Talking Points

Climate Change Message

Climate change is a serious problem for us, our children and our grandchildren. The President is committed to taking responsible action to confront the threat that climate change poses. The United States will support international agreements that set realistic goals and that require participation by all countries -- industrial and developing. At home, we support flexible, market-based reforms based on the principle that vigorous economic growth and protection of the earth must go hand in hand. It is up to us not only to prepare our children for the world of the 21st century, but to protect that world for our children.

Climate Change Talking Points

The Need for Action

- There is now scientific consensus that (1) greenhouse gases are rapidly building up in the atmosphere; (2) that these increased concentrations will change our climate; and (3) that these changes may have serious adverse and disruptive consequences. Even those who would question whether climate change is *already* occurring recognize the truth of this fundamental proposition.

- In addition, the scientific evidence is clear and compelling that human activity -- notably increasing use of fossil fuels -- has in fact started to change the global climate. More than 2,600 of the world's leading scientists have said that "human-induced global climate change is underway" and that continued increases in emissions of carbon dioxide and other greenhouse gases "commits the earth irreversibly to further global climatic change and consequent ecological, economic and social disruption."

- Scientists agree that global warming and disruptions in the world's climate could seriously harm human health -- projections include an additional 50 million cases of malaria per year; increase the incidence and intensity of devastating floods and droughts; raise sea levels enough to inundate 9000 square miles along the U.S. coastline; decrease food production in some of the world's poorest nations; and threaten the survival of many plant and animal species.

- In December, more than 160 nations, including the United States, will meet in Kyoto in an effort to complete negotiations on a new international climate change agreement.

International Agreements -- Background and Principles

Background

- The new climate change convention will replace a 1992 agreement adopted at the Earth Summit in Rio. That agreement included *non-binding* commitments to reduce greenhouse gas emissions.

- The industrialized nations, including the United States, agree that the new convention should require them to set and reach *binding* commitments and timetables for reductions in greenhouse gas emissions.

- Members of the European Union and other industrialized countries have proposed that by the year 2010, developed nations agree to reduce their greenhouse gas emissions to a level 15 percent below 1990. The United States believes that target is unrealistic but we have not yet proposed our own target or timetable.

Principles

- The Clinton Administration is committed to rapid action to reach an agreement that is balanced, strong and cost-effective in time for the December meeting in Kyoto, Japan.

- The United States will only support an agreement that requires all nations to participate in a common solution to the global problem of climate change. Like other industrialized nations, we realize that our responsibility for large proportions of current emissions requires us to agree in Kyoto on binding targets for reductions. But any agreement must also require developing nations to commit to appropriate action. [Note: By the year 2035, scientists estimate that emissions from developing countries will exceed those of developed nations.]

- The Clinton Administration is committed to reaching an agreement that establishes realistic targets and timetables for reduced emissions. The United States will only make commitments that the President believes our nation can reach without slowing economic growth or damaging the economy.

- The United States believes that an agreement should be based on flexible, cost-effective methods to reduce emissions of greenhouse gases. Specifically, the United States proposal calls for "emissions trading" among industrialized nations and so-called "joint implementation," which will allow developed and developing countries to work together to reduce emissions on specific energy projects. These measures will provide strong incentives to achieve the greatest possible emission reductions at the lowest possible cost.

Domestic Policy -- Background and Principles

Background

- The United States has 4 percent of the world's population and is currently responsible for more than 20 percent of the world's carbon dioxide emissions. Emissions produced by buildings, industry and transportation each account for roughly one-third of that total. Despite efforts to reduce emissions through federal programs and voluntary partnerships, U.S. emissions of carbon dioxide and other greenhouse gases substantially exceed 1990 levels. (We are not alone; almost all industrialized nations will fail to meet the non-binding pledge in the Rio agreement to reduce emissions to 1990 levels by the year 2000.)

- Current Clinton Administration programs to reduce emissions of greenhouse gases include a partnership with Detroit to triple fuel efficiency of passenger cars; pilot projects to help farmers and industry convert crops to liquid and gaseous fuels; and a Department of Energy program to add one million solar energy systems to buildings by the year 2010.

Principles

- President Clinton is committed to responsible, balanced action to confront the threat of climate change. The Administration rejects both extremes of the climate change debate: those who want to take drastic actions that would severely disrupt our economy and those who dismiss the scientific evidence and say we need not act.

- President Clinton will only take actions that preserve our vigorous economic growth. The Administration believes -- and has demonstrated -- that environmental protection and economic growth can and should go hand in hand. More than 2000 economists, including eight Nobel Laureates, have concluded that there are policy options "that would slow climate change without harming American living standards, and these measures may in fact improve U.S. productivity in the longer run."

- The Clinton Administration will emphasize solutions based on flexible, market-based policies, not government regulation. These programs include emissions trading within the United States.

- The Clinton Administration will invest in research and development to promote technologies that reduce the emissions that cause climate change, save energy, and reduce our dependence on foreign oil. We will work to help American industry increase its role as the world leader in developing environmental technology.

Conclusion

- Whenever the security of our people has been threatened, the United States has led the world to action. Climate change poses a threat to all people -- one that is not immediately apparent today but will grow in severity and significance in years to come. The world must act. And the United States must lead. The President has made it clear that he intends to do so and has committed himself both to develop balanced, flexible policies to accomplish our aims and to lead a major effort to educate the public about the importance of this issue -- an effort that will culminate in a White House Conference on Climate Change in early October. It is the challenge and the commitment of this Administration to continue promoting prosperity as we protect the environment.

Talking Points

Climate Change:
Basic Background

"The science is clear and compelling. We humans are changing the global climate. Concentrations of greenhouse gases in the atmosphere are at their highest levels in more than 200,000 years, and climbing sharply....Here in the United States, we must do better....In order to reduce greenhouse gases and grow the economy, we must invest more in the technologies of the future. I am directing my Cabinet to work to develop them. Government, universities, business and labor must work together....[I]n order to do our part, we have to first convince the American people and the Congress that the climate change problem is real and imminent."

-- President Bill Clinton
United Nations, June 26, 1997

Why is Climate Change on the Agenda Now?

In less than five months, the world's nations will convene in Kyoto, Japan to set binding greenhouse gas emission limits for developed nations. This meeting, called the Third Conference of the Parties, will follow critical negotiating sessions to be held in Bonn, Germany over the next several months.

