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## **CARBON SEQUESTRATION & AGRICULTURE**

### **APRIL 1999**

Carbon sequestration could play a critical role in helping the world meet the challenge of climate change. Under the Kyoto Protocol, so-called carbon “sinks” -- activities that absorb carbon, such as planting trees -- can be used as offsets against emissions of greenhouse gases. The United States strongly supports the broadest inclusion of sinks that is supported by sound science. Broad inclusion of sinks has the capacity to help the United States cost effectively address the risks of climate change and provide opportunities for the agriculture and forestry sectors to be a part of the solution.

**What is carbon sequestration and what agricultural activities sequester carbon?** Carbon sequestration refers to the storage of carbon dioxide from the atmosphere by soils, trees, crops, and other plants. Carbon sinks, such as farmland, rangeland, and forests, can make a great contribution to reducing net greenhouse gas emissions. Conservation activities -- such as planting trees on marginal lands; restoring degraded soils; and adopting best management practices that improve water quality, soil quality, and habitat protection -- also have the added benefit of absorbing carbon.

**Carbon Sinks and the Kyoto Protocol.** The Kyoto Protocol recognizes that sinks must be included as part of an economically and environmentally sound approach to climate change -- an approach that the United States worked hard to achieve. Specifically, Article 3.3 of the Protocol allows certain forestry activities to be counted toward a party's reduction commitments. Moreover, Article 3.4 allows the Parties of the Protocol to add additional sink activities activities, such as those related to agricultural soils. There is no need to amend the Protocol to accomplish this.

**International Progress.** In 1998, the Parties agreed to move forward with a process to define various categories of sinks and determine how they can best be measured and verified. This process includes:

- ***The IPCC Special Report on Land Use Change Issues.*** The Parties tasked the Intergovernmental Panel on Climate Change (IPCC) (an international body of over 2,000 of the world's leading climate scientists and experts) with conducting a comprehensive study on land-use, land-use change, and forestry activities. Authors of the Special Report include international technical experts, including many from the United States. Once the IPCC report is finished in the spring of 2000, the Parties will be in a position at the following Conference of the Parties to consider further decisions on the scope and use of carbon sinks under the Protocol.
- ***UN Workshops on Land Use Change and Forestry.*** The Subsidiary Body for Scientific and Technological Advice (SBSTA) of the United Nations Framework Convention on Climate Change (FCCC) is organizing two workshops on land use, land use change, and forestry issues. The first workshop was held in Rome in September 1998. The objectives of the Rome workshop were to provide input into the IPCC Special Report and to give Parties the opportunity to discuss data, methods, and implementation of Article 3.3.

The United States is hosting the next workshop, which will take place in Indianapolis, Indiana on April 26-28. This workshop will provide another opportunity for Parties to discuss methodological and technical issues related to additional sink categories, such as those created by improved conservation or management of agricultural soils, forests, and grasslands. In preparation for this workshop, the Administration hosted a meeting on April 8 with interested stakeholders to discuss the United States' presentation at the Indianapolis workshop. Following the workshop, there will be a May 6 meeting with stakeholders to discuss the status of this process.

**Domestic Progress.** The United States leads the world in understanding the science of carbon sinks. More work, however, is needed to better understand how agricultural and forestry practices affect the net carbon balance and to develop methods that will assist farmers, ranchers, and forest landowners in increasing and verifying carbon sinks.

To help further our understanding of carbon sinks and how they can be enhanced, the President's FY 2000 budget includes funding for the following initiatives:

- ***Demonstration Projects and New R&D.*** The Forest Service, the Agriculture Research Service, and the Natural Resources Conservation Service will launch new demonstration projects as well as undertake additional R&D to better understand farmland, rangeland, and forest carbon sinks.
- ***Carbon Cycle Initiative.*** The FY 2000 budget request establishes a new multi-agency initiative to improve our understanding of how carbon cycles between the atmosphere, the oceans, and land. Included in this request are funds to study the role of farms, forests, and other natural or managed lands in capturing carbon. The initiative includes \$10 million in new funding for USDA as well as additional funding for other research agencies.
- ***Soil Carbon Inventory.*** The FY 2000 budget request includes \$14 million to significantly expand efforts to conduct a comprehensive scientific inventory of carbon stored in U.S. soils and to develop methods to predict how soil carbon levels would be affected by different practices and policies.

## ***UNDERSTANDING THE MURKOWSKI “ENERGY AND CLIMATE POLICY ACT”***

Senator Frank Murkowski (R-AK) is circulating a draft bill on climate change. While the bill has several positive features, including a recognition that climate change is a real problem that must be addressed, overall this proposed legislation does little to advance this important issue.

- ***The bill does not address climate change today but rather leaves the problem to our children.*** The bill is premised on the notion that we can put off efforts to reduce greenhouse gas emissions for many years. The bill focuses U.S. climate change policies on long-term technology R&D. However, narrowly focused long-term technology R&D is not sufficient to meet the challenges of climate change and would simply leave this serious problem for our children to address.
- ***The bill does not represent a comprehensive strategy to address climate change.*** Both long-term technology R&D and technology deployment are essential to a balanced, cost-effective climate change strategy. For example, technology deployment is particularly important in the building and industrial sectors where two-thirds of the greenhouse gas pollution in 2010 will be caused by equipment that is purchased between now and then. Existing deployment programs, such as Energy Star and Greenlights, are achieving emission reductions today. This bill does nothing to strengthen and expand these efforts.
- ***The bill does not give businesses real credit for sound environmental management.*** The bill fails to give businesses credit for actions that reduce emissions today and fails to protect them against penalty under future greenhouse gas reduction programs. Instead, the bill offers only unspecified public “recognition” for such efforts. Businesses should be able to take action today to lower costs, improve profits and reduce emissions without fear of being disadvantaged at a later time.
- ***The bill does nothing new to address global warming.*** The bill purports to address the issue of climate change by creating a new office at DOE and authorizing funds for long-term technology R&D. However, the Energy Policy Act of 1992 already created a Director of Climate Protection at the Department. Furthermore, the government already enters into agreements with industry to conduct creative and useful long-term technology R&D -- for example through DOE’s Industries of the Future program -- without the cumbersome process prescribed in the draft bill.

## **Murkowski Climate Change Bill**

- \* First and most important, we are gratified to see that, in this bill, Senators Murkowski and Hagel recognize that climate change is a serious issue that needs to be addressed. This is progress.
- \* And we welcome the bill's emphasis on promoting the research, development and diffusion of technologies to reduce or sequester the greenhouse gases that cause global warming.
- \* At the same time, the bill shouldn't be seen as a substitute for the broad range of activities that the Administration is carrying on both domestically and internationally to address climate change, including:
  - \* a vigorous effort to accelerate the research, development and deployment of energy efficient technologies and renewable energy. These efforts include both medium and long-term research as well as more immediate programs like those encouraging the use of high-efficiency Energy Star products and Green Lights. These programs were funded at over \$1 billion in FY 99, with nearly \$1.4 billion requested for the next year."
  - \* a five-year package of tax incentives to encourage the purchase of clean energy products;
  - \* a bill to restructure the electricity industry that is projected to save 40-60 million metric tons of carbon per year;
  - \* a set of working industry partnerships with sectors including autos, home building, steel, chemicals and forest products;
  - \* an energetic diplomatic effort to complete the unfinished business of the Kyoto Protocol and bring about the meaningful participation of key developing countries;
  - \* a \$1.7 billion program in scientific research to improve our understanding of the forces that shape the Earth's climate.
- \* We are also pleased that Senators Murkowski and Hagel have clearly stated that the \$200 million a year proposed R&D authorization program would be *in addition* to federal efforts already underway to address climate change.
- \* In short, we welcome the additional authorization, but the real question for Congress is how much it agrees to appropriate for clean energy efforts that are good for business, good for consumers, good for U.S. competitiveness, and good for our energy security.

