorough and comprehensive technical assessment of all aspects of a Party's implementation of this Protocol. The expert review teams

shall prepare a report to the Meeting of the Parties assessing the implementation of a Party's commitments and identifying any potential problems in, and factors influencing, the fulfilment of commitments. Such reports shall be circulated by the secretariat to all Parties. In addition, the secretariat shall identify for further consideration by the Meeting of the Parties any questions of implementation indicated by such reports; and

(c) The Meeting of the Parties shall adopt at its first session, and review periodically thereafter, guidelines for the review of implementation by expert review teams and the identification of questions of implementation by the secretariat, taking into account guidelines for the review of communications adopted by the Conference of the Parties to the Convention.

2. The Meeting of the Parties, with the assistance of the Subsidiary Body for Implementation, shall consider:

(a) The national communications submitted by Parties under Article 8 and the reports of the expert reviews thereof conducted under this Article; and

(b) Any questions of implementation identified by the secretariat under paragraph 1(b) above, as well as any questions raised by Parties.

3. Pursuant to its consideration of the information referred to in paragraph 2(a) and (b) above, the Meeting of the Parties shall take decisions on any matter necessary for the implementation of this Protocol.⁹

[Article 10¹⁰

1. Any signatory or Party to this Protocol not included in Annex I may, at any time, notify the Depositary that it has opted to be bound by this Article. The Depositary shall inform the other signatories and Parties of any such notification.

2. Such notification, supported by an inventory of emissions of greenhouse gases not controlled by the Montreal Protocol, including for the historical base year or period chosen under subparagraph (a) below, and a projection of future emissions, shall include a formal declaration on the following points:

(a) Its chosen historical base year or period for the implementation of subparagraph (b) below; and

⁹ The final drafting of paragraphs 2 and 3 above will take into account discussions on Articles relating to compliance and institutional matters.

¹⁰ The Group of 77 and China have requested the deletion of this Article.

(b) The level of limitation or reduction of anthropogenic emissions of greenhouse gases listed in Annex A, as a basket, it is ready to undertake.

3. Where a notification has been made pursuant to paragraphs 1 and 2 above, the secretariat shall include it in the agenda for the following Meeting of the Parties which shall decide on the acceptance of such notification.

4. After its acceptance by the Meeting of the Parties, a notification by a signatory shall enter into force on the date of entry into force of this Protocol for that State, and a notification by a Party to this Protocol shall enter into force on the ninetieth day after the acceptance of such notification. The commitment under paragraph 2(b) above of Parties acting under this Article shall be inscribed in Attachment 1.

5. Parties acting under this Article shall be bound by the obligations of Parties included in Annex I with respect to the communication of information related to implementation under Article 10.2(a) and (b) and Article 12 of the Convention, and the relevant decisions of the Conference of the Parties to the Convention.]

Article 11

1. The Meeting of the Parties shall periodically review the implementation of this Protocol, with a view to evaluating its impact and effectiveness, and the adequacy of commitments [herein] [in Article 3]. These reviews shall be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information, and shall be co-ordinated with pertinent reviews under the Convention, in particular those required by Article 4.2(d) and Article 7.2(a) of the Convention. Based on these reviews, the Meeting of the Parties shall take appropriate action.

2. The first review shall take place at the [] session of the Meeting of the Parties. Further reviews shall take place in a regular and timely manner.

Article 12

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments in Article 4.1 of the Convention, and continuing to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4.3, 4.5 and 4.7 of the Convention, shall:

(a) Formulate, where relevant and to the extent possible, cost-effective [national], and where appropriate [regional] programmes for the development of local emission factors, activity data and models which reflect the socio-economic conditions of each Party for the preparation and periodic updating of national inventories of anthropogenic emissions by sources

and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, so as to move toward the improvement of their quality, using comparable methodologies to be agreed upon by the Conference of the Parties, and consistent with the guidelines for national communications adopted by the Conference of the Parties;

Alternative A

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change;

- (i) [[In the implementation of the commitments in this Article,] [Giving special consideration to supporting measures which favour the economic development of developing country Parties and minimizing adverse effects on other Parties, especially developing country Parties and in particular those identified in] [Article 4.8 of the Convention] [shall be taken into account];]
- (ii) The programmes containing measures shall, *inter alia*, and to the extent possible and relevant, [remove obstacles to the limitation or the abatement of increase of anthropogenic emissions by sources and to the enhancement of removals by sinks, enhance energy efficiency, emphasize market-oriented pricing, as appropriate encourage reforms in the energy sector and regulatory regimes, increase the use of renewable energy, make improvements in the transport and industrial sectors, promote the development and sustainable management of greenhouse gas sinks and reservoirs, improve the integration of climate change considerations into the agriculture and waste management sectors, promote voluntary arrangements with industry, and generally take actions to address climate change that, in the context of their national priorities, objectives and circumstances, are economically justified and can help address other environmental problems;] and
- (iii) The programmes containing measures shall, *inter alia*, and to the extent possible and relevant, [improve protection measures for infrastructure,] deploy adaptation technologies and know-how, develop and implement integrated mountain area plans, develop and implement integrated coastal zone management plans, develop research on impacts of, and adaptation to, climate change, develop and implement related technical capacity building and awareness raising measures, promote sustainable management plans for the conservation and enhancement of sinks and reservoirs and ecosystems and develop and implement plans for water resources and agriculture, particularly for countries affected by drought and desertification;

Alternative B

(b) Each developed country Party and each other developed Party included in Annex II to the Convention shall incorporate into its national programmes the quantified emission limitation and reduction objectives and related policies and measures under this Protocol, including details of measures undertaken by them to promote, facilitate and finance transfer of technology, provide new and additional financial resources and assist in meeting costs of adaptation in developing countries. Each developing country Party shall seek to include in its national communication, as appropriate, information on programmes which contain measures that the Party believes contribute to addressing climate change and its adverse impacts, including the abatement of increase in greenhouse gas emissions, and enhancement of and removals by sinks, capacity building and adaptation measures;

Alternative A

(c) Promote effective modalities for removing barriers to the investment in and development, application and diffusion, including the transfer of, environmentally sound technologies, know-how, practices and processes pertinent to the mitigation of, and adaptation to, climate change, and consider policies and programmes for the effective transfer of environmentally sound technologies through [financial and fiscal] incentives to promote and enhance access to, and transfer of, currently available environmentally sound technologies;