The Kyoto Conference is the culmination of a process that began in 1992 at the United Nations Conference on Environment and Development in Rio de Janeiro (the "Rio Summit"). The Rio Summit produced the Framework Convention on Climate Change (the "Framework" or "FCCC"), to which 165 nations are presently parties.

Under the Rio Framework, developed nations agreed to a *non-binding* goal of lowering their emission of greenhouse gases to 1990 levels by the year 2000. Nearly every developed nation, including the U.S., will fail to achieve this goal.

In 1995, the parties to the Rio Framework met in Germany (the "First Conference of the Parties") and negotiated the Berlin Mandate. Under the Mandate, the parties agreed (i) that they would continue to pursue the Rio Framework's goals, (ii) that the developed nations should negotiate a "follow-on" agreement, which would cover the post-2000 period, and (iii) that there would be no new commitments for developing nations, though developing nations would be required to advance implementation of commitments they made in Rio.

In 1996, the parties met again at Geneva, Switzerland (the "Second Conference of the Parties"). There, the United States called for a binding agreement on greenhouse gas emissions in the post-2000 period. The Administration now intends to conclude such an agreement in December in Kyoto.

The Science is Compelling.

Greenhouse gases. Scientists have long understood that greenhouse gases in nature (principally water vapor, carbon dioxide, methane and nitrous oxides) keep the Earth's temperature an estimated 60 degrees Fahrenheit warmer than it would be absent such gases, thus sustaining our existence on the planet.

As a result of human activities, the concentration of greenhouse gases have increased markedly since the Industrial Revolution. The concentration of CO2 -- which accounts for about 85% of all greenhouse gases -- has increased 30% since preindustrial times from 280 to 360 parts per million. Current projections indicate that, unless action is taken, atmospheric concentrations of CO2 will dramatically increase in the next century to over 700 ppm -- which would be the highest level of CO2 in 50 million years.

Scientific consensus. There is no serious scientific debate about the proposition that (1) greenhouse gases are rapidly building up in the atmosphere; (2) that these increased

concentrations will change our climate; and (3) that these changes may have serious adverse and disruptive consequences. Even those who would question whether climate change is *already* occurring recognize the truth of this fundamental proposition. During the next century, if we continue on a business-as-usual trajectory, climate models project an increase in global temperature of about 2-6.5° F -- a rate of warming faster than at any time in the last 10,000 years. By way of reference, a cooling in average temperatures of just 9° F brought on the last ice age.

In addition, the scientific evidence is clear and compelling that human activity -- notably increasing use of fossil fuels -- has in fact started to change the global climate. The UN-sponsored Intergovernmental Panel on Climate Change (the "IPCC"), concluded in 1995 that "the balance of evidence suggests that there is discernible human influence on climate change." Some 2600 of the world's leading scientists have publicly endorsed the IPCC's findings, saying that "[h]uman-induced global climate change is under way." The scientists observed that "further accumulation of greenhouse gases commits the Earth irreversibly to further global climatic change and consequent ecological, economic and social disruption." Among the evidence consistent with the view that climate change is already occurring:

- Average global temperature has increased by almost 1.0° F in the past century;
- The ten warmest years of the century have occurred since 1980, and 1995 was the warmest year on record;
- The 1980s were the warmest decade on record;
- Sea level has risen 4-10 inches in the past century.
- U.S. rainfall has increased 6% over the last century, an amount of water equal to half the yearly flow the Mississippi river;
- At the same time, increased evaporation has caused some areas, such as the Great Plains, California, Texas and Maine, to get drier.
- Mountain glaciers are melting worldwide. For example, Glacier National Park has lost 70% of its glacial area in the last 100 years.

The impact of a business-as-usual increase in greenhouse gas concentrations. The impacts could be very serious as CO2 concentrations reach and exceed two times preindustrial levels:

- **Human Health:** Warmer temperatures are projected to increase fatalities from heat stress of the kind that killed 400 in Chicago in 1995 and expand the geographic ranges for diseases like malaria and dengue fever. Fifty to eighty million more cases of malaria alone are projected worldwide.

- **Extreme weather:** The change in the planet's water cycle is projected to lead to increased frequency and intensity of extreme weather events such as floods and drought.

- **Sea Level Rise:** Sea level is projected to increase by an additional 6-38 inches by 2100. Scientists' "best guess" estimate of a 20-inch rise would inundate 9,000 square miles of the United States, with Florida and the Gulf Coasts most at risk.

- **Agricultural Impacts:** Changes in growing seasons, water availability, soil moisture and precipitation could cause significant regional shifts in food productivity, with decreases in food production in many of the world's poorest regions.

- **Natural ecosystems will be degraded:** For example, during the next century the geographical range of forests is expected to move several hundred miles north exceeding the ability of many forests to migrate. The northeast may lose its beech trees and sugar maples. Western conifer forests will likely shrink.

Some Key Facts About Emissions.

- Climate change is a global issue, requiring a global response. While developed countries have contributed 75 percent of total greenhouse gas emissions since the beginning of the Industrial Revolution, by 2035, emissions from developing countries are expected to exceed those from developed countries.

- The United States, with only 4% of the world's population, is responsible for more than 20% of global emissions. U.S. per capita emissions are roughly 50% greater than the OECD average and eight times that of China.

- CO_2 emissions account for about 85% of all US greenhouse gas emissions, and fossil fuel combustion makes up 99% of U.S. CO_2 emissions.

- 1995 CO2 emissions in the United States were divided equally among the three major end uses: buildings (35%), industry (34%), and transportation (31%).

- Current carbon emissions in the United States by fuel type are: petroleum (42%), natural gas (23%), and coal (35%)

<u>Climate Change Can Be Addressed Without Hurting the Economy</u>

The President's remarks to the Business Roundtable: "I have devoted my passion and the best ideas I could come up with to try to get this country in good shape economically and socially. But I do believe it is folly for us to believe that we can go into the next century without a strategy that says we're going to be responsible and we're going to do our part and lead the world on environmental issues . . . Let's find a way to preserve the environment, to meet our international responsibilities, to meet our responsibilities to our children, and grow the economy at the same time."

The economists agree. More than 2400 economists, including eight Nobel laureates, have publicly declared that, if implemented properly, emission reductions "would slow climate change *without harming American living standards*, and these measures may in fact improve U.S.

productivity in the longer run."