- \* We are concerned that the bill would not give businesses real, bankable credit for taking early action to reduce greenhouse gases. It proposes steps to improve the voluntary reporting of greenhouse gas emissions, but businesses deserve more: they deserve real credit when they take real action.
- \* Regarding the Kyoto Protocol, there appears to be a good deal of confusion. The Administration has said from the beginning that the Protocol is a work in progress -- a vital and significant accomplishment that embodies the fundamentally market-based approach that the United States fought for, but a treaty that needs more work. In particular, a number of key provisions need to be further fleshed out and, most important, there needs to be greater participation by developing countries. Until that unfinished business is finished, the Administration has made clear it won't submit the Protocol for ratification. It is not in the best interests of the United States to give up on this process.
- \* Our strategy should be to keep working on the diplomatic front to complete Kyoto so that it can be ratified, and to keep working on the domestic front on win-win steps to promote research, innovation, the diffusion of clean energy products and voluntary industry actions to reduce and sequester greenhouse gases.

## MEETING THE CHALLENGE OF GLOBAL CLIMATE CHANGE

### APRIL 1999

*Global climate change is one of our greatest environmental challenges. The overwhelming weight of scientific authority tells us that the build-up of greenhouse gases in the atmosphere creates dangers -- such as severe storms and droughts, increases in respiratory and infectious diseases, and rising sea levels -- that are too serious to ignore.*

*The Clinton Administration is working at home and abroad to meet the challenge of climate change. Domestically, we are working on a wide range of initiatives to reduce greenhouse gas emissions by developing and deploying energy efficient technologies and spurring the broader use of renewable energy. Internationally, we are working to secure the meaningful participation of developing countries in addressing global warming and to complete the other unfinished business of the Kyoto Protocol.*

### THE SCIENCE OF CLIMATE CHANGE

Greenhouse gases trap heat from the sun. These gases warm the Earth's surface by an estimated 60° Fahrenheit (F), sustaining our existence on the planet. However, the burning of fossil fuels and deforestation have increased the concentration of carbon dioxide (the principal greenhouse gas) by more than 30% since preindustrial times.

Scientists predict that, if we continue on our current course, concentrations of greenhouse gases in the atmosphere will reach roughly twice current levels by 2100 -- a level not seen on this planet for the past 50 million years. The Intergovernmental Panel on Climate Change (IPCC), which represents the work of more than 2,000 of the world's leading climate scientists, estimates that this will lead to an increase in global temperature of 2 to 6.5° F. By way of comparison, the last ice age was only 5 to 10° F colder than today.

Over the past year, new data from satellites, tree rings, ice cores, and deep boreholes drilled in the Earth's surface have reinforced the broad scientific consensus that human activities have started to affect the climate and that continuing on a "business as usual" course will lead to substantial warming in the next century. Studies have shown that the 20th century has been the warmest century in the past 1,000 years and that the 1990s have been the warmest decade in that period, while 1998 has been the single warmest year on record.

### POTENTIAL IMPACTS OF CLIMATE CHANGE

Scientists predict a range of likely effects from global warming:

- **Extreme weather.** As temperatures increase, so does the rate of evaporation. This acceleration of the so-called hydrologic cycle is projected to increase the frequency and intensity of extreme weather events such as floods and droughts. Last year's El Nino -- which produced warmer and wetter conditions akin to those anticipated from global warming -- offered us a window on the type of extreme weather that climate change may bring, from heat waves and drought in Texas, to wildfires in Florida, Mexico and Indonesia, ice storms in the northeastern United States, and devastating floods in China and Bangladesh.

- **Human health.** Warmer temperatures are projected to increase fatalities from heat stress and expand the geographic ranges for diseases like malaria and dengue fever. Additional smog caused by warmer temperatures could increase the incidence of asthma and other respiratory illnesses, particularly among children and the elderly.
- **Sea level rise.** Scientists project that the sea level will rise by an additional 6 to 37 inches by 2100, endangering island states and coastal areas. A 20-inch rise could inundate 7,000 square miles of the U.S. coastline, with Florida and the Gulf Coast at greatest risk.
- **Agricultural impacts.** Changes in growing seasons, water availability, soil moisture, and precipitation are expected to cause significant regional shifts in food productivity, with decreased production in many of the world's poorest regions. Water supplies and water quality may also be affected, posing threats to irrigation, fisheries, and drinking supplies.
- **Damage to ecosystems.** Many species are highly adapted to particular climate conditions and may not survive substantial climate shifts. For example, the United States may lose beech trees and sugar maples, and western conifer forests are likely to shrink, as the tolerable climate zones for these species shift hundreds of miles to the north.

#### **PRESIDENT CLINTON'S DOMESTIC PLAN**

Since 1993, President Clinton has put into place dozens of win-win programs to develop and deploy energy efficient technologies and spur the development and broader use of renewable energy. These efforts have accelerated since the Kyoto climate change conference in 1997.

- **Climate Change Technology Initiative.** This vigorous program of *tax incentives* and *investments* focuses on energy efficiency and renewable energy technologies. The FY 1999 appropriations for these programs totaled over \$1 billion and represented a 25% increase over the prior year. The President's FY 2000 budget proposes a still more accelerated effort.
  - The **tax incentive package** contains \$3.6 billion over five years for consumers who purchase energy efficient products and for producers of energy from renewable sources. Highlights include: a tax credit of up to \$2000 for energy efficient new homes; a 10-20% credit for selected energy efficient products for homes and buildings; a credit of up to \$2000 for rooftop solar systems; a credit of up to \$4000 for qualifying electric, fuel cell or hybrid vehicles; extension of the current 1.5 cents/kilowatt hour credit for the production of electricity from wind and biomass; an expansion of the biomass credit to cover additional sources; and a 1.0 cent/kilowatt hour credit for cofiring coal and biomass in power plants.
  - The **investment package** contains nearly \$1.4 billion in FY 2000 to research, develop, and deploy clean energy technologies. This represents a 34% increase over the amount appropriated in FY 1999. Highlights include: increased funding for the *Partnership for a New Generation of Vehicles*, a government-industry effort to develop cars that get up to three times the fuel efficiency of today's cars; the *Partnership for Advancing Technology in Housing*, which aims to improve the energy efficiency of new homes by more than 50% and to retrofit 15 million existing homes to make them 30% more energy efficient within a decade; a stepped-up *Bioenergy Initiative* to develop advanced bioenergy technologies; expanded research and development efforts in other key renewable energy technologies, such as solar, wind, and geothermal energy; and a *Carbon Cycle Initiative*, to deepen our understanding of carbon "sinks," such as forests and farmlands.

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- ***Electricity restructuring.*** Another core element of the President's plan involves restructuring the electricity industry by introducing competition that will save consumers millions on their energy bills while reducing greenhouse gas emissions. The Administration's restructuring proposal would provide a profit incentive for generators to produce more electricity with less fuel and to improve energy efficiency. It also includes an aggressive, 7.5 percent renewable portfolio standard to increase the use of electricity from renewable sources and a \$3 billion Public Benefits Fund to spur greater investment in energy efficiency and renewables.
- ***Industry Partnerships.*** The Administration is also engaged in a wide range of consultations with key industry sectors to improve energy use and reduce emissions. For example, the *Industries of the Future* program works cooperatively with the nation's most energy-intensive industries -- such as aluminum, glass, chemicals, forest products, mining, petroleum refining, and steel -- to develop technologies that increase energy and resource efficiency.
- ***Credit for Early Action.*** The Administration is committed to working with Congress and industry on legislation to reward companies taking early, voluntary action to reduce their greenhouse gas emissions or increase carbon sequestration.
- ***Clean Air Partnership Fund.*** The President's FY 2000 budget proposes \$200 million for the creation of a new Clean Air Partnership Fund to support state and local projects to reduce both greenhouse gas emissions and ground-level air pollutants.
- ***Federal energy use and procurement.*** The President's plan seeks to substantially reduce the Federal government's own greenhouse gas emissions by improving the energy efficiency of Federal facilities and activities and reforming procurement practices. These actions are important in their own right, since the Federal government is the nation's largest single energy user, but they also set an important example for the private sector.
- ***Domestic emissions trading.*** The President has proposed a domestic emissions trading system to begin by 2008 so that we can achieve our emissions target at the lowest possible cost. The U.S. has used emissions trading successfully to reduce the pollution that causes acid rain -- exceeding environmental objectives at about 50% the expected cost.
- ***Scientific research.*** The Administration is continuing its strong support for the U.S. Global Change Research Program, with nearly \$1.8 billion in funding requested for FY 2000. This program provides a sound science foundation for policy decisions by furthering our understanding of human- and naturally-induced changes in the Earth's environment and assessing the likely consequences of global warming.