Alternative B

(c) Take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to the mitigation of, and adaptation to, climate change, in particular to developing countries, including the formulation of policies and programmes for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain, and encourage the private sector through financial and fiscal incentives to promote and enhance access to, and transfer of, patent-protected environmentally sound technologies, in particular to developing countries;

[(d) Identify and implement procedures that enable their governments to take climate change considerations into account in relevant decisions, including those of intergovernmental organizations and in particular multilateral development banks;]

[(e) Promote, co-operate and share information on the national development and use of indicators to assist in the assessment of climate change and its adverse impacts and response measures, *inter alia*, on the economy, infrastructure, human settlements, social and cultural practices, public health and the quality of the environment with a view to minimizing any adverse effects, and include such assessments in their national communications;]

(f) Co-operate in scientific and technical research and systematic observation and development of data archives to reduce uncertainties related to the climate system, the adverse impacts of climate change and the economic and social consequences of various response strategies, and promote the development and strengthening of endogenous capacities and capabilities to participate in international and intergovernmental efforts, programmes and networks on research and systematic observation, taking into account Article 5 of the Convention;

(g) Co-operate in and promote at the international level, and, where appropriate, using existing bodies, the development and implementation of education and training programmes, [including the strengthening of national institutions] and the exchange or secondment of personnel to train experts in this field, in particular for developing countries, and facilitate at the national level public awareness and public access to information on climate change. Suitable modalities should be developed to implement these activities through the relevant bodies of the Convention taking into account Article 6 of the Convention; and

[(h) Communicate to the Meeting of the Parties, through the secretariat, information related to the implementation of their commitments under this Protocol, in accordance with Article 8 and with Article 10.2(a) and (b) and Article 12 of the Convention, taking fully into account the guidelines for communications adopted by the Conference of the Parties to the Convention and any modifications thereto [as well as any subsequent guidelines that the Meeting of the Parties may adopt].]

Article 13

1. In the implementation of Article 12, Parties shall take into account the provisions of Article 4.4, 4.5, 4.7, 4.8 and 4.9 of the Convention.

2. [In accordance] [Consistent] with the provisions of Article 4.3 and Article 11 of the Convention, the developed country Parties and other developed Parties included in Annex II to the Convention shall provide [new and] additional financial resources [through the mechanism defined by the Convention] to meet the agreed full costs incurred by developing country Parties in implementing measures under Article [12(a), 12(e), 12(f) and 12(g)] herein. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by Article [12(b) and 12(c)] herein, and that are agreed between a developing country Party and the international entity or entities referred to in Article 11 of the Convention, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.

3. The developed country Parties and other developed Parties in Annex II to the Convention may also provide and developing country Parties avail themselves of, financial resources for the implementation of Article 12 herein, through bilateral, regional and other multilateral channels.

[4. The Meeting of the Parties shall decide upon the policies, programme priorities and eligibility criteria related to this Protocol and shall transmit their guidance on these issues to the Conference of the Parties to the Convention with a view to that guidance being forwarded to the operating entity of the financial mechanism.]

Article 14¹¹

1. The Conference of the Parties, the supreme body of the Convention, shall serve as the Meeting of the Parties to this Protocol.

2. Parties to the Convention that are not parties to this Protocol may participate as observers in the proceedings of any session of the Meeting of the Parties. When the Conference of the Parties exercises its functions as the Meeting of the Parties to this Protocol, decisions under this Protocol shall be taken only by those of its members that are, at that time, Parties to this Protocol.

3. When the Conference of the Parties exercises its functions as the Meeting of the Parties to this Protocol, any member of the Bureau of the Conference of the Parties representing a Party to the Convention but, at that time, not a party to this Protocol, shall be substituted by an additional member to be elected by and from amongst the Parties to this Protocol.

4. The Meeting of the Parties to this Protocol shall keep under regular review the implementation of this Protocol and shall make, within its mandate, the decisions necessary to promote its effective implementation. It shall perform the functions assigned to it by this Protocol and shall:

(a) Periodically examine the obligations of the Parties and the institutional arrangements under this Protocol, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge;

(b) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;

¹¹ There is an alternative proposal by the Group of 77 and China in document CCCC/AGBM/1997/MISC.1/Add.9.

(c) Facilitate, at the request of two or more Parties, the co-ordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;

(d) Promote and guide, in accordance with the objective of the Convention and the provisions of this Protocol, the development and periodic refinement of comparable methodologies, to be agreed on by the Meeting of the Parties, *inter alia*, for preparing inventories of greenhouse gas emissions by sources and removals by sinks, and for evaluating the effectiveness of measures to limit the emissions and enhance the removals of these gases;

(e) Assess, on the basis of all information made available to it in accordance with the provisions of this Protocol, the implementation of this Protocol by the Parties, the overall effects of the measures taken pursuant to this Protocol, in particular environmental, economic and social effects as well as their cumulative impacts, and the extent to which progress towards the objective of the Convention is being achieved;

(f) Consider and adopt regular reports on the implementation of this Protocol and ensure their publication;

(g) Make recommendations on any matters necessary for the implementation of this Protocol;

(h) Seek to mobilize additional funding in accordance with Article 13.2;

(i) Establish such subsidiary bodies as are deemed necessary for the implementation of this Protocol;

(j) Elaborate the functions and terms of reference for the subsidiary bodies established under this Protocol;

(k) Agree upon and adopt, by consensus, rules of procedure and financial rules for itself and for any subsidiary bodies;

(l) Seek and utilize, where appropriate, the services and co-operation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies; and

(m) Exercise such other functions as may be required for the implementation of this Protocol, and shall consider any assignment forwarded to it by the Conference of the Parties to the Convention.

5. The secretariat shall convene the first session of the Meeting of the Parties in conjunction with the first session of the Conference of the Parties to the Convention that is scheduled after the date of the entry into force of this Protocol. Subsequent ordinary sessions of the Meeting of the Parties shall be held every year and in conjunction with ordinary sessions of the Conference of the Parties to the Convention, unless otherwise decided by the Meeting of the Parties.

6. Extraordinary sessions of the Meeting of the Parties shall be held at such other times as may be deemed necessary by the Meeting of the Parties, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one third of the Parties.

7. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not party to the Convention, may be represented at sessions of the Meeting of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by this Protocol and which has informed the secretariat of its wish to be represented at a session of the Meeting of the Parties as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Meeting of the Parties.