Our international policies. The United States has proposed a three-part framework for achieving a stronger, more cost-effective and comprehensive treaty:

- **Binding Emission Targets.** To help guarantee the effectiveness of global efforts to reduce greenhouse gas emissions, the U.S. will promote binding targets for developed nations to reduce their emissions. Almost all developed nations, including the United States, will fall well short of the non-binding goals in the 1992 Rio Convention.

- **Flexibility.** To ensure that emission reductions are pursued in the most cost-effective manner, the Administration supports proposals for maximum flexibility, such as allowing the trading of emission permits among developed nations and allowing so-called "joint implementation," under which developed and developing countries work together on specific energy projects to reduce emissions. These measures can provide strong incentives to achieve the greatest possible reductions at the lowest possible cost.

- **Participation of Developing Countries.** Climate change is a global problem that requires all nations to commit to appropriate action. While it is proper for industrialized nations to take the first steps, the developing countries -- whose emissions are projected to catch up with those of the developed world by 2035 -- must be part of the solution. The U.S. proposal calls on developing countries to advance their existing commitments under the 1992 Convention; and to agree to a subsequent negotiation in which, by 2005, they will accept binding targets and agree on a mechanism allowing "graduation" from developing country status to developed country status.

Our domestic policies. The President has not yet endorsed any emissions target or timetable, and specific policies to implement a target and timetable are still being developed. But the Administration's policy work is guided by certain broad principles.

- President Clinton is committed to responsible, balanced action to confront the threat of climate change. The Administration rejects both extremes of the climate change debate: those who want to take drastic actions that would severely disrupt our economy and those who dismiss the scientific evidence and say we need not act.

- President Clinton will only take actions that preserve our vigorous economic growth. The Administration believes -- and has demonstrated -- that environmental protection and economic growth can and should go hand in hand.

- The Clinton Administration will emphasize solutions based on flexible, market-based policies, not government regulation. These programs include emissions

trading within the United States.

- The Clinton Administration will invest in research and development to promote technologies that reduce the emissions that cause climate change, save energy, and reduce our dependence on foreign oil. We will work to help American industry increase its role as the world leader in developing environmental technology.

The Administration Has a Strong Record to Build Upon.

Over the last four and a half years, the Administration has built a strong climate change record.

The Climate Change Action Plan (CCAP). CCAP began in 1993 with a goal of returning total U.S. greenhouse gas emissions to their 1990 levels by the year 2000. Although the CCAP will fall well short of this goal, CCAP programs will result in emissions reductions of about 76 million metric tons of carbon-equivalent by the year 2000.

The plan includes some 50 initiatives covering major sectors of the U.S. economy. It addresses energy demand, energy supply, and forestry. Agency participants include DOE, EPA, and USDA. The CCAP includes measures to reduce all significant greenhouse gases in all sectors of the economy. It is a voluntary program that relies on partnerships and cooperation between the public and private sectors in developing new low-emissions, high-efficiency technologies.

Because of lower-than-expected fuel prices and higher-than expected economic growth and electricity demand, overall emissions growth has outstripped the emissions reductions achieved by CCAP. Additionally, Congress has made significant reductions (about 40% in recent years) in CCAP's funding, thus preventing full implementation of some of CCAP's initiatives.

Federal energy consumption. The Energy Policy Act of 1992 and Executive Order 12902 challenge Federal building managers to reduce energy consumption by 20% per square foot by 2000, and 30% by 2005, relative to a 1985 baseline. With declining Federal resources available, the Federal Energy Management Program is emphasizing the use of private-sector investment through energy-saving performance contracting and utility financing of energy efficiency to meet these goals. The combination of Federal funding and anticipated private sector funding of up to $4.3 billion through 2005 should make these goals attainable.

Partnership for a New Generation Vehicle (PNGV). Although the fuel economy of cars has nearly doubled in the last 25 years, Americans travel more than twice as many miles today as we did in 1970, with a net result of increased fuel consumption and increased greenhouse gas emissions from personal vehicles. While technology has reduced many of the emissions from automobiles, CO_2 emissions are the exception.

The PNGV program joins the big three U.S. automakers, Federal agencies and many suppliers of materials and equipment in an effort to develop a more efficient automobile. The program's goal

is to triple the fuel efficiency of passenger cars with no decrease in comfort or safety.

Partnership for Advancing Technologies in Housing (PATH). Energy use in buildings is responsible for about a third of U.S. greenhouse gas emissions, and rising. Major improvements can be made in the quality of housing, while reducing energy use by 50% or more and lowering costs. The PATH initiative will bring together building suppliers, assemblers, insurance companies, and state and local regulators to explore and demonstrate how innovation in construction markets can achieve environmental goals with an affordable, attractive product. Discussions are underway with jurisdictions in Colorado, Florida and California. HUD, DOE, and NIST are playing major roles.

Biomass Energy Initiative. The biomass energy initiative involves converting agricultural crops to liquid and gaseous fuels. The Departments of Energy and Agriculture are now working with private companies to improve technologies and to demonstrate the potential for such power projects to aid rural development. The initiative has sponsored pilot projects in New York, Minnesota and Iowa.

Million Solar Roofs Initiative. DOE will lead an effort to place one million solar energy systems on U.S. roofs by the year 2010, by using existing Federal grants, procurement, and other programs, and by working with local communities, businesses, governments, and utilities to increase sales of solar energy systems. By 2010, this initiative could avert carbon dioxide emissions equivalent to those of 850,000 cars and will produce the same electrical generating capacity as several coal-fired power plants.

The President's Committee of Advisors on Science and Technology (PCAST). The President directed PCAST to conduct a review of national energy R&D policies, which would assess their adequacy and "ensure the United States has a program that addresses its energy and environmental needs for the next century." PCAST will present its recommendations on publicly-supported R&D, incentives for private energy R&D, and commitments to international energy R&D, by October 1, 1997.

Regional Climate Change Workshops. The White House Office of Science and Technology Policy and the U.S. Global Change Research Program are sponsoring a series of workshops to examine the vulnerabilities of various regions of the United States to climate variability and climate change and to gather information across regions to support national scientific assessment (called for in the Global Change Research Act of 1990). Eighteen workshops with the full involvement of relevant stakeholders are being held in different regions of the country.