## **DIPLOMATIC AGENDA**

Thanks largely to U.S. leadership, the international climate change agreement reached at Kyoto, Japan in December 1997, combines strong environmental targets with elements of flexibility that will allow nations to meet their targets in a cost-effective manner, including:

- ***Flexible market mechanisms.*** The Protocol includes critically important market mechanisms that can dramatically cut the cost of reducing emissions. Chief among these are *international emissions trading* and the so-called *Clean Development Mechanism (CDM)*, which will allow U.S. companies to participate in joint clean energy ventures in the developing world and earn credits from verified reductions in greenhouse gas emissions.

- ***Emissions targets are to be reached over a five-year commitment period. The first commitment period will be 2008-2012.*** Allowing emissions to be averaged over a commitment period helps smooth out short-term fluctuations due to economic performance or weather. Having a decade before the start of the binding period will allow more time for companies to make the transition to greater energy efficiency and/or lower carbon technologies.
- ***Emissions targets include all six major greenhouse gases.*** This will provide both more comprehensive environmental protection and additional flexibility for nations and companies.
- ***Activities that absorb carbon, such as planting trees, can be used to offset emissions.*** Including these so-called carbon sinks will encourage afforestation, reforestation, and better forestry and agricultural conservation practices.

At the November 1998 UN climate change conference in Buenos Aires, the parties agreed on a two-year timetable for filling in the key details of the Kyoto Protocol in areas such as emissions trading, the CDM, compliance, and the scope and use of carbon sinks. Buenos Aires also saw progress on the issue of developing country participation as Argentina and Kazakhstan announced their intention to take on binding emissions targets for the 2008-2012 time period. The President has made clear that he will not submit the Kyoto Protocol to the Senate without meaningful participation from key developing countries in efforts to address global warming.

### **ECONOMIC COST OF KYOTO**

The Administration's economic analysis of the Kyoto Protocol concludes that, if we do it right, the cost to the United States of meeting our Kyoto target should be modest. Even without counting the impact of domestic policies or the environmental, health, and economic benefits of limiting climate change, estimates derived from economic modeling suggest an emissions price in the range of \$14 to \$23 per ton of greenhouse gases. In 2010, that would translate into an increase of \$70 to \$110 per year for an average family's energy bill. This increase, however, would be substantially offset by the decline in electricity prices resulting from increased competition in a restructured electricity industry, as the Administration and others have proposed. In addition, noted economists have estimated the ancillary benefits of reducing greenhouse gas emissions -- such as reduced air pollution -- could produce savings equal to one quarter of the costs of meeting our Kyoto target.

### **CONCLUSION**

For the past 25 years, efforts to protect the environment, whether by cleaning our air, our water, or eliminating acid rain, have been repeatedly assailed as a threat to our economy. Yet today, we have the cleanest environment in a generation and the strongest economy in a generation. President Clinton's balanced approach to the challenge of climate change will allow us to continue to grow the economy and protect the environment at the same time.

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Carbon sequestration could play a critical role in helping the world meet the challenge of climate change. Under the Kyoto Protocol, so-called carbon "sinks" -- activities that absorb carbon, such as planting trees -- can be used as offsets against emissions of greenhouse gases. The United States strongly supports the broadest inclusion of sinks that is supported by sound science. Broad inclusion of sinks has the capacity to help the United States cost effectively address the risks of climate change and provide opportunities for the agriculture and forestry sectors to be a part of the solution.

**What is carbon sequestration and what agricultural activities sequester carbon?** Carbon sequestration refers to the storage of carbon dioxide from the atmosphere by soils, trees, crops, and other plants. Carbon sinks, such as farmland, rangeland, and forests, can make a great contribution to reducing net greenhouse gas emissions. Conservation activities -- such as planting trees on marginal lands; restoring degraded soils; and adopting best management practices that improve water quality, soil quality, and habitat protection -- also have the added benefit of absorbing carbon.

**Carbon Sinks and the Kyoto Protocol.** The Kyoto Protocol recognizes that sinks must be included as part of an economically and environmentally sound approach to climate change -- an approach that the United States worked hard to achieve. Specifically, Article 3.3 of the Protocol allows certain forestry activities to be counted toward a party's reduction commitments. Moreover, Article 3.4 allows the Parties of the Protocol to add additional sink activities activities, such as those related to agricultural soils. There is no need to amend the Protocol to accomplish this.

**International Progress.** In 1998, the Parties agreed to move forward with a process to define various categories of sinks and determine how they can best be measured and verified. This process includes:

- ***The IPCC Special Report on Land Use Change Issues.*** The Parties tasked the Intergovernmental Panel on Climate Change (IPCC) (an international body of over 2,000 of the world's leading climate scientists and experts) with conducting a comprehensive study on land-use, land-use change, and forestry activities. Authors of the Special Report include international technical experts, including many from the United States. Once the IPCC report is finished in the spring of 2000, the Parties will be in a position at the following Conference of the Parties to consider further decisions on the scope and use of carbon sinks under the Protocol.
- ***UN Workshops on Land Use Change and Forestry.*** The Subsidiary Body for Scientific and Technological Advice (SBSTA) of the United Nations Framework Convention on Climate Change (FCCC) is organizing two workshops on land use, land use change, and forestry issues. The first workshop was held in Rome in September 1998. The objectives of the Rome workshop were to provide input into the IPCC Special Report and to give Parties the opportunity to discuss data, methods, and implementation of Article 3.3.

**ADMINISTRATION ECONOMIC ANALYSIS:  
MEETING THE CHALLENGE OF CLIMATE CHANGE AT A REASONABLE COST  
July 31, 1998**

**The Administration's economic analysis of the Kyoto Protocol concludes that the costs of meeting our Kyoto target for reducing greenhouse gases should be modest; that taking action to address global warming amounts to an insurance policy against a serious threat; that there are significant opportunities for low-cost reductions both at home and abroad; and that the benefits of averting climate change be very large.**

***There is a powerful scientific rationale for taking action on global warming; taking action amounts to an insurance policy against a serious risk.*** Greenhouse gases are rapidly building up in the atmosphere and at current rates will reach levels not seen in 50 million years by 2100. The nine hottest years on record have occurred since 1987, 1997 was the hottest year ever, and 1998 has been hotter still. Our leading scientists warn of serious consequences, like severe droughts, floods and health problems, if global warming is ignored. In 1992, the National Academy of Sciences said: "...even given the considerable uncertainties in our knowledge of the relevant phenomena, greenhouse warming poses a potential threat sufficient to merit prompt responses...Investment in mitigation measures acts as insurance protection against the great uncertainties and the possibility of dramatic surprises."

***The costs of meeting our Kyoto target should be modest.*** Even without counting the impact of domestic policies or the benefits of acting to mitigate climate change, estimates derived using the Second Generation Model (SGM) suggest an emissions price in the range of \$14 to \$23 per ton of greenhouse gases. In 2010, that would translate into an increase of \$70-110 per year for an average family's energy bill, although such increase would be substantially offset by the decline in electricity prices resulting from restructuring the electricity industry, as the Administration and others have proposed.