8. Without prejudice to paragraphs 1 to 7 above, the Parties to this Protocol may meet at any time they deem necessary.

Article 15

1. The secretariat established by Article 8 of the Convention shall serve as the secretariat of this Protocol.

2. The functions of the secretariat under Article 8.2 and arrangements made for its functioning under Article 8.3 of the Convention shall apply *mutatis mutandis* to this Protocol. The secretariat shall also exercise the functions assigned to it under this Protocol.

[3. To the extent that they are distinct, the costs of secretariat services for this Protocol shall be met by the Parties thereto.]

Article 16

1. The Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of the Convention shall serve as the Subsidiary Body for Scientific and

Technological Advice and the Subsidiary Body for Implementation of this Protocol. Their functioning with respect to the Convention shall apply *mutatis mutandis* to this Protocol.¹²

2. Parties to the Convention that are not parties to this Protocol may participate as observers in the proceedings of any session of the subsidiary bodies. When the subsidiary bodies exercise their functions as the subsidiary bodies of this Protocol, decisions under this Protocol shall be taken only by those of its members that are, at that time, Parties to this Protocol.

3. When the subsidiary bodies exercise their functions with regard to matters concerning this Protocol, any member of the Bureau of the subsidiary bodies representing a Party to the Convention but, at that time, not a party to this Protocol, shall be substituted by an additional member to be elected by and from amongst the Parties to this Protocol.

Article 17

The Meeting of the Parties to this Protocol shall, as soon as practicable, consider the application to this Protocol of, and modify as appropriate, the multilateral consultative process referred to in Article 13 of the Convention in the light of any relevant decisions that may be taken by the Conference of the Parties to the Convention.

Article 18

The Meeting of the Parties shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of non-compliance. Any binding penalties for non-compliance under the procedures and mechanisms established under this Article shall be _ (to be completed).¹³

Article 19

The provisions of Article 14 of the Convention shall apply *mutatis mutandis* to this Protocol.

¹² Proposal for 1 bis: "Sessions of the meetings of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol shall be held in conjunction with the meetings of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of the Convention".

¹³ The Group of 77 and China stated that this matter is linked with the issue of a clean development fund. Cross-referencing may be introduced once the actual placement of the text on a clean development fund is proposed. The Group of 77 and China reserves the right to revert to this Article.

Article 20

1. Any Party¹⁴ may propose amendments to this Protocol.
2. Amendments to this Protocol shall be adopted at an ordinary session of the Meeting of the Parties to this Protocol. The text of any proposed amendment to this Protocol shall be communicated to the Parties by the secretariat at least six months before the session at which it is proposed for adoption. The secretariat shall also communicate proposed amendments to the signatories to this Protocol, to the Parties and signatories to the Convention and, for information, to the Depositary.
3. The Parties shall make every effort to reach agreement on any proposed amendment to this Protocol by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting.¹⁵ The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.
4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three fourths of the Parties to this Protocol.¹⁵
5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.

Article 21¹⁶

1. Annexes to this Protocol shall form an integral part thereof and, unless otherwise expressly provided, a reference to this Protocol constitutes at the same time a reference to any annexes thereto. Such annexes, other than Annexes A and B, shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.
2. Any Party may make proposals for an annex to this Protocol and may propose amendments to annexes to this Protocol.

¹⁴ Proposal to insert after "Party": "in the light of the review of the adequacy of Article 4. 2(a), (b) and (d) of the Convention".

¹⁵ There is an alternative proposal in document FCCC/AGBM/1997/INF.1 paragraphs 17.2 and 17.3.

¹⁶ To be revisited in the light of further discussions on Article 3.

3. Annexes to this Protocol and amendments to annexes to this Protocol shall be adopted at an ordinary session of the Meeting of the Parties. The text of any proposed annex or amendment to an annex shall be communicated to the Parties by the secretariat at least six months before the session at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed annex or amendment to an annex to the signatories to this Protocol, to the Parties and signatories to the Convention and, for information, to the Depositary.

4. The Parties shall make every effort to reach agreement on any proposed annex or amendment to an annex by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the annex or amendment to an annex shall, as a last resort, be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted annex or amendment to an annex shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.

5. An annex, other than Annex A or B, that has been proposed and adopted or amended in accordance with paragraphs 2, 3 and 4 above shall enter into force for all Parties to this Protocol six months after the date of the communication by the Depositary to such Parties of the adoption or amendment of the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex or amendment to an annex. The annex or amendment to an annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

6. If the adoption of an annex, other than Annex A or B, or an amendment to an annex involves an amendment to this Protocol, that annex or amendment to an annex shall not enter into force until such time as the amendment to this Protocol enters into force.

7. Proposals for amendments to Annexes A and B to this Protocol shall be adopted and enter into force in accordance with the procedure laid down in Article 20.

Article 22¹⁷

1. Attachments to this Protocol shall form an integral part thereof and, unless otherwise expressly provided, a reference to this Protocol constitutes at the same time a reference to any attachments thereto.

2. The adoption and entry into force of attachments, and amendments to attachments, shall be in accordance with the procedure laid down in Article 20, provided that a proposed amendment to the commitment of any Party as set out in an attachment may be adopted only with the specific consent of that Party.

¹⁷ To be revisited in the light of further discussions on Article 3.

Article 23

1. Each Party shall have one vote, except as provided for in paragraph 2 below.
2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States which are Parties to this Protocol. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.

Article 24

The Secretary-General of the United Nations shall be the Depositary of this Protocol.

Article 25¹⁸

1. This Protocol shall be open for signature and subject to ratification, acceptance, approval or accession by States and regional economic integration organizations which are Parties to the Convention. It shall be open for signature at United Nations Headquarters in New York from 16 March 1998 to 15 March 1999, and shall be open for accession from the day after the date on which this Protocol is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.
2. Any regional economic integration organization which becomes a Party to this Protocol without any of its member States being a Party shall be bound by all the obligations under this Protocol. In the case of such organizations, one or more of whose member States is a Party to this Protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under this Protocol. In such cases, the organization and the member States shall not be entitled to exercise rights under this Protocol concurrently.
3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by this Protocol. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

Article 26

No reservations may be made to this Protocol.¹⁹

¹⁸ To be revisited in the light of further discussions on Article 3 and the proposed Article 4.

¹⁹ One Party stated that it was not in agreement with this Article.

Article 27

1. This Protocol shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession, provided that the total carbon dioxide emissions for 1990 of the Parties which have deposited their instruments of ratification, acceptance, approval or accession, as indicated in their most recent national communications submitted under Article 12 of the Convention, by that time represent no less than three Gigatonnes of carbon.²⁰
2. For each State or regional economic integration organization that ratifies, accepts or approves this Protocol or accedes thereto after the conditions for the entry into force have been fulfilled in accordance with paragraph 1 above, this Protocol shall enter into force on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.
3. For the purposes of this Article, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of this organization.