Climate Change Technology Initiative

1999 Budget Briefing Materials

February 2, 1998

> ... So while we recognize that the challenge we take on today is larger than any environmental mission we have accepted in the past, climate change can bring us together around what America does best -- we innovate, we compete, we find solutions to problems, and we do it in a way that promotes entrepreneurship and strengthens the American economy.
>
> If we do it right, protecting the climate will yield not costs, but profits; not burdens, but benefits; not sacrifice, but a higher standard of living.
>
> President Clinton, October 22, 1997

Climate Change Technology Initiative

Introduction

Last October the President outlined the three-stage approach the US will take in addressing climate change. The first stage consists of immediate actions to stimulate development and use of technologies that can minimize the cost of meeting US goals in reducing greenhouse gas emissions. Stage two will review options created through ongoing technology development and lead to detailed plans for a market-based permit trading system for carbon emissions. Stage three will begin to implement a market-based emissions-trading system.

The President's 1999 budget includes $2.7 billion over five years for increased R&D and deployment of energy efficiency, renewable energy, and carbon-reduction technologies, and an additional $3.6 billion over five years in tax incentives. These provide a total initiative of $6.3 billion in new funding and tax expenditures over five years to stimulate adoption of more efficient technologies in buildings, industrial processes, vehicles, and power generation.

During the coming year, federal agencies will supplement these activities with three other actions outlined in the President's plan:

- Active support for industry-by-industry consultations with all major business sectors.
- Changes in federal procurement policy to ensure that Federal agencies make all cost-effective energy investments and take advantage of energy savings performance contracts and other services available from private investors.
- Introduction of utility restructuring proposals that will reduce carbon emissions while saving customers billions of dollars in electric bills.

Section 1 below shows several summary tables that provide a variety of views or perspectives on the Climate Change Technology Initiative (CCTI) – by agency, by type of activity, direct spending, and tax incentives. Following that, in Section 2, are programmatic details organized by the sector or technical topic on which they are focused.

Section 1

Summary Tables

Table 1. Climate Change Technology Initiative (Agencies)

(Direct programs and tax incentives, millions of dollars)

Selected Agencies	1997 Actual	1998 Estimate	1999 Proposed	Increase: 1998 to 1999	Increase: 5-Year Total
Energy	657	729	1,060	331	1,899
Environmental Protection Agency	86	90	205	115	677
Housing and Urban Development	–	–	10	10	10
Commerce	–	–	7	7	38
Agriculture	–	–	10	10	86
Appropriations Sub-Total	743	819	1,292	473	2,710
Tax Incentives	–	–	421	421	3,635
Total Initiative	743	819	1,713	894	6,345

Table 2. Two Views of the Climate Change Technology Initiative

Principal Technical Areas

- Efficient buildings, heating and cooling, and appliances
- Efficient transportation (automobiles, trucks, and transportation planning)
- Efficient industrial processes and technologies
- Low-carbon generation of electricity using renewable energy, and
- Techniques for permanently capturing and sequestering greenhouse gases.

Major Types of Federal Activity

- Cost-shared R&D partnerships with industry.
- Supporting research in materials, combustion, and biotechnology.
- Limited-duration tax incentives to promote adoption of major technical innovations.
- Labeling and information programs to stimulate markets for highly efficient products.
- Policy studies and market incentives.

The Climate Change Technology Initiative encompasses programs in five agencies, and most of the participating agencies are expected to make contributions in several sectors, so coordination is important. Table 3 shows the total multi-agency funding applied to climate change issues in the key end-use sectors and technical topics that form the basis for interagency coordination in the CCTI.

Table 3. Climate Change Technology Initiative (Sectors)
(Direct programs and tax incentives, millions of dollars)

Key Sectors and Topics	1998 Estimate	1999 Proposed			Total Increase 1998 – 1999	Total Tax Incentives 1999-2003
		Appropriations	Tax Incentives	Total		
Buildings	146	264	136	400	254	1,696
Industry	156	216	276	492	336	1,004
Transportation	246	356	4	360	114	744
Electricity	220	312	5	317	97	191
Carbon Sequestration and Cross-Cutting Research	0	42	-	42	42	-
Policy Analysis, Market Incentives	6	26	-	26	20	-
Program Direction	45	57	-	57	12	-
Total	**819**	**1,292**	**421**	**1,713**	**894**	**3,635**

FY 1999

The budget provides tax incentives to accelerate the adoption of new technologies, which complements the direct Federal R&D and deployment spending. Incentives are provided in each of the major sectors that the CCTI addresses, as shown in Table 4.

Table 4. Climate Change Technology Initiative Tax Incentives
(Tax Expenditures, millions of dollars)

	1999	Total 1999-2003
Buildings		
Provide tax credit for energy-efficient building equipment	123	1,379
Provide tax credit for new energy-efficient homes	7	197
Provide tax credit for rooftop solar systems	6	120
Transportation		
Provide tax credits for highly fuel efficient vehicles (begins in year 2000)	—	660
Equalize tax treatment of parking, transit, and vanpool benefits	4	84
Industry		
Provide tax credit for combined heat and power systems	270	942
Provide tax credit for certain circuit breaker equipment	3	36
Provide tax credit for PFC/HFC recycling equipment	3	26
Electricity		
Extend production tax credit for electricity produced from wind and biomass	5	191
Total	**421**	**3,635**

Section 2

Programmatic Details

BUILDINGS

Buildings produce 35% of US greenhouse gas emissions. Much of this is the indirect result of producing electricity since more than two thirds of electricity produced is consumed in buildings. The energy used in the typical home causes significantly more greenhouse gas emissions than does a typical car.

Building shells last a long time and the bulk of greenhouse gas emissions in 2010 will come from buildings standing today. Appliances and building equipment, such as heating, ventilation, and air conditioning (HVAC) equipment, are replaced much more frequently. The budget includes several programs designed to develop highly efficient new appliances and HVAC systems and to create incentives for their use. Over the long-term, it is essential that new buildings be designed and built with the same kinds of technology that have permitted most successful U.S. businesses to improve quality – including lowering energy demand and emissions – while reducing costs. Overall, Federal appropriations for buildings technology are proposed to increase $118 million (81 percent) in 1999 to a total of $264 million.

1. Efficient Building Equipment and Appliances

- DOE proposes to expand research partnerships for building equipment and appliances by $19.7 million to increase the efficiency of lighting, refrigerators, air-conditioning systems and other building equipment. By 2000, for example, the program hopes to help industry develop a prototype refrigerator using half the electricity of today's equipment and to complete field tests of advanced absorption chillers and natural-gas heat-pumps.

- EPA and DOE will expand their partnerships that are helping consumers and businesses reduce their energy bills and their greenhouse gas pollution by up to 1/3 or more. The EPA and DOE Energy Star appliance labeling program is helping consumers save significantly on their energy bills. EPA and DOE will work with manufacturers to expand the Energy Star label to new product lines, building on recent partnerships with consumer electronics manufacturers.