***Domestic actions – which are not factored into the SGM model – can further reduce costs and substantially increase the amount of reductions made at home.*** These include Federal electricity restructuring; efforts to increase the rate of technology improvement, such as the President's \$6.3 billion budget package; activities, like forestry activities, which can sequester carbon; industry consultations; and initiatives to reform Federal energy use and procurement.

***Doing it smart: The Kyoto Protocol is based upon flexibility measures that reduce costs.*** At U.S. insistence, the Kyoto Protocol allows emissions to be reduced where and when such reductions are cheapest. Key provisions include international trading of emissions permits as well as measures that allow our companies to share credit for emissions reducing projects abroad.

***The benefits of acting to address climate change could be very large.*** Noted economists have estimated the environmental, health, and economic costs of global warming projected to occur during the next century to be 1% of GDP or more – over \$80 billion a year in today's terms. In the short term, the ancillary benefits of reducing greenhouse gas emissions – such as reduced air pollution – could produce savings equal to one quarter of the costs of meeting our Kyoto target.

DRAFT

## Meeting the Challenge of Global Climate Change April 1999

*Global climate change is one of our greatest environmental challenges. The great weight of scientific authority tells us that the problem is real and that the threats it poses -- such as severe storms and droughts, increases in respiratory and infectious diseases, and rising sea levels -- are too serious to ignore.*

*The Clinton Administration is working at home and abroad to meet the challenge of climate change. Domestically, we are working on a wide range of initiatives to reduce greenhouse gas emissions by developing and deploying energy efficient technologies and spurring the broader use of renewable energy. Internationally, we are working to secure the meaningful participation of developing countries in addressing global warming and to complete the other unfinished business of the Kyoto Protocol.*

### The Science of Climate Change

Greenhouse gases trap heat from the sun to keep the Earth's temperature an estimated 60° Fahrenheit (F) warmer than it would be absent such gases, sustaining our existence on the planet. As a result of the burning of fossil fuels and deforestation, the concentration of carbon dioxide (CO<sub>2</sub>), the principal greenhouse gas, has increased 30% since preindustrial times.

If we continue on a business-as-usual trajectory, this concentration is expected to reach almost twice current levels by 2100 -- a level not seen in 50 million years. The Intergovernmental Panel on Climate Change (IPCC), which represents the work of more than 2,000 of the world's leading climate scientists, estimates that this will lead to an increase in global temperature of 2 to 6.5° F. By way of comparison, the last ice age was only about 9° F colder than today.

Over the past year, new data from satellites, tree rings, ice cores, and deep boreholes drilled in the Earth's surface have reinforced the broad scientific consensus that human activities have started to affect the climate and that continuing a "business as usual" course will lead to substantial warming in the next century. Studies have shown the 20th century to be the warmest century in the past 1,000 years and that the 1990s have been the warmest decade in that period. Since reliable instrument records were first kept more than a century ago, 7 of the 10 warmest years on record have all occurred since 1990, with 1998 being the warmest year.

### Potential Impacts of Climate Change

Scientists predict a range of likely effects from global warming:

- **Extreme weather.** As temperatures increase, so does the rate of evaporation. This acceleration of the so-called hydrologic cycle is projected to increase the frequency and intensity of extreme weather events such as floods and droughts. Last year's El Nino -- which produced warmer and wetter conditions akin to those anticipated from global warming -- offered us a window on the type of extreme weather that climate change may bring, from heat waves and drought in Texas, to wildfires in Florida, Mexico and Indonesia, ice storms in the northeastern United States, and devastating floods in China and Bangladesh.

- **Human health.** Warmer temperatures are projected to increase fatalities from heat stress and expand the geographic ranges for diseases like malaria and dengue fever. Additional smog caused by warmer temperatures could increase the incidence of asthma and other respiratory illnesses, particularly among children and the elderly.
- **Sea level rise.** Scientists project that the sea level will rise by an additional 6 to 37 inches by 2100, endangering island states and coastal areas. A 20-inch rise could inundate 7,000 square miles of the U.S. coastline, with Florida and the Gulf Coast at greatest risk.
- **Agricultural impacts.** Changes in growing seasons, water availability, soil moisture, and precipitation are expected to cause significant regional shifts in food productivity, with decreased production in many of the world's poorest regions. Water supplies and water quality may also be affected, posing threats to irrigation, fisheries, and drinking supplies.
- **Damage to ecosystems.** Many species are highly adapted to particular climate conditions and may not survive substantial climate shifts. For example, the United States may lose beech trees and sugar maples, and western conifer forests are likely to shrink, as the tolerable climate zones for these species shift hundreds of miles to the north.

### **President Clinton's Domestic Plan**

Since 1993, President Clinton has put into place dozens of win-win programs to develop and deploy energy efficient technologies and spur the development and broader use of renewable energy. These efforts have accelerated since the Kyoto climate change conference in 1997.

- **Climate Change Technology Initiative.** This vigorous program of *tax incentives* and *investments* focuses on energy efficiency and renewable energy technologies. The FY 1999 appropriations for these programs totaled over \$1 billion and represented a 25% increase over the prior year. The President's FY 2000 budget proposes a still more accelerated effort.
  - The **tax incentive package** contains \$3.6 billion over five years for consumers who purchase energy efficient products and for producers of energy from renewable sources. Highlights include: a tax credit of up to \$2000 for energy efficient new homes; a 10-20% credit for selected energy efficient products for homes and buildings; a credit of up to \$2000 for rooftop solar systems; a credit of up to \$4000 for qualifying electric, fuel cell or hybrid vehicles; extension of the current 1.5 cents/kilowatt hour credit for the production of electricity from wind and biomass; an expansion of the biomass credit to cover additional sources; and a 1.0 cent/kilowatt hour credit for cofiring coal and biomass in power plants.
  - The **investment package** contains nearly \$1.4 billion in FY 2000 to research, develop, and deploy clean energy technologies. This represents a 34% increase over the amount appropriated in FY 1999. Highlights include: increased funding for the *Partnership for a New Generation of Vehicles*, a government-industry effort to develop cars that get up to three times the fuel efficiency of today's cars; the *Partnership for Advancing Technology in Housing*, which aims to improve the energy efficiency of new homes by more than 50% and to retrofit 15 million existing homes to make them 30% more energy efficient within a decade; a stepped-up *Bioenergy Initiative* to develop advanced bioenergy technologies; expanded research and development efforts in other key renewable energy technologies, such as solar, wind, and geothermal energy; and a new research project; and, the *Carbon Cycle*

*Initiative*, to deepen our understanding of carbon “sinks,” such as forests and farmlands.

- ***Electricity restructuring.*** Another core element of the President’s plan involves restructuring the electricity industry by introducing competition that will save consumers millions on their energy bills while reducing greenhouse gas emissions. The Administration’s restructuring proposal would provide a profit incentive for generators to produce more electricity with less fuel and to improve energy efficiency. It also includes an aggressive renewable portfolio standard to increase the use of electricity from renewable sources and a Public Benefits Fund to spur greater investment in energy efficiency and renewables.
- ***Industry Partnerships.*** The President’s plan also involves building partnerships with industry to cut emissions. The *Industries of the Future* program, for example, works cooperatively with the nation’s most energy-intensive industries -- such as aluminum, glass, chemicals, forest products, mining, petroleum refining, and steel -- to develop technologies that increase energy and resource efficiency. The Administration has also initiated high-level consultations with many of these same industries focused on removing technical and regulatory barriers and fostering greater development and diffusion of energy efficient technologies and practices.
- ***Credit for Early Action.*** The Administration is committed to working with Congress and industry on legislation to reward companies taking early, voluntary action to reduce their greenhouse gas emissions or increase carbon sequestration.
- ***Clean Air Partnership Fund.*** The President’s FY 2000 budget proposes \$200 million for the creation of a new Clean Air Partnership Fund to support state and local projects to reduce both greenhouse gas emissions and ground-level air pollutants.
- ***Federal energy use and procurement.*** The President’s plan seeks to substantially reduce the Federal government’s own greenhouse gas emissions by improving the energy efficiency of Federal facilities and activities and reforming procurement practices. These actions are important in their own right, since the Federal government is the nation’s largest single energy user, but they also set an important example for the private sector.
- ***Domestic emissions trading.*** The President has proposed a domestic emissions trading system to begin by 2008 so that we can achieve our emissions target at the lowest possible cost. The U.S. has used emissions trading successfully to reduce the pollution that causes acid rain -- exceeding environmental objectives at about 50% the expected cost.
- ***Scientific research.*** The Administration is continuing its strong support for the U.S. Global Change Research Program, with nearly \$1.8 billion in funding requested for FY 2000. This program provides a sound science foundation for policy decisions by furthering our understanding of human- and naturally-induced changes in the Earth’s environment and assessing the likely consequences of global warming.