Article 28

1. At any time after three years from the date on which this Protocol has entered into force for a Party, that Party may withdraw from this Protocol by giving written notification to the Depositary.
2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.
3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from this Protocol.

Article 29

The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

²⁰ There was no agreement on this paragraph.

[Annex A²¹

Gases

Carbon dioxide (CO₂)

Methane (CH₄)

Nitrous oxide (N₂O)

[Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF₆)]

Sectors/source and sink categories

Energy

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive Emissions from fuels

Solid fuels

Oil and natural gas

Other

Industrial processes

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

²¹ This list is taken from the revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories: Reporting Instructions. It is understood that the inclusion of individual sectors/source and sink categories will require further discussion and that no agreement has yet been reached on this matter.

Solvent and other product use

Agriculture

- Enteric fermentation
- Manure management
- Rice cultivation
- Agricultural soils
- Prescribed burning of savannas
- Field burning of agricultural residues
- Other

Land use change and forestry

- Changes in forest and other woody biomass stocks
- Forest and grassland conversion
- Abandonment of managed lands
- Carbon dioxide emissions and removals from soils
- Other

Waste

- Solid waste disposal on land
- Wastewater handling
- Waste incineration
- Other]

[Annex B²²

1. The process of establishing quantified emission limitation and reduction objectives for each Party subject to Article 3.2 shall take into account the differences in starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort. To this effect the differences in the following factors, fully substantiated by readily available official data, shall be taken into account, as appropriate, in the case of each Party:

- (a) Carbon dioxide equivalent emissions per capita of the greenhouse gases listed in Annex A;
- (b) Carbon dioxide equivalent emissions per unit of gross domestic product of the greenhouse gases listed in Annex A;
- (c) Gross domestic product per capita;
- (d) Gross domestic product per capita growth;
- (e) Effective emissions in a given time period, defined as the increase in global mean surface temperature at the end of the period, as determined by an agreed climate change model, resulting from both the net anthropogenic emissions of an agreed set of greenhouse gases in each year of that time period and from the initial concentrations of those greenhouse gases at the beginning of the period;
- (f) Projected population growth;
- (g) Emission intensity of gross domestic product;
- (h) Emission intensity of exports;
- (i) Fossil fuel intensity of exports; and
- (j) Share of renewable energy in energy supply.

2. In addressing national circumstances in their communications, Parties shall include data relating to the above factors, as appropriate.]

²² This Annex would only appear if the alternative of establishing differentiated commitments were adopted. In this case, the text would require further discussion, and in particular paragraph 1(e) would need to be better specified.

[Attachment 1]

Name of Party	Emission commitment	Base year or period (<i>where relevant</i>)
---------------	---------------------	---

Annex

The Geneva Ministerial Declaration**

The Ministers and other heads of delegations present at the second session of the Conference of the Parties to the United Nations Framework Convention on Climate Change,

Noting that this, our meeting at Ministerial level under the Convention, is a demonstration of our intention to continue to take an active and constructive role in addressing the threat of climate change,

1. *Recall* Article 2 of the Convention: the principles of equity and of common but differentiated responsibilities and respective capabilities in Article 3.1 of the Convention; and the provisions of Article 3.3 concerning precautionary measures; as well as the specific national and regional development priorities, objectives and circumstances of the Parties to the Convention;

2. *Recognize and endorse* the Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) as currently the most comprehensive and authoritative assessment of the science of climate change, its impacts and response options now available. Ministers believe that the Second Assessment Report should provide a scientific basis for urgently strengthening action at the global, regional and national levels, particularly action by Parties included in Annex I to the Convention (Annex I Parties) to limit and reduce emissions of greenhouse gases, and for all Parties to support the development of a Protocol or another legal instrument; and *note* the findings of the IPCC, in particular the following:

- The balance of evidence suggests a discernible human influence on global climate. Without specific policies to mitigate climate change, the global average surface temperature relative to 1990 is projected to increase by about 2C (between 1C and 3.5C) by 2100; average sea level is projected to rise by about 50 centimetres (between 15 and 95 centimetres) above present levels by 2100. Stabilization of atmospheric concentrations at twice pre-industrial levels will eventually require global emissions to be less than 50 per cent of current levels;

** For the action taken by the Conference of the Parties, see section 5 above.

- The projected changes in climate will result in significant, often adverse, impacts on many ecological systems and socio-economic sectors, including food supply and water resources, and on human health. In some cases, the impacts are potentially irreversible; developing countries and small island countries are typically more vulnerable to climate change;
- Significant reductions in net greenhouse gas emissions are technically possible and economically feasible by utilizing an array of technology policy measures that accelerate technology development, diffusion and transfer; and significant no-regrets opportunities are available in most countries to reduce net greenhouse gas emissions;

3. *Believe* that the findings of the Second Assessment Report indicate that the continued rise of greenhouse gas concentrations in the atmosphere will lead to dangerous interference with the climate system, given the serious risk of an increase in temperature and particularly the very high rate of temperature change;

4. *Recognize* also the need for continuing work by the IPCC to further reduce scientific uncertainties, in particular regarding socio-economic and environmental impacts on developing countries, including those vulnerable to drought, desertification or sea-level rise;

5. *Reaffirm* the existing commitments under the Convention, including those intended to demonstrate that Annex I Parties are taking the lead in modifying longer-term trends in emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, and *agree* to strengthen the process under the Convention for the regular review of the implementation of present and future commitments;

6. *Take note* that Annex I Parties are fulfilling their commitments to implement national policies and measures on the mitigation of climate change. Also *take note* that this is not the only commitment that Annex I Parties have made and that many of these Parties need to make additional efforts to overcome difficulties that they face in achieving the aim of returning their emissions of greenhouse gases to 1990 levels by 2000;

7. *Acknowledge* the considerable work done by the Ad Hoc Group on the Berlin Mandate (AGBM) since the first session of the Conference of the Parties, including the substantive proposals presented by a number of Parties, and *call on* all Parties to come forward with proposals to facilitate substantive negotiations beginning at the fifth session of the AGBM in December 1996;

8. *Instruct* their representatives to accelerate negotiations on the text of a legally-binding protocol or another legal instrument to be completed in due time for adoption at the third session of the Conference of the Parties. The outcome should fully encompass the remit of the Berlin Mandate, in particular:

- commitments for Annex I Parties regarding:
 - * policies and measures including, as appropriate, regarding energy, transport, industry, agriculture, forestry, waste management, economic instruments, institutions and mechanisms;
 - * quantified legally-binding objectives for emission limitations and significant overall reductions within specified time-frames, such as 2005, 2010, 2020, with respect to their anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol;
- commitments for all Parties on continuing to advance the implementation of existing commitments in Article 4.1;
- a mechanism to allow the regular review and strengthening of the commitments embodied in a protocol or other legal instrument;
- commitments to a global effort to speed up the development, application, diffusion and transfer of climate-friendly technologies, practices and processes; in this regard, further concrete action should be taken;

9. *Welcome* the efforts of developing country Parties to implement the Convention and thus to address climate change and its adverse impacts and, to this end, to make their initial national communications in accordance with guidelines adopted by the Conference of the Parties at its second session; and *call on* the GEF to provide expeditious and timely support to these Parties and initiate work towards a full replenishment in 1997;

10. *Recognize* that the continuing advancement of existing commitments by developing country Parties, in the context of their national priorities for sustainable development, requires determined and timely action, in particular by Annex II Parties. Access to financial resources and to environmentally-sound technologies consistent with Article 4.3, 4.4, 4.5 and 4.7 will be most critical;

11. *Thank* the Government of the Swiss Confederation for its contribution to the work of the second session of the Conference of the Parties in Geneva and *look forward* to meeting again at the third session in Kyoto, in 1997, thanks to the generous offer of the Government of Japan.

SCHEDULE FOR NGO EVENTS

KYOTO UNFCCC CONFERENCE: 1-10 December 1997

Kyoto, Japan

November 30 (Sun)

International NGO Symposium

"ONE DAY BEFORE COP3

A REDUCTION PROTOCOL MUST BE ADOPTED!"

Time: 12:00~17:30

Place: Otani University Auditorium, Kyoto

Phone: +81-75-254-1011

Organized by: Kiko Forum

Debate Meeting

"Stop Global Warming! No Nuclear Power"

Time: 13:00~16:30

Place: Room 51, Bldg. 1, Kyoto Industrial Textile University

Phone: +81-723-32-9279

December 1~6

Exhibition on NGO activities, workshops, slide show,
small concert-

"NGO Park"

Kita Bunka Kaikan Hall, Kyoto

Phone: +81-75-251-1001

Organizer: Kyoto Net Kiko Forum

December 1 (Mon)

Earth Environmental Meeting

"Beautiful Earth for Children -Global Warming-"

Time: 18:30~21:00

Place: Silk Hall, Osaka

Phone: +81-6-281-0309

Organizer: Network Chikyumura

Symposium

"CFC and Global Warming"

Time: 10:00~16:30

Place: Heartpia Kyoto

Phone: +81-177-43-8314
Organizer: Apple-Kai, Aomori

Workshop
"Environmental Education"
Time: 18:00~20:00
Place: The 5th Conference Room Heartpia
Phone: +81-177-43-8314
Organizer: Environmental Idea Tank
*Applicable method to school children
You could feel like one.

Live Concert & Talk
Time: 18:00~20:00
Place: Kita Bunka Kaikan Hall, Kyoto
Phone: +81-3-3352-4938
Organizer: Kogai-Chikyu-kondankai

COOP Earth Environment Forum
Time: 10:00~16:30
Place: Kita Bunka Kaikan Hall, Kyoto
Organizer: Japan Coop Union, Kyoto Coop Union, Kyoto Coop
Phone: +81-75-251-1551

December 2 (Tue)

Lecture by Kenichi Miyamoto
"Development in Japanese Environmental Policy and COP3"
Time: 10:00~12:00
Place: Big Conference Room, Heartpia Kyoto
Phone: +81-75-251-1551
Organizer: Japan COOP Union, Kyoto COOP Union, Kyoto COOP

Waste Issue Symposium
Time: 13:00~17:00
Place: Big Conference Room, Heartpia Kyoto
Phone: +81-3-3352-4938
Organizer: Pollution and Earth Environmental Issue Forum

International Citizens Conference
"Future of Sustainable and Peaceful Energy "
Time: 10:00~16:00
Place: International Exchange Center, Kyoto
Phone: +81-3-5330-9520

Organizer: Nuclear Power Resources Information,
Friends of the Earth Japan

Forum

"Think About Global Warming"

Time: 13:00~21:00

Place: Heartpia Kyoto

Phone: +81-3-5607-5975

Organizer: Citizens Network Concerning Global Warming

Symposium

"Prevention of Global Warming and City Planning"

Time: 18:30~21:00

Place: Heartpia Kyoto

Phone: +81-75-801-2308

Organizer: Machizukuri Citizens Meeting

~~~~~  
December 3 (Wen)  
~~~~~

Work Shop

"Sound of Drums"

Workshop 1: 10:00~12:30

Workshop 2 :13:00~16:00

International Exchange Center, Kyoto

Phone: +81-75-392-6975

Organizer: Taiko Center

Fee: 3,000 yen Maximum 30 people

COP3 Mystery Bus Tour

"Environmental Destruction (Sight)-seeing Spots of Kyoto"

Time: 10:00~17:00

1 bus each for North Course and South Course

Free of Charge

Bus Tour to see environmental destruction in Kyoto,
the historical and cultural city

Phone: +81-75-406-2061

Organizer: Kyoto-Network-For-Protecting-Water-and-Green

Short term and Long term, Treaty Negotiation
and Sustainable Energy

Time: 10:00~18:00

Place: Heartpia Kyoto

Phone: +81-3951-1081

Organizer: Friends of the Earth Japan

Forest Issue and Petroleum Companies

Time: 10:00~16:00

Place: International Exchange Center

Phone: +1-415-398-4404

Organizer: Rain Forest Action Network

"Yoko Etou" Slide Show

Time: 10:30~

Place: Kita Bunka Kaikan, Kyoto

Phone: +81-720-61-2435

Slides show tropical flowers

Eco Fashion Show, Energy Issue viewed through
Environmental-House-Keeping-Book

Time: 13:00~16:00

Place: Kyoto-chi-Seikatsu-Gakou Network

Phone: +81-75-381-3333

CO2 Reduction - Proposal by CASA

Time: 14:00~17:00

Place: Heartpia Kyoto

Phone: +81-6-941-3745

Organizer: CASA (Citizens Alliance for Saving the
Atmosphere and the Earth)

Shihei Umehara Concert

"Yukyu-no-Hoshi (Eternal Star)"

Time: 18:30~

Place: Kita Bunka Kaikan Hall, Kyoto

Phone: +81-75-822-3437

Organizer: Kyoto Ongaku Center

Fee: 3,500 yen

Global Environment Seminar

"Thought of the Earth 1997 (What is happening on the Earth?)"