- Markets for a new generation of building equipment will be encouraged through $1.4 billion in tax credits over five years. The credits would equal 20 percent of qualified investments in fuel cells, electric heat pump water heaters, natural gas heat pumps, residential size advanced electric heat pumps, natural gas water heaters and advanced central air conditioners.

2. Efficient Building Design and Construction

Over the long-term, it is possible to achieve 30-50 percent or greater reductions in building energy use by using modern engineering methods to improve product quality and lower production costs. A partnership with builders, suppliers, insurance companies and state and local governments will undertake a program to accelerate development and demonstration of inexpensive, highly efficient, attractive housing, and to streamline federal, state, and local building and utility regulations in ways that encourage innovation in construction. These energy efficiency innovations will be combined with design improvements that increase resistance to

wind and seismic damage (thereby reducing insurance costs), reduce construction injuries, and reduce maintenance. The program includes:

- $13.4 million increase in DOE's program to improve whole building designs, which expands the highly successful Build America partnerships. By the end of 1998, the program will complete 300 attractive homes that cost less to build than conventional units and simultaneously reduce energy use by 30 percent or more.

- $200 million in tax credits over five years for a new program designed to encourage builders to develop and introduce innovative housing designs and production methods that result in high-quality, affordable, highly efficient new homes. The credit would equal one percent of the purchase price of the home, up to a maximum of $2,000.

- Expansion of EPA's Energy Star Buildings and Energy Star Homes programs to provide reliable information and technical assistance to help businesses and homeowners reduce their energy use while saving money.

- $10 million for HUD to manage the new Partnership for Advanced Technology in Housing (PATH) program in conjunction with DOE and EPA. PATH will link the efforts of builders, suppliers, insurance firms, financial institutions, as well as the numerous Federal, state, and local agencies with programs affecting the housing industry. This partnership will identify and seek to remove barriers that have reduced incentives for innovation in housing design and construction.

3. Million Solar Roofs

Since the President challenged the Nation to have a million rooftop solar units installed and operating in a decade last fall, utilities, States, and Federal agencies have already set goals to place about 500,000 solar energy systems on U.S. roofs. A new DOE program will continue this momentum through R&D and deployment partnerships with state and local governments, energy service providers, the solar industry, developers, and builders. Funds will also be used to train builders and inspectors. The budget request for this program in 1999 totals $12 million, with $10.5 million for photovoltaic units and $1.5 million for solar water and space heating equipment.

The budget also proposes a new tax credit available for purchasers of rooftop photovoltaic systems and solar water heating systems located on or adjacent to buildings for purposes other than heating swimming pools. The credit would be 15 percent of qualified investments up to a maximum of $1,000 for solar hot water heaters and $2,000 for photovoltaic systems. The credits are estimated to provide $120 million over five years.

TRANSPORTATION

Cars, trucks, aircraft, and other parts of the Nation's transportation system are responsible for about a third of US greenhouse gas emissions. Emissions in transportation are growing rapidly, both because Americans are driving more and because of the growing popularity of sport-utility and other larger vehicles. A range of new technologies make it possible for

Americans to continue to enjoy the best personal transportation in the world while emissions of greenhouse gases are reduced by factors of two or three. The budget also provides increased support for truck technologies, since the amount of fuel used in trucks (including trucks used largely for personal transportation) now exceeds fuel use in cars. The budget calls for a $110 million (45 percent) increase in appropriations for transportation RD&D over 1998, providing a total of $356 million in 1999. This would be supplemented by tax credits to stimulate key early markets.

1. New Generation Automobiles

The Partnership for a New Generation of Vehicles (PNGV) is on schedule for meeting its ambitious goal of building a production prototype of an attractive, affordable automobile which can achieve up to three times the fuel efficiency (and one third the greenhouse gas emissions) of comparable vehicles sold today. All three US automakers demonstrated concept cars capable of approaching the PNGV fuel efficiency goal in this year's Detroit Auto Show. An enormous amount of work remains to be done, however, to convert these concept vehicles into practical production vehicles. The bulk of the vehicle development investment will be made by the industry, but federal cost-sharing is essential to address key research needs.

Federal research funding for advanced automobiles will be increased and a new tax credit will be provided to encourage a shift to advanced technology vehicles. Following a program plan developed in close partnership with industry, the program will focus on propulsion technology and lightweight materials, with significant increases planned in the following areas:

- ***A $50 million (22 percent) increase in funding for all agencies for PNGV-related work*** (a total of $277 million) which includes:
  - ***A $21 million increase to develop fuel cells*** that can be practical substitutes for today's internal combustion engine.
  - ***A $10.4 million increase in funding for advanced direct injection diesel cycle engines*** that can provide attractive power systems for hybrid vehicles if emission problems can be overcome. Federal funding will focus on particulate and NOx emissions, and will include analysis of alternative fuels for direct-injection diesels.
  - ***An accelerated EPA program to develop a low-NOx methanol-fueled diesel engine*** that can simultaneously achieve high efficiency and low carbon, particulate, and nitrogen oxide levels.
- ***Tax credits to stimulate early introduction of new generation automobiles and light trucks***. In the year 2000, a credit of up to $3,000 would be provided for vehicles achieving two times the efficiency of today's comparable vehicles (2X), and in 2003 a credit of up to $4,000 would be provided for cars th t achieve three times today's efficiency (3X). The 2X credit would be phased out by 2003 and the 3X credit by 2010. These credits would total $660 million for the five years between 1999 and 2003, but would continue after that date. The credits are designed to encourage early introduction of major innovations in vehicle technology, not to encourage consumers to shift to smaller vehicles or vehicles offering reduced amenities.

2. Trucks

In 1996 the energy used in trucks (including light trucks used principally for personal transportation) exceeded the energy used by automobiles. Two new programs will be launched to develop technologies that will both improve truck efficiency and reduce emissions:

- *Heavy Truck partnerships.* A new partnership linking the Department of Energy, the EPA, the Department of Defense, and manufacturers will be supported to increase the fuel efficiency of today's heavy, diesel-powered trucks. Heavy vehicle systems R&D will increase by $20 million. The research should make it possible to increase the fuel efficiency of heavy diesel engines from their current levels of 44 percent to 55 percent, and to increase fuel efficiency of heavy trucks (class 7-8) from 7 mpg to 10 mpg. The research focuses on direct-injection diesel engines, and is aimed at improvements in both fuel economy and meeting future particulate and NOx (nitrogen oxides) emissions standards.