## **Diplomatic Agenda**

Thanks largely to U.S. leadership, the international climate change agreement reached at Kyoto, Japan in December 1997, combines strong environmental targets with elements of flexibility that will allow nations to meet their targets in a cost-effective manner, including:

- ***Flexible market mechanisms.*** The Protocol includes critically important market mechanisms that can dramatically cut the cost of reducing emissions. Chief among these are *international emissions trading* and the so-called *Clean Development Mechanism (CDM)*, which will allow U.S. companies to participate in joint clean energy ventures in the developing world and earn credits from verified reductions in greenhouse gas emissions.
- ***Emissions targets are to be reached over a five-year commitment period. The first commitment period will be 2008-2012.*** Allowing emissions to be averaged over a commitment period helps smooth out short-term fluctuations due to economic performance or weather. Having a decade before the start of the binding period will allow more time for companies to make the transition to greater energy efficiency and/or lower carbon technologies.
- ***Emissions targets include all six major greenhouse gases.*** This will provide both more comprehensive environmental protection and additional flexibility to nations and companies.
- ***Activities that absorb carbon, such as planting trees, can be used to offset emissions.*** Including these so-called "carbon sinks" will encourage afforestation, reforestation, and better forestry and agricultural conservation practices.

At the November 1998 UN climate change conference in Buenos Aires, the parties agreed on a two-year timetable for filling in the key details of the Kyoto Protocol in areas such as emissions trading, the CDM, compliance, and the scope and use of carbon sinks. Buenos Aires also saw progress on the issue of developing country participation as Argentina and Kazakhstan announced their intention to take on binding emissions targets for the 2008-2012 time period. The President has made clear that he will not submit the Kyoto Protocol to the Senate until there is meaningful participation on the part of key developing countries in addressing global warming.

### **Economic Cost of Kyoto**

The Administration's economic analysis of the Kyoto Protocol concludes that, if we do it right, the cost to the United States of meeting our Kyoto target should be modest. Even without counting the impact of domestic policies or the environmental, health, and economic benefits of limiting climate change, estimates derived from economic modeling suggest an emissions price in the range of \$14 to \$23 per ton of greenhouse gases. In 2010, that would translate into an increase of \$70 to \$110 per year for an average family's energy bill. This increase, however, would be substantially offset by the decline in electricity prices resulting from increased competition in a restructured electricity industry, as the Administration and others have proposed. In addition, noted economists have estimated the ancillary benefits of reducing greenhouse gas emissions -- such as reduced air pollution -- could produce savings equal to one quarter of the costs of meeting our Kyoto target.

### **Conclusion**

For the past 25 years, efforts to protect the environment, whether by cleaning our air, our water, or eliminating acid rain, have been repeatedly assailed as a threat to our economy. Yet today, we have the cleanest environment in a generation and the strongest economy in a generation. President Clinton's balanced approach to the challenge of climate change will allow us to continue to grow the economy and protect the environment at the same time.

## Meeting the Challenge of Global Climate Change

### June 1998

*Global climate change is one of our greatest environmental challenges. The world's leading scientists tell us that this problem is real and that the threats it poses -- such as increasingly frequent and severe storms and droughts, potential increases in asthma and infectious diseases and rising sea levels -- are too serious to ignore.*

*The Clinton Administration is working hard at home and with our partners abroad to address climate change. Domestically, we are working to implement the President's balanced, reasonable plan for reducing greenhouse gas emissions. Internationally, we are seeking to build on the agreement reached in Kyoto last December.*

### **THE SCIENCE OF CLIMATE CHANGE**

Scientists know that greenhouse gases in nature 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 carbon dioxide (the principal greenhouse gas) has increased 30% since preindustrial times. If we continue on a business-as-usual trajectory, concentrations could double current levels of carbon dioxide by 2100, producing the highest level of CO<sub>2</sub> in 50 million years. Climate models project an increase in global temperature of about 2-6.5° F by 2100. By way of reference, a cooling in average temperatures of 9° F brought on the last ice age.

There is substantial evidence that global warming is well under way. Studies have shown that the 20th century has been the warmest century in 600 years, 1990s have been the warmest decade in that period, and 1997 has been the single warmest year.

### **POTENTIAL IMPACTS OF CLIMATE CHANGE**

The impacts could be serious as CO<sub>2</sub> 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. The incidence of asthma and other respiratory illnesses, particularly among children and the elderly, is expected to increase from the additional smog caused by warmer temperatures.
- **Extreme weather.** Warmer, wetter weather is projected to increase the frequency and intensity of extreme events such as floods and drought. The 1993 Mississippi River flood alone caused damages of \$10-20 billion, while the Pacific Northwest floods in 1996-97, and the 1997 Ohio River and Red River floods resulted in substantial costs to business and homeowners.

- **Sea level rise.** Scientists project that sea level will rise by an additional 6-38 inches by 2100. A 20-inch rise could inundate 7,000 square miles of the U.S. coastline, with Florida and the Gulf Coast at greatest risk. Changes in rain and snowfall could affect water supplies and water quality, posing threats to irrigation, fisheries, and drinking supplies.
- **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.
- **Degrading of natural ecosystems.** 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.

## **PRESIDENT CLINTON'S PLAN**

### **Domestic Program**

In October 1997, President Clinton outlined an environmentally 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.

- **Tax incentives and R&D.** The President's plan includes a vigorous program of tax cuts and research and development aimed at improving energy efficiency and spurring the use of renewable energy sources. 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 incentive package** includes a tax credit of up to \$4,000 for consumers who purchase highly efficient vehicles; a tax credit of up to \$2,000 for energy-efficient new homes; a 15% tax credit (with a \$2,000 limit) for rooftop solar equipment; a 20% tax credit (subject to a cap) for energy-efficient building equipment for homes and offices; a 10% tax credit for investment in combined heat and power systems; and an extension of a current tax credit of 1.5 cents per kilowatt hour for the production of electricity from wind and biomass.
  - ▶ The **investment package** includes research and development spending in the 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 highly-efficient cars, and the Partnership for Advancing Technologies in Housing. Substantial funds will also be invested in research partnerships for key renewable energy technologies.
- **Industry consultations.** A second component of the President's plan involves building partnerships with key energy-intensive 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. As part of these consultations, the Administration will discuss ways to ensure credit for that businesses that act early.

- ▶ On May 4, President Clinton announced one important new partnership -- the **Partnership for Advancing Technology in Housing (PATH)**. This partnership with the homebuilding sector is designed to build new homes that are 50% more energy efficient within a decade and to retrofit at least 15 million existing homes within a decade to make them 30% more energy efficient. Meeting PATH goals would save consumers \$11 billion a year in energy costs by 2010 and reduce annual carbon emissions in 2010 by nearly 24 million tons -- the amount produced by some 20 million cars.

- ▶ In another recent government-industry development, the Environmental Protection Agency and the Department of Energy extended their joint **Energy Star** program to commercial buildings that achieve a 30% reduction in energy use. The Energy Star program allows manufacturers of selected energy efficient products to promote their products with an "Energy Star" label. Among the major buildings that have already signed up for the Energy Star building program are the Empire State Building, World Trade Center, and Chicago's Sears Tower.