Time: 18:30~21:00

Place: Heartpia Kyoto

Phone: +81-6-281-0309

Fee: 1,200 yen

Organizer: Network Chikyu-mura

Report

CO2 Emission, Zero Energy System

-Explore possibility of small scale thermal and

electric supply system using wood

Time: 18:00~21:00

Place: International Exchange Center Hall, Kyoto

Phone: +81-75-753-4245

Organizer: Satoyama Researching Group

December 4 (Thu)

Lecture

"If You Look at Global Warming By Heart and Nature"

Time: 13:30~16:30

Place: Heartpia Kyoto

Phone: +81-75-212-3674

Organized by: Earth Village Kyoto

Meeting

"Architecture in Sustainable Society For Cities"

Time: 13:00~21:00

Place: Heartpia Kyoto

Phone: +81-75-703-5426

Organizer: Japan Architecture Academy Global
Environmental Committee

COP3 Memorial Concert

presented by Ikuro Anzai and Kyoto Philharmonic

Time: 09:00~20:45

Place: Kita Bunka Kaikan Hall, Kyoto

Organizer: Special Earth Environmental Story Secretariat

Fee: 2,000 Yen~

Debate

"Global Warming Issue and East Asia"

Time: 18:00~21:00

Place: Heartpia Kyoto

Phone: +81-6-941-3745

Organizer: AANE (Atmosphere Action Network for East Asia)

NGO Activities Exchange Meeting

Time: 10:00~

Place: International Exchange Bldg., Kyoto

Phone: +81-75-254-1011

Organizer: Kiko Forum

December 5 (Fri)

The 6th Symposium

"Think Global Act Local"

Time: 10:00~16:00

Place: International Exchange Center, Kyoto

Phone: +81-78-735-6911 ext 330

Organizer: Japan Society for Atmospheric Environment

Citizens Energy Self-Supply Self Responsibility

Time: 13:00~16:00

Place: Heartpia Kyoto

Phone: +81-3-3834-2427

Organizer: Citizens Forum 2001, Natural Energy Promotion Forum

Speech and Exchange

"Green Purchase International Forum in Kyoto"

Time: 12:30~17:00

Place: Ootani University, Kyoto

Phone: +81-3834-2427

Organizer: Green Purchase Network

Chikyumura Meeting

"Global Warming: Things we can do"

Time: 19:00~21:00

Place: International Exchange Center

Phone: +81-6-281-0309

Organizer: Chikyumura

Message from village people leeward of Chernobyl "Nadya-no-Mura"

(Village of Nadya)

Time: 19:00~21:00

Place: International Exchange Center Hall

Phone: +81-263-46-4218

Organizer: Japan Chernobyl Foundation

COP3 Students & Sound Fair

-COP3 High School Students Session

Time: 18:30~

Place: Kita Bunka Kaikan Hall, Kyoto

Phone: +81-75-541-1425 (Studio My Pace)

Organizer: Kiko Forum Kyoto Net, Studio My Pace, Sound-Scape Association, Youth Hostel Association and Japan Noise Control Engineering Association

December 5 (Fri) to 6 (Sat)

Stop Global Warming! Think in the Kitchen

Place: Audio-Visual Room, Heartpia Kyoto

Phone: +81-45-782-3855

Organizer: Yokohama City School Network

December 6 (Sat)

Green Energy Symposium in Kyoto Conference

Time: 9:00~18:00

Place: Otani University, Kyoto

Organizer: Climate Institute

COP3 Waste Summit

Time: 10:00~17:00

Place: 7F Houkou Bldg.

Phone: +81-75-741-1772

Organizer: Waste Issue Strategy Special Committee

International Natural Energy Power Plant Forum

Time: 10:00~18:00

Place: Heartpia Kyoto

Phone: +81-3-3951-1081

Organizer: Friends of the Earth Japan, Ecotic,
Bunsangata-Energy-Kenkyu-kai

December 6 (Sat) or 7 (Sun)

Global Love-Love Fiesta

Time: 10:00~17:00

Place: Okazaki Park, Heian Shrine

Phone: +81-75-461-2801

Organizer: SCOP

December 6 (Sat)

COP3 Kids and Sound Fair International Exchange

Thailand and Japan

Time: 14:30~17:00

Place: Kita Bunka Kaikan

Phone: +81-75-541-1425 (Studio My Pace)

Organizer: Kiko Forum Kyoto Net, Studio My Pace,
Sound-scape Association and Japan Noise Control
Engineering Association

Theater

"Gagarin, the Astronaut, Appears"

-From Kyoto to Eternity-

Time: 13:00~14:00

Place: Kita Bunka Kaikan Hall, Kyoto

Phone: +81-75-256-1100

Organizer: Kyoto Consumers Group

Kyo-Machiya Renewable Wooden Architecture Tour

Time: 13:00~17:00

Meet in front of Kyoto Industrial Center

Organizer: Used Wood Bank, Kiko Forum Kyoto Net

COP3 Kids & Sound Fair Concerts

"Listen to the Sound Scene of Global Warming"

Time: 17:30~20:00

Place: Kita Bunka Kaikan Hall, Kyoto

Phone: +81-75-541-1425 (Studio My Pace)

Organizer: Kiko Forum Kyoto Net, Studio My Pace, Sound-Scape
Association, Youth Hostel Association and Japan Noise Control
Engineering Association

Stop CFC! Save the Earth For Future Life

Time: 14:00~

Place: Heartpia Kyoto

Phone: +81-797-81-2601

Organizer: Stop CFC Nation network Kansai Secretariat

"The Future of Japanese Railroad is in danger now"

Place: Big Conference Heartpia Kyoto

Phone: +81-75-722-1833

Organizer: Nation Railway Users Forum

Kyoto Green Map Exchange Workshop

Place: Kyoto North Culture Center

Phone: +81-75-702-6548

Organizer: Tennen Design Forum

Let's Play Global Warming Game

Place: Kyoto Kita Bunka Kaikan

Phone: +81-6-944-6716

Organizer: Eco Factory
Good for older than teenage kids

December 7(Sun)

Exhibition and Discussion

"Environmental Issues We Think From Our Surroundings -To Prevent Global Warming"