- *Light Truck Partnerships.* A second new partnership, led by the Department of Energy, will focus on developing improved diesel engines for use on light trucks and sport-utility vehicles. These are the fastest-growing segment of the passenger vehicle market, but they are also the least fuel-efficient. Fuel efficiency in these vehicles could be increased by as much as 35 percent if they used diesel engines instead of normal gasoline engines. However, if diesel engines are to be substituted for gasoline engines on a large scale, they must be ***clean*** diesels, with particulate and NOx emissions comparable to gasoline engines. Making diesel engines that clean poses a major technical challenge, which is shared by the PNGV program in their diesel-hybrid designs. The 1999 budget includes a new initiative to develop medium-sized diesel engines for light trucks, with a focus on the necessary environmental technology, and coordinated with similar efforts being made within PNGV.

3. Encouraging sustainable communities and use of mass transit

Many communities are developing innovative ways to reduce congestion and transportation energy needs by improving highway designs and urban planning and by encouraging mass transit.

- ***Tax credits to encourage use of mass transit.*** Present tax laws exclude parking benefits from income taxes even if employers offer these benefits in lieu of other compensation. The proposed new credit would apply the same rule to employees whose employers offer transit and vanpool benefits in lieu of compensation. The new proposal would also correct a defect in current law, which allows employees to exclude up to $155 (in 1993 dollars) in parking benefits from income, but only $60 (in 1993 dollars) for employer-provided transit and vanpool benefits. The change would increase the exclusion for transit and vanpool benefits to $155, the same as for parking benefits.

- ***Expanded EPA and DOE partnerships with state and local decision-makers to develop and implement "sustainable transportation" plans.*** These will promote alternatives to single-occupancy vehicle travel, modeled after the approach adopted

by Portland, Oregon. They will also promote compact, walkable, and mixed-use development – while reducing the growth in vehicle travel, emissions, and congestion. Programs in EPA and DOE will be coordinated with existing and planned DOT programs.

INDUSTRY

The initiative expands federal research efforts to develop innovative technologies and production methods which can help businesses achieve productivity gains and prosper in a competitive marketplace while leading to major reductions in emissions of greenhouse gases. Manufacturing, materials, and process industries produce over 80 percent of hazardous wastes and 95 percent of toxic wastes. Most of these greenhouse-gas emissions technologies will also lead to a sharp reduction in the production of toxic wastes.

The expanded program builds on visionary research plans jointly developed by DOE and EPA with a number of major industries over the past three years. The total appropriated funding for industrial research is proposed to increase by $60 million (38 percent), to $216 million in 1999. This will be supplemented by tax credits worth over $1 billion over a five year period.

1. Expanding the DOE Industries of the Future and Other Industrial Programs

Funding will increase $29 million (22 percent) to $166 million in this DOE program to support research priorities identified by industry teams over the past few years. Partnerships currently exist with the aluminum, steel, glass, paper and forest products, metal casting, and chemicals industries, which have all completed or will soon complete industry vision statements and technology roadmaps. For example, the 1999 budget proposes to:

- ***Start a new $19 million competitive grant program, open to any industrial production technology that can lead to major cost-effective reductions in greenhouse gas emissions***. The program is expected to support about 40 new technologies.

- ***Provide an increase of $2.8 million dollars for developing advanced technologies in bulk chemical production,*** which can allow these industries to substitute clean, efficient production bio-chemical processes that imitate the efficient processes of living cells.

- ***Increase funding for the Motor Challenge program by $4.8 million*** to support high-technology controls and other systems that can cut electric use by as much as 50 percent in systems running pumps, fans, chillers, and other mechanical equipment in industry.

2. Expanding EPA's Industrial Partnership Programs

EPA will expand its partnership programs with key industries by $29.2 million, complementing DOE's Industries of the Future program. EPA will also lead a multi-agency effort (including DOE) to develop voluntary but aggressive agreements for cost-effective reductions of greenhouse gas emissions and credit early action. These agreements will be

designed to catalyze the ingenuity of American business and double the rate of energy efficiency improvements in key industries over the next decade, while enhancing the productivity of American industry. These agreements will build upon EPA's success at forming partnerships with industries such as aluminum and metal finishing. EPA will further consult with industry to identify cross-cutting national goals for efficient, low-pollution technologies and processes, such as the use of combined heat and power systems that reduce energy waste from power generation.

3. Tax Credits

Tax credits proposed in the budget will stimulate rapid introduction of a set of technologies which can lead to major reductions in industrial greenhouse gas emissions during the next few years. A tax credit for combined heat and power (CHP) systems is particularly important in order to encourage investments in systems that produce both electricity and process heat and/or mechanical power from the same primary energy source. Two-thirds of the energy used to generate electricity in conventional systems is exhausted as "waste heat".

- ***A 10 percent investment tax credit for highly-efficient CHP systems*** that have depreciation recovery periods of 15 years or more. The proposed credits would total $942 million over five years.

- ***A 10 percent tax credit for replacement of circuitbreaker equipment*** which uses sulfur hexaflouride, an extremely powerful greenhouse gas would encourage utilities and other owners of these devices to replace them with modern equipment. This credit would total $36 million over five years.

- ***A 10 percent tax credit for the installation of qualified recycling equipment to recover certain perflourocompound and hydroflurocompound gases*** used in the production of semiconductors. This credit would total $26 million over five years.

ELECTRICITY

Generation of electricity in the US is responsible for more than a third of US greenhouse gas emissions; 77% of these emissions come from coal burning plants. The budget emphasizes research on renewable energy technologies, which produce virtually no net greenhouse gases. (Hydroelectric and other renewable energy sources produce about 9% of US electricity today.) Increases are also provided for R&D to extend the life of nuclear plants, which produce nearly 22% of U.S. electricity, and to improve the efficiency of coal combustion, which could reduce carbon emissions from coal-fired generating units.

DOE and EPA will work with States and utilities on the restructuring of the electricity sector, to ensure that the restructuring does not create barriers to the adoption of renewable and low-carbon generating technologies.