- ***Federal energy use and procurement.*** A third element of the President's plan is to substantially reduce the Federal government's own greenhouse gas emissions by improving the energy efficiency of Federal facilities and activities and by reforming procurement practices. These actions would be important in their own right, since the Federal government is the nation's largest single energy user, but they can also set an important 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. The Administration's restructuring proposal includes a renewable portfolio standard to increase the use of electricity from renewable sources and a \$6 billion/year Public Benefits Fund to spur greater investment in energy efficiency and renewable resources.
- ***Domestic emissions trading.*** The President has proposed a domestic emissions trading system to begin by 2008, after a decade of experience in reducing emissions. 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.
- ***Scientific research.*** The Administration is continuing strong support for the U.S. Global Change Research Program. This program is focused on increasing our knowledge of the timing and regional patterns of the climate changes we expect, the combined effects of natural variation and human actions, and the vulnerability of natural resources. A strong foundation of peer-reviewed science results will support sound policy making and the evaluation of actions taken to confront the challenge of climate change.

## **Diplomatic Agenda**

U.S. leadership ensured that the international climate change agreement negotiated in Kyoto, Japan, brought the power of the free market to bear in protecting the global environment. The protocol includes strong, realistic emissions reduction targets and U.S. proposals for flexible, market-based mechanisms to achieve them. The U.S. continues to work towards meaningful participation by developing countries and to work towards establishing rules and guidelines for putting agreed market mechanisms into practice.

- ***Emissions targets.*** The flexibility the U.S. negotiated into the emissions targets include a multi-year time frame (2008-2012), giving our economy and our technologies more time to adapt; differentiated targets for developed countries; coverage of all six greenhouse gases and of so-called “sinks” -- activities that absorb carbon dioxide.
- ***Flexible market mechanisms.*** The Protocol includes key market mechanisms that will provide companies with real flexibility in how they achieve emissions reductions -- international emissions trading and the Clean Development Mechanism (CDM). International trading among countries that have taken on targets has the potential to cut the cost of reducing emissions significantly. The CDM establishes the right for U.S. companies to secure low-cost emissions credits by participating with developing countries in specific projects to reduce their emissions.
- ***Meaningful participation by developing countries.*** President Clinton has 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 an important down payment (principally through the CDM), and the Administration is actively engaged now in seeking greater participation from key developing countries.

## **CONCLUSION**

For the past 25 years, efforts to protect the environment, whether by cleaning our air and water, eliminating acid rain or closing the ozone hole, have been repeatedly assailed as a threat to our economy. Yet today we have the cleanest environment in a generation and the strongest economy in a generation. President Clinton's balanced approach to the challenge of climate change will allow us to grow the economy and protect the environment at the same time.

# President Clinton's FY 2000 Climate Change Budget

The President's climate change package for FY 2000 totals over \$4.1 billion -- an increase of more than \$1 billion (34 percent) from the amount enacted for FY 1999. It is comprised of a new Clean Air Partnership Fund to boost state and local efforts to reduce both greenhouse gases and ground-level air pollutants; the Climate Change Technology Initiative, which mixes tax incentives and direct spending to spur the research, development, and deployment of energy efficient technology and renewable energy; other climate-related investments, such as R&D of highly efficient technologies for the combustion and use of coal and natural gas, weatherization, and state energy grants; and the United States Global Change Research Program, to enhance our understanding of the human and natural forces that influence the Earth's climate system.

**Table 1. Climate-Change-Related Domestic Programs (\$ in Millions)**

|                                                                                                     | FY 1999<br>Enacted | FY 2000<br>Request | Change        |
|-----------------------------------------------------------------------------------------------------|--------------------|--------------------|---------------|
| Clean Air Partnership Fund                                                                          | 0                  | 200                | +200          |
| Climate Change Technology Initiative--tax incentives                                                | --                 | 383*               | +383          |
| Climate Change Technology Initiative--spending                                                      | 1,021              | 1,368              | +347          |
| Other Climate-Related Investments (cleaner coal & natural gas; weatherization; state energy grants) | 387                | 400                | +13           |
| Global Change Research Program                                                                      | 1,681              | 1,786              | +105          |
| <b>TOTAL</b>                                                                                        | <b>3,090</b>       | <b>4,137</b>       | <b>+1,048</b> |

\*First year of a proposed five year, \$3.6 billion package.

# Clean Air Partnership Fund

To help protect public health and ease the threat of global warming, President Clinton is proposing \$200 million for the creation of a new Clean Air Partnership Fund. The Fund will provide grants to states, localities, and tribes to support state, local, tribal, and private efforts that achieve reductions in both greenhouse gas emissions and ground-level air pollutants. The Fund will be administered by the Environmental Protection Agency (EPA) under existing authority.

- ***Integrated Pollution Control.*** The Fund will stimulate integrated, cost-effective pollution control strategies. It directs new resources to state, local, and tribal governments to finance projects and programs that achieve accelerated reductions in both air pollutants, such as soot, smog, and air toxics, and in greenhouse gases.
- ***A Quicker Path to Cleaner Air.*** By providing new resources for projects that accelerate pollution reductions, the Fund will enable communities to achieve multi-pollutant clean air goals sooner and reduce greenhouse gas emissions at the same time.
- ***Technological Innovation.*** The Fund will help spur both public and private sector innovations in next-generation pollution control technology.
- ***A Magnet for Local Investment & Innovation.*** The Fund will encourage public-private partnerships to demonstrate ways to create a cleaner environment at the local level. The Fund can be used to support local revolving funds, low-interest loan programs, matching grants, and other mechanisms that will leverage the original Federal investment, greatly increasing its impact.
- ***“Win-Win” Clean Air Projects.*** The Fund will support a wide range of practical projects that will mean cleaner air, reduced greenhouse gas emissions, and real savings for taxpayers and consumers. These could include projects such as building combined heat and power facilities that put waste heat to work, reducing emissions of both sulfur dioxide and carbon dioxide; retrofitting municipal buildings to make them more energy efficient, reducing pollution resulting from electricity generation; and upgrading municipal vehicle fleets to make them more fuel efficient.

## Climate Change Technology Initiative: \$3.6 Billion in Tax Incentives

The President is proposing a new \$3.6 billion package in tax incentives over five years to help reduce greenhouse gas emissions by spurring the purchase of energy efficient products and the use of renewable energy (see Table 2).

**Table 2. CCTI Tax Incentives (\$ in Billions)**

|                                                                                                                                      |  | <b>Revenue Effect</b> |                          |
|--------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------|--------------------------|
|                                                                                                                                      |  | <b>FY 2000</b>        | <b>Total<br/>FY00-04</b> |
| <b>Homes and Buildings</b>                                                                                                           |  |                       |                          |
| Provide tax credit for energy efficient building equipment                                                                           |  | -0.2                  | -1.5                     |
| Provide tax credit for new energy efficient homes                                                                                    |  | -0.1                  | -0.4                     |
| Provide tax credit for rooftop solar systems                                                                                         |  | --*                   | -0.1                     |
| <b>Vehicles</b>                                                                                                                      |  |                       |                          |
| Extend tax credit for electric or fuel cell vehicles and provide tax credits for highly fuel efficient hybrid vehicles               |  | 0                     | -0.9                     |
| <b>Renewable Energy</b>                                                                                                              |  |                       |                          |
| Extend tax credit for electricity produced from wind and biomass; expand eligible biomass sources; and include coal-biomass cofiring |  | --*                   | -0.3                     |
| <b>Industry</b>                                                                                                                      |  |                       |                          |
| Provide tax credit for combined heat and power systems                                                                               |  | -0.1                  | -0.3                     |
| <b>TOTAL**</b>                                                                                                                       |  | <b>-0.4</b>           | <b>-3.6</b>              |

\*Less than \$50 million.

\*\*Total may not add due to rounding.