Place: Heartpia Kyoto

Time: 10:00~12:00

Phone: +81-564-52-8912

Organizer: Daigaku Fujin Kyokai (University Female Association),
JAUW Environment Network

Lecture and Exhibition

"Coal Power Plant Destroy The Earth"

Time: 13:00~16:00

Place: Heartpia Kyoto

Organizer: Group-Opposing-Tachibana-Coal-Power-
Plant-in-Annan-shi-Tokushima

"Let's Do It, Prevention of Global Warming"

Time: 14:00~

Place: Okazaki Park

Phone: +81-75-254-1011

Organizer: Kiko Forum

*Parade planned after the meeting

December 8 (Mon)

Short term and Long term, Treaty Negotiation
and Sustainable Energy

Time: 10:00~18:00

Place: Heartpia Kyoto

Phone: +81-3-3951-1081

Organizer: Friends of the Earth Japan

Forum

"To Prevent Global Warming"

Time: 13:00~18:00

Place: Heartpia Kyoto

Organizer: Japan Environmental Academy, Japan Scientists

Global Warming Prevention Kyoto Conference Memorial Theater

Free

Organizer: 1/2 Campaign Secretariat

Organizer: Taiko Center

Organizer: Chikyu-mura

\$B!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! (J

Energy INFOcard

United States (1996)

PETROLEUM

Production (crude oil, NGPL)(MMbd)	8.3
Net imports (crude oil & refined products)(MMbd)	8.4
Other sources(refinery gain, alcohols, other)(MMbd)	1.5
Consumption (26% of world total) (MMbd)	18.2
Dependence on foreign oil (net imports/consump.)	46%
Recoverable resources(yrs of current production)	74
Share of US oil consumption for transportation	66%
Real world oil price (1996\$/bbl) 1981(peak):\$62 1996:\$21	

NATURAL GAS

Production(dry gas) (2nd in world to Russia) (tcf)	19.0
Consumption (28% of world total) (tcf)	22.0
Consumers: industrial (incl. lease, plant, pipeline fuel)	49%,
residential 24%, commercial 15%, electric utilities 12%	
Share of consumption from Canadian imports	12%
Recoverable resources(yrs of current production)	75
Real wellhead price (1996\$/Mcf) \$2.25 vs. \$3.88 in 1983	

COAL

Production (2nd in world after China) (billion tons)	1.06
Share produced West of the Mississippi	48%
Share produced from surface mining	62%
Exports as percent of production	9%
Electricity generation share of consumption	89%
Productivity: 5.4 tons/miner-hour(1995) vs 2.7 t/m-hr(1985)	
Recoverable reserves (yrs of current production)	250+

ELECTRICITY

Utility net generation (trillion kilowatthours)	3.08
Coal 56%, Nuclear 22%, Gas 9%, Hydro 11%, Oil 2%	
Nonutility net generation (billion kilowatthours)	403
Gas 53%, Coal 15%, Wood & Waste 15%, Oil 8%, Hydro 4%, Geothermal 3%, Wind 1%, Other 1%	
Sales: residential 35%, commercial 29%, industrial 33%	
Emissions (million tons)(1995) CO ₂ -2541, SO ₂ -13, NO _x -9	
Coal fired	73% 94% 80%
Oil & gas fired	20% 4% 19%
Biomass fired	6% 2% 1%

Units:

MMbd = million barrels per day; Mcf = thousand cubic feet
tcf = trillion cubic feet; kWh = kilowatthour

Most recent annual data available as of 5/30/97

Source: Energy Information Administration,
U.S. Department of Energy.



Printed with soy ink on recycled paper

NUCLEAR

Number of operable generating units	110
Capacity (million kilowatts)	101
Capacity Factor	76% in 1996 vs. 57% in 1986

RENEWABLE ENERGY

Consumption (quadrillion Btu)	7.4
Hydropower 53%, Wood 33%, Waste 7%,	
Other(ethanol, geothermal, solar, wind) 7%	
Renewable share of total energy consumption	8%

TOTAL ENERGY and EFFICIENCY OF USE

Total Primary Energy Production (quadrillion Btu)	73
Coal 31%, Gas 27, Oil 22, Nuclear 10, Renewable 10%	
Total Consumption (quadrillion Btu)	94
Coal 22%, Gas 24%, Oil 38, Nuclear 8, Renewable 8%	
Decline in Energy/GDP ratio since 1973	1.6%/yr
Annual consumption per capita (million Btu)	354
US share of world energy consumption (1995)	25%
Number of households (million)(1993)	97
Heated by: Gas 53%, Elect. 26, Oil 12, Propane 5, Wood 3%	
Household vehicle miles/gallon: 1983(15.1) 1994(19.8)	
H. vehicle miles traveled (trillions) 1979(1.1) 1994(1.8)	
(Total stock of cars and other vehicles in household use)	

World (1995)

Primary energy production (quadrillion Btu)	363
Coal 25%, Gas 21%, Oil 39%, Hydro 7%, Nuclear 6%	
(Dispersed renewables, primarily firewood, are not included)	
Energy-related carbon emissions:	1970 1995
OECD (17% of world population in 1995)	57% 50%
Rest of World	43% 50%
Crude oil production (million bbls/day) (1996)	64
US 10%, OPEC 42%, Persian Gulf 27%	
Electricity generation (trillion kilowatthours)	12.7
US 28%, W.Europe 20%, Japan 7, China 7, Russia 7%	
Nuclear share of electricity (selected countries):	
France 77%, Germany 30%, Japan 30%, UK 25, US 19%	
Share of world nuclear electricity generation (5 largest):	
US 31%, France 16%, Japan 12, Germany 7, Russia 4%	
Retail gasoline price (regular,\$/gal) (selected countries):	
Japan 4.15, Germany 3.94, UK 3.19, Mexico 1.11, US 1.07	
Btu Equivalents: 1 bbl crude oil: 5.8 million; 1 Mcf gas: 1.03 million;	
1 kWh electric: 3.4 thousand; 1 ton coal: ~22 million;	
1 gal. gasoline: 125 thousand; 1 cord dry hardwood: 21.5 million	

For further information, please contact:

National Energy Information Center 202-586-8800
or visit our Web site: <http://www.eia.doe.gov>

PHOTOCOPY
PRESERVATION

Clinton Presidential Records Digital Records Marker

This is not a presidential record. This is used as an administrative marker by the William J. Clinton Presidential Library Staff.

This marker identifies the place of a publication.