1. Renewable energy.

The FY 99 budget proposes funding for research partnerships in wind, photovoltaics, biomass, solar thermal, geothermal, and other renewable energy resources that can lead to competitively priced sources of electricity, heat, and chemicals with little or no greenhouse gas

production. The total DOE budget for renewable energy, hydrogen, and energy storage research is proposed to increase $117 million (43 percent), to $389 million. Funding for renewable energy crop research in USDA is proposed to increase by $10 million. The program increases include:

- ***An increase of $13.3 million (to $78.8 million) for photovoltaics.*** A major goal is increasing the efficiency of commercial units, such as improving solar shingles, which can be used to support the million solar roof initiative, from 7% efficiency in converting solar energy to electricity to 10%.

- ***Renewable Energy Production Tax Credit.*** A 5-year extension is proposed for the tax credit for electricity produced from wind and biomass.

- ***An increase of $10.5 million (to $43.5 million) for wind energy systems.*** In regions with good wind resources (average wind speed = 15 mph), new wind machines can produce electricity at 4¢ per kWh. With the planned research, costs can be reduced to 2.5¢ per kWh by 2002 in areas with good wind resources.

- ***An increase of $39.1 million in research on conversion of wood and crop wastes and energy crops to fuels and electricity.*** This includes a $29.1 million increase in DOE and $10 million in USDA. These two agencies will work closely to support efforts that can lead to new sources of income for farm communities, produce rural jobs in value-added processing, and produce fuels and electricity at competitive prices.

2. Nuclear power-plant life extension.

DOE will initiate an R&D effort addressing the critical technology needs to allow currently-operating nuclear power plants to safely extend their operating lifetimes by 10 to 20 years. Under current NRC licenses, approximately 60 gigawatts of electric generating capacity would have to be retired between now and 2015. (Most of that comes between 2005 and 2015.) NRC has indicated that they would probably not grant any plant more than one life extension. This initiative would:

- ***Support development of technologies necessary to safely operate these plants for another 10 to 20 years*** will make the transition to other low-carbon energy sources, such as solar and renewable energy, much easier.

3. Innovative coal combustion technologies.

In FY99, DOE will initiate a research program on innovative new approaches to coal combustion that offer the possibility of much lower carbon emissions than existing technologies.

CARBON REMOVAL AND SEQUESTRATION

- ***Sequestration R&D.*** $42 million in new research is proposed in the budget to find ways to remove carbon dioxide (CO_2) from combustion gases and sequester (store) the carbon so that it does not enter the atmosphere.

- DOE's basic science office will engage in biochemical and microbial research.

- DOE's fossil energy office will conduct an applied sequestration R&D program, jointly managed with the basic science office.

- USDA will initiate research on enhancing the carbon-sequestering capabilities of agricultural species. NIST will support complementary biotechnology work on plant metabolism and carbon use.

- EPA is requesting an increase of $3.4 million for work with forest products industries to achieve greater reliance on biomass fuels as an energy source and to sequester carbon in forests.

CROSSCUTTING ANALYSIS AND RESEARCH

- ***Emissions credits, incentives, and trading.*** EPA will lead an effort, assisted by DOE, to evaluate options for a domestic trading system and early reduction program in industry. The Federal government will work with stakeholders to understand their views and interests, and to build the institutional capacity needed to implement a carbon emissions credit and trading system.

- ***Program and science assessments.*** DOE will lead efforts to assess the implications of new research results produced by the Global Change Research Program, in order to determine what geographic and technological responses may be appropriate.

White House Climate Change Task Force

734 Jackson Place, N.W. • Washington, DC 20503

March 31, 1998

Indian Treaty Room

I. Global Climate Change: Basic Talking Points (February 1998)

II. Testimony of Janet Yellen Before the House Commerce Committee (March 4, 1998)

III. Remarks by Vice President Al Gore in Kyoto, Japan (December 8, 1997)

IV. Remarks by the President on Global Climate Change at the National Geographic Society (October 22, 1997)

V. President Clinton Announces the United States Climate Change Policy (October 22, 1997)

VI. Climate Change Technology Initiative: 1999 Budget Briefing Materials (February 2, 1998)

202 343-1060 • Fax 202 343-1162

Global Climate Change: Basic Talking Points
February 1998

Core Message

Global climate change is a key environmental challenge for the 21st century. The world's best scientists tell us that this problem is real and that the threats it poses -- like increasingly frequent and severe storms and droughts and rising sea levels -- are too serious to ignore. It is our responsibility to take vigorous, sensible steps to solve this problem. If we fail to do so, our children and grandchildren will pay the price.

Over the course of the next year, the Clinton Administration will be working hard at home and with our partners abroad to address climate change. Domestically, we will begin implementing the President's plan for reducing greenhouse gas emissions. Internationally, we will build on the historic agreement reached in Kyoto, Japan last December.

President Clinton's Domestic Plan for Reducing Emissions

In October 1997, President Clinton outlined a comprehensive and economically sound plan for reducing U.S. greenhouse gas emissions. This plan emphasizes win-win initiatives designed to cut emissions by increasing energy efficiency; developing new, cleaner energy technologies; working with industry and others to promote sensible solutions; and relying on market-based mechanisms to ensure cost-effective reductions. The plan includes:

- **Tax cuts & research R&D**. The President's plan includes a vigorous program of tax cuts and R&D aimed at cutting greenhouse gas emissions. The package amounts to $6.3 billion over 5 years -- $3.6 billion in tax cuts and $2.7 billion in new investment.

  -- The **tax cut package** includes tax credits for fuel efficient cars of up to $4,000 to consumers who purchase highly efficient vehicles. Also included are credits for rooftop solar electricity and hot water systems, for energy efficient homes and appliances, and for several forms of advanced power generation.

  -- The **investment package** includes research and development spending in the three major carbon-emitting sectors of the economy -- buildings, transportation, and industry. Among projects to be expanded is the Partnership for a New Generation of Vehicles, a government-industry effort to develop super-efficient cars that are attractive, affordable, and meet all applicable safety and environmental standards. Substantial funds will also be invested in research partnerships for key renewable energy technologies.

- **Industry-by-industry partnerships**. A second component of the President's plan includes building partnerships with key energy producing and emitting industries to develop sector-by-sector initiatives to cut emissions. These partnerships will identify opportunities for working together to remove barriers to the development and widespread use of energy efficient technologies and practices.

- **Federal energy use and procurement**. A third element of the President's plan is to substantially reduce the Federal share of U.S. greenhouse gas emissions by improving the energy efficiency of Federal facilities and activities and by overhauling procurement practices. While achieving important reductions and cost savings in their own right, these actions can also set a powerful example for the private sector.