## HOMES AND BUILDINGS

- ***Tax credit to consumers who purchase new energy efficient homes.*** To encourage the purchase of new energy efficient homes, consumers would receive a tax credit of \$1,000 for homes purchased from 2000-2001 that are at least 30 percent more energy efficient than the standard under the 1998 International Energy Conservation Code (IECC); a credit of \$1,500 for homes purchased from 2000-2002 that are at least 40 percent more efficient than the IECC standard; and a credit of \$2,000 for homes purchased from 2000-2004 that are at least 50 percent more efficient than the IECC standard.
- ***Tax credit for energy efficient equipment in new and existing homes or buildings.*** This credit will encourage the purchase of electric heat pump and natural gas water heaters, electric and natural gas heat pumps, advanced central air conditioners, and fuel cells. The credit would apply to both residential and commercial equipment. For electric heat pump water heaters, natural gas heat pumps, and fuel cells, the credit would be 20 percent of the cost of the investment, subject to a cap, for equipment purchased from 2000-2003. For all other equipment, the credit would be 10 percent of the cost of the investment, subject to a cap, at one level of efficiency (2000-2001) and 20 percent, subject to a cap, at a higher level of efficiency (2000-2003).
- ***Tax credit for rooftop solar systems.*** A 15 percent tax credit will encourage the purchase by consumers and businesses of rooftop solar systems. The maximum credit would be \$2,000 for rooftop photovoltaic systems placed in service from 2000-2006 and \$1,000 for solar water heating systems placed in service from 2000-2004.

## VEHICLES

- ***Tax credits for highly efficient cars and light trucks.*** Cars and light trucks (including minivans, sport utilities, and pickups) currently account for 20 percent of greenhouse gas emissions. Tax credits for electric, fuel cell, and hybrid vehicles will help to move these highly efficient technologies from the laboratory to the highway. These technologies can significantly reduce emissions of carbon dioxide, the most prevalent greenhouse gas.
- ***Extend the current tax credit for electric vehicles and fuel cell vehicles.*** Under current law, a 10 percent credit, up to \$4,000, is provided for the cost of qualified electric vehicles and fuel cell vehicles. The credit begins to phase down in 2002 and phases out in 2005. The President's proposal would extend the tax credit at its \$4,000 maximum level through 2006.

- **Tax credits for hybrid vehicles.** The credit -- available for all qualifying vehicles, including cars, minivans, sport utility vehicles, and pickup trucks -- would be:
  - \$1,000 for each vehicle that is one-third more fuel efficient than a comparable vehicle in its class -- available from 2003-2004;
  - \$2,000 for each vehicle that is two-thirds more fuel efficient than a comparable vehicle in its class -- available from 2003-2006;
  - \$3,000 for each vehicle that is twice as fuel efficient as a comparable vehicle in its class -- available from 2004-2006; and,
  - \$4,000 for each vehicle that is three times as fuel efficient as a comparable vehicle in its class -- available from 2004-2006.

## RENEWABLE ENERGY

- ***Tax credit for electricity produced from wind.*** Current law encourages the production of electricity from wind, which emits no greenhouse gases, through a tax credit of 1.5 cents per kilowatt hour (adjusted for inflation after 1992). The current tax credit covers facilities placed in service before July 1, 1999. The President proposes a 5-year extension of this tax credit.
- ***Tax credits for electricity produced from biomass.*** Biomass refers to trees, crops and agricultural wastes used to produce power, fuels or chemicals. This package of credits would:
  - **Extend current biomass credit.** This proposal extends for five years the current 1.5 cent per kilowatt hour tax credit (adjusted for inflation after 1992), which covers facilities placed in service before July 1, 1999.
  - **Expand definition of eligible biomass.** This proposal expands the definition of biomass eligible for the 1.5 cent tax credit to include certain forest-related resources and agricultural and other sources.
  - **Include cofiring biomass and coal.** This proposal adds a 1.0 cent per kilowatt hour tax credit for electricity produced by cofiring biomass in coal plants.

## INDUSTRY

- ***Tax credit for combined heat and power (CHP) systems.*** CHP systems make effective use of thermal energy that is otherwise wasted in producing electricity by more conventional methods. To encourage and accelerate investment in CHP equipment, this proposal provides an 8 percent tax credit for investments in large CHP systems that have a total energy efficiency exceeding 70 percent and in smaller systems that have a total energy efficiency exceeding 60 percent. The credit would apply to property placed in service from 2000-2002.

## Climate Change Technology Initiative: \$1.4 Billion for Energy Efficiency & Renewables

The President's FY 2000 budget proposes nearly \$1.4 billion for the research, development, and deployment of renewable energy technologies and energy efficient products that will help reduce U.S. greenhouse gas emissions. This represents a \$347 million increase (34 percent) over FY 1999 spending (see Table 3). The President's proposed investment package covers the four major carbon-emitting sectors of the economy -- buildings, transportation, industry, and electricity -- as well as carbon sequestration (see Table 4). The following sections highlight selected programs in each of these areas of effort. The full agency programs extend well beyond what is described here.

**Table 3. CCTI Funding by Agency (\$ in Millions)**

|                             | <b>FY 1998<br/>Enacted</b> | <b>FY 1999<br/>Enacted</b> | <b>FY 2000<br/>Request</b> | <b>Change<br/>from 1999</b> |
|-----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| Energy                      | 729                        | 902                        | 1,124                      | +222                        |
| EPA                         | 90                         | 109                        | 216                        | +107                        |
| Housing & Urban Development | 0                          | 10                         | 10                         | 0                           |
| Agriculture                 | 0                          | 0                          | 16                         | +16                         |
| Commerce                    | 0                          | 0                          | 2                          | +2                          |
| <b>TOTAL*</b>               | <b>819</b>                 | <b>1,021</b>               | <b>1,368</b>               | <b>+347</b>                 |

\*Totals may not add due to rounding

**Table 4. CCTI Funding by Area of Activity (\$ in Millions)**

|                                 | <b>FY 1998<br/>Enacted</b> | <b>FY 1999<br/>Enacted</b> | <b>FY 2000<br/>Request</b> | <b>Change<br/>from 1999</b> |
|---------------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| Buildings                       | 140                        | 172                        | 273                        | +101                        |
| Transportation                  | 245                        | 291                        | 377                        | +86                         |
| Industry                        | 157                        | 188                        | 239                        | +51                         |
| Electricity                     | 239                        | 310                        | 379                        | +69                         |
| Carbon Sequestration            | 0                          | 14                         | 39                         | +25                         |
| Management, Planning & Analysis | 37                         | 46                         | 60                         | +14                         |
| <b>TOTAL*</b>                   | <b>819</b>                 | <b>1,021</b>               | <b>1,368</b>               | <b>+347</b>                 |

\* Totals may not add due to rounding.

## BUILDINGS

- ***Partnership for Advancing Technology in Housing (PATH).*** PATH is a partnership between the Federal government and building industry to develop and deploy housing technologies to make new homes 50 percent more energy efficient and to make at least 15 million existing homes 30 percent more energy efficient within a decade.
- ***Energy Efficient Appliances and Products.*** Various DOE and EPA programs aim to promote the dissemination of energy efficient appliances and products:
  - DOE will accelerate its program to establish **energy efficiency standards for lighting and appliances.**
  - EPA and DOE's **Energy Star Products** program saves consumers money and reduces greenhouse gas emissions at the same time by promoting the use of energy efficient products -- everything from computers to refrigerators to central air-conditioning units. New funding will support the launch of new Energy Star product lines.
- ***Energy Efficient Commercial Buildings.*** DOE and EPA work in partnership with industry to research, develop, and deploy new technologies and practices to improve the energy performance of commercial buildings. Buildings in the top 25 percent in energy efficiency qualify for EPA's "**Energy Star Buildings**" label. Participants include the Empire State Building, the World Trade Center, and Chicago's Sears Tower.
- ***Energy Smart Schools.*** Announced in October 1998, this initiative cuts across several DOE programs and brings together public and private sector resources to cut schools' energy bills so that the savings can be reinvested in students and their education.