Publications have not been scanned in their entirety for the purpose of digitization. To see the full publication please search online or visit the Clinton Presidential Library's Research Room.



Cool Facts About Global Warming



PRESS FACILITIES AND POINTS OF CONTACT

The United States Information Service (USIS) will maintain two U.S. delegation press offices during the Kyoto Conference. One is at the Takaragaike Prince ("Prince-T") Hotel adjacent to the conference site. The second is at the Holiday Inn where the U.S. delegation will be housed. The Holiday Inn office includes a small briefing room.

Takaragaike Prince ("Prince-T") Hotel

USIS Press Office
Room 470
Takaragaike Prince Hotel
Takaragaike, Sakyo-ku
Kyoto 606
hotel telephone: (075) 712-1111
hotel fax: (075) 712-7702

Press Office Telephones: (075) 723-6064
723-6067
723-6068

Press Office fax: (075) 723-6112

Holiday Inn Hotel

USIS Press Office
Hira and Horai Rooms, 3rd Floor
Holiday Inn Kyoto
36 Nishi-Hiraki-cho
Takano, Sakyo-ku, Kyoto 606
hotel telephone: (075) 721-3131
hotel fax: (075) 781-1255

Press Office Telephones: (075) 722-9530
722-9532
722-9533

Press Office fax: (075) 722-9546

Key Points of Contact:

Press Director for the U.S. Delegation: Susan Povenmire, U.S. State Department

Overall Press Coordinator: Louise Crane, Country Public Affairs Officer, USIS-Japan

Communications Director, White House Task Force on Climate Change: Natalie Wymar

USIS Liaison to the U.S. Delegation: Arthur Green, U.S. Information Agency

USIS Liaison to the U.S. Delegation: John Ohta, U.S. Information Agency

Liaison to the U.N. Press Office: Richard Mei, Deputy Press Attache, USIS-Japan

Codel Press Liaison: Mark Davidson, U.S. Information Agency

Codel Press Liaison: Douglas Wertman, U.S. Information Agency

Clinton Presidential Records Digital Records Marker

This is not a presidential record. This is used as an administrative marker by the William J. Clinton Presidential Library Staff.

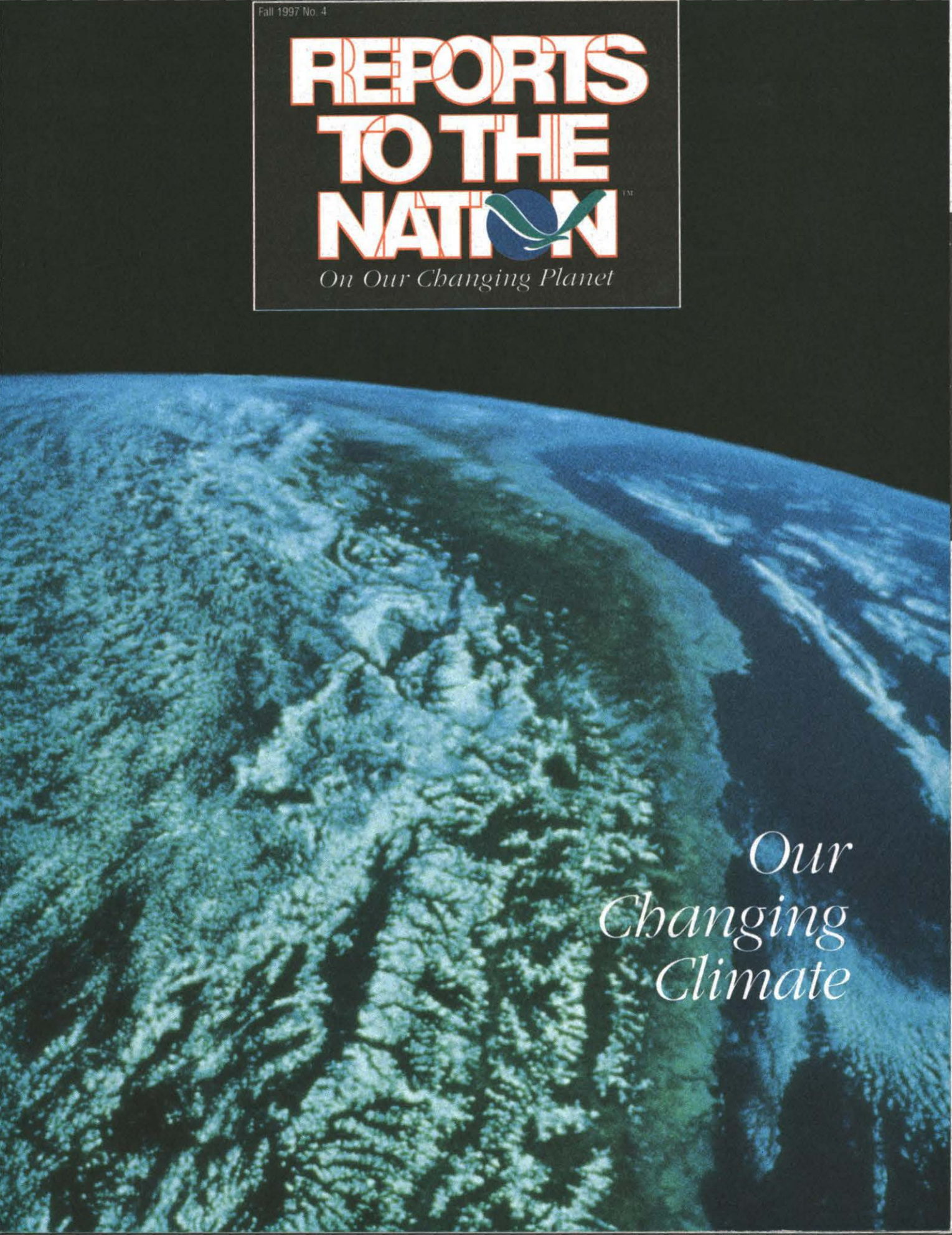
This marker identifies the place of a publication.

Publications have not been scanned in their entirety for the purpose of digitization. To see the full publication please search online or visit the Clinton Presidential Library's Research Room.

Fall 1997 No. 4

REPORTS TO THE NATION™

On Our Changing Planet

An aerial photograph of a large forest fire, showing a massive, dark, and textured area of burning forest. The fire is intense, with thick smoke rising from the ground. The surrounding landscape is dark and charred, with some lighter patches of unburned forest visible in the distance. The overall scene is one of environmental devastation.

*Our
Changing
Climate*