- **Electricity restructuring.** Another core element of the President's plan involves restructuring the electricity industry in such a way as to reduce greenhouse gas emissions while saving consumers millions on their energy bills.

- **Domestic emissions trading**. After a decade of experience in reducing emissions, the President has proposed a domestic emissions trading system beginning in 2008. The goal of such a regime is to ensure that further cuts are achieved as cost-effectively as possible. The U.S. has used emissions trading successfully to reduce the pollution that causes acid rain -- exceeding environmental objectives at costs far lower than anticipated.

The Kyoto Protocol on Climate Change

The Kyoto Protocol is an historic step toward building an effective international response to the problem of climate change. In key respects, the Protocol embraces U.S. proposals -- most notably bringing the power of the free market to bear in protecting the global environment. The essential elements of the Kyoto Protocol include binding emissions targets for industrialized nations and flexible market mechanisms for achieving those targets. Our work over the coming year will focus on achieving meaningful participation from developing countries and on establishing rules and guidelines for putting agreed market mechanisms into practice.

- **Emissions Targets.** The U.S. proposal entering Kyoto was for realistic and achievable emissions targets that were credible in reducing the dangerous buildup of greenhouse gases yet measured enough to safeguard U.S. prosperity at home and competitiveness abroad. We succeeded in achieving this goal by reaching agreement on:

  -- The President's concept of a **multi-year time frame** for emissions reductions rather than a fixed, single-year target. The multi-year time frame will allow nations greater flexibility in meeting their targets.

  -- The President's **specific time frame of 2008-2012**, rather than earlier periods favored by the European Union and others, giving us time to gradually phase in change and deploy new technologies cost-effectively.

  -- **Differentiated targets** for the key industrial powers ranging from 6% to 8% below baseline levels of greenhouse gas emissions, with the U.S. agreeing to a 7% reduction. When changes in accounting rules for certain gases and offsets for activities that absorb carbon dioxide are factored in, the level of effort required by the U.S. is actually quite close to the President's original proposal to return emissions to 1990 levels by 2008-2012. The Kyoto target is at most a 3% real reduction below that proposal.

-- **Coverage of all six greenhouse gases** (the EU and Japan favored counting only three) **and of activities that absorb carbon dioxide**. Including the additional three gases and so called carbon "sinks" provides for more comprehensive environmental protection while also allowing for cost-effective measures to combat climate change.

- **Flexible Market Mechanisms.** Central to making the Kyoto Protocol a comprehensive, global, and cost-effective agreement are several market mechanisms that will provide U.S. companies with real flexibility in how they achieve emissions reductions. These include:

  -- **The U.S. proposal on international emissions trading.** Through our domestic program to reduce acid rain, we have proven that emissions trading is an effective way of achieving environmental objectives at low cost.

  -- **A Clean Development Mechanism** (CDM) establishing the right for U.S. companies to participate with developing countries in specific projects to cut emissions. The CDM encompasses the U.S. proposal on joint implementation and will provide companies with relatively low-cost emissions reduction opportunities overseas while offering developing countries the double benefit of foreign investment and clean technology.

- **Meaningful Participation from Developing Countries.** President Clinton and Vice President Gore have called for the meaningful participation of key developing countries in reducing emissions and will not submit the Kyoto Protocol to the Senate until such participation is achieved. The Kyoto Protocol makes a down payment on meaningful participation (principally through the CDM), and the Administration plans to focus extensive diplomatic efforts over the coming year on securing additional commitments.

- **Economic Implications.** Through our success in achieving realistic and achievable emissions targets (rather than the more extreme proposals of other nations) and in establishing cost-effective market mechanisms (rather than the mandatory, standardized policies and measures favored by others), the U.S. helped craft an agreement that is both environmentally strong and economically sound. Those who claim that addressing global warming will send energy prices soaring and damage the economy ignore key provisions that will dramatically reduce costs, such as international emissions trading, and also ignore the important effects of the President's plan for reducing emissions at home.

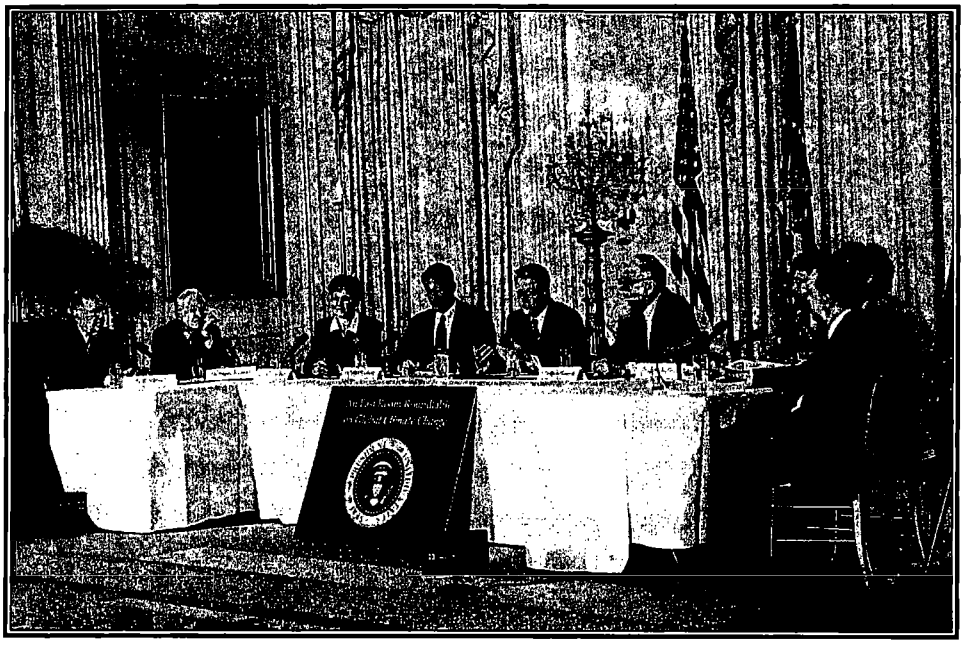
Remember: the naysayers have told us for the past 25 years that taking action to protect our environment would hurt the economy and they have been wrong over and over again. Today we have the cleanest environment in a generation and the strongest economy in a generation. Environmental protection and economic growth *have* gone hand in hand and they will in the case of global climate change as well.

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.



GLOBAL CLIMATE CHANGE

AN EAST ROOM ROUNDTABLE

The White House

July 24, 1997