## TRANSPORTATION

- ***Partnership for a New Generation of Vehicles (PNGV).*** PNGV is a government-industry effort that aims to develop attractive, affordable cars that meet all applicable safety and environmental standards and get up to three times the fuel efficiency of today's cars. Since 1993, great strides have been made in producing lower-cost, light-weight materials, inexpensive fuel cells, and advanced internal combustion engines for use in hybrid vehicles. The program aims to produce a prototype mid-sized family car capable of 80 miles per gallon (mpg) with a two-thirds reduction in carbon emissions by 2004. The FY 2000 budget includes \$264 million for PNGV-related work, an increase of \$24 million over the amount appropriated for FY 1999.

- ***Light and Heavy Trucks.*** Similar government-industry efforts are aimed at developing cleaner, more efficient diesel engines for both light and heavy trucks.
  - By 2002, DOE aims to develop **advanced diesel cycle engine technologies** for pickup trucks, vans, and sport utility vehicles which achieve at least a 35 percent fuel efficiency improvement relative to current gasoline-fueled trucks while meeting strict emission standards.
  - By 2004, DOE, in coordination with EPA and the Department of Defense, aims to develop **engine and vehicle technologies for heavy trucks** that will increase the fuel economy to 12 mpg from the current average of 5.3 mpg.
- ***Biofuels.*** Working with the Department of Agriculture (USDA), DOE will continue its work in the biochemistry of converting wood chips, grasses, agricultural wastes, and other products into ethanol and other potentially useful fuels.

## INDUSTRY

- ***Industries of the Future.*** This DOE program works cooperatively with the nation's most energy-intensive industries -- such as aluminum, glass, chemicals, forest products, mining, petroleum refining, and steel -- on developing technologies that increase energy and resource efficiency. Promising collaborative efforts include improvements in the process of making steel, pulp and paper, and other energy-intensive products that could dramatically increase efficiency, lower greenhouse gas emissions, and improve competitiveness.
- ***Industrial Combined Heat and Power (CHP) Systems.*** DOE is developing new industrial CHP systems to capture thermal heat would otherwise be wasted. These systems are expected to be 15 percent more energy efficient and 80 percent cleaner than conventional power systems and cut electricity costs by 10 percent. In addition, EPA and DOE are also working to eliminate barriers to the rapid dissemination of combined heat and power technology.
- ***Voluntary Industrial Partnerships.*** EPA will expand its industry partnership programs, such as **Climate Wise** and the **Voluntary Aluminum Industrial Partnership**, to encourage businesses to take advantage of cost-effective emissions reductions opportunities -- including emissions of the most potent greenhouse gases, such as methane, perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF6).

- **Agriculture and Forestry.** USDA will undertake R&D and support demonstration projects aimed at both lowering greenhouse gas emissions from agriculture and forestry and reducing their vulnerability to climate change.

--The **Natural Resources Conservation Service** will invest \$3 million in projects to demonstrate and test various means of reducing greenhouse gas emissions in agriculture, such as compost-based waste-handling facilities, rotational grazing systems, and improved feed and forage systems.

--The **Agricultural Research Service** will devote \$7 million towards climate change related activities, including the development of new technology and expertise for reducing agriculture's vulnerability to a changing climate. Field experiments will seek to measure various potential effects of climate change, such as varying amounts and patterns of rainfall on forage production.

The FY 2000 budget also includes important USDA funding for developing advanced biomass energy technologies; R&D and demonstration projects for carbon sequestration; research to study the role of farms, forests, and other natural or managed lands in capturing and storing carbon; and a comprehensive U.S. soil carbon inventory (see pp. 10-12 below).

## ELECTRICITY

- **Photovoltaic Energy Systems.** Over the past 20 years, Federal R&D has resulted in a 90 percent cost reduction in solar photovoltaics. DOE will accelerate R&D of the next generation photovoltaic cells; increase manufacturing R&D; increase research in buildings-integrated applications; and fund efforts to develop new, unconventional technologies.

-- **Million Solar Roofs.** In June, 1997, the President announced an initiative to encourage the installation of one million solar systems by 2010, which would reduce carbon emissions equivalent to the annual emissions from 850,000 cars. DOE has received commitments for over half a million solar rooftop installations.

- **Biomass.** Biomass represents a tremendous renewable resource whose use can help strengthen our energy security, protect the environment, and enhance our rural economy.

-- **Biomass Power.** DOE is testing and demonstrating biomass co-firing with coal; developing advanced technologies for biomass gasification using paper industry by-products; and developing and testing high-yield, low-cost biomass feedstocks.

-- **Advanced Biomass Technologies.** This year DOE, USDA, and other Federal agencies and private partners will launch a national partnership to develop advanced integrated biomass technologies. These technologies will enable the production of power, transport fuels, and high-value chemicals from biomass feedstocks.

- **Wind Power.** DOE will continue developing a next-generation wind turbine able to produce power at 2.5 cents per kilowatt-hour in good wind regions, accelerate R&D on critical components, and accelerate testing and field validation.
- **Hydrogen.** DOE will accelerate research on low-cost hydrogen production and storage, prerequisites to the widespread use of hydrogen as a fuel.
- **High Temperature Superconductivity.** DOE supports industry-led projects to capitalize on recent breakthroughs in superconducting wire technology, aimed at developing devices such as advanced motors, power cables, and transformers. These technologies would allow more electricity to reach the consumer without an increase in fossil fuel input.

## **CARBON SEQUESTRATION**

- **R&D for Sequestration.** Research initiatives are being funded to find ways to sequester (store) carbon. Examples include:
  - **Enhancing Forest and Farmland Sinks.** The Forest Service, in conjunction with other USDA agencies, will spend \$6 million for R&D and demonstration projects for optimizing forest, farmland, and rangeland carbon sinks. The focus of such projects will include storage of carbon in forest soils and increased durability and use of wood products to sequester carbon.
  - **Enhancing natural geological and oceanic processes.** DOE will support research into the feasibility of capturing and storing carbon dioxide in underground geological structures and in the deep ocean.

## Other Climate-Related Investments

There are a number of additional programs for which funding is proposed in the FY 2000 budget that -- while not part of the Climate Change Technology Initiative per se -- contribute to improving energy efficiency and reducing greenhouse gas emissions. These programs include:

- ***Cleaner Coal and Natural Gas.*** The FY 2000 budget includes \$209 million to support the Department of Energy's (DOE) aggressive R&D effort to develop next-generation technologies for the combustion and use of coal and natural gas. For example, research and development of two new coal combustion technologies -- integrated gasification combined cycle and pressurized fluidized bed combustion -- could lead to ultra-high efficiency coal plants with dramatically lower greenhouse gas emissions.
- ***Low Income Weatherization and State Energy Grants.*** These DOE programs facilitate energy efficiency investments at the State and local level. The **Weatherization Assistance Program**, for example, delivers energy conservation services, such as insulation, to low-income Americans, reducing energy costs for consumers, improving health and safety, and reducing carbon emissions. The total FY 2000 budget request for these two programs is \$191 million -- a \$25 million increase over FY 1999 appropriations.
- ***Agricultural & Forestry Conservation Programs.*** Many Department of Agriculture conservation programs have the co-benefit of reducing carbon emissions resulting from agriculture and forestry and enhancing the ability of "sinks," such as forests and farmlands, to sequester or store carbon. This includes programs such as the **Conservation Reserve Program**, the **Environmental Quality Incentives Program**, and the **Farmland Protection Program**. In general, these programs assist farmers, ranchers, and other landowners in conserving and improving soil, water, and other natural resources associated with rural land.

# U.S. Global Change Research Program

The United States Global Change Research Program (USGCRP) seeks to provide a sound scientific understanding of both the human and natural forces that influence the Earth's climate system. The information produced by USGCRP's scientists is used by national and international policy makers to make informed decisions on global change issues. This multi-agency scientific research program coordinated through the National Science and Technology Council.

For FY 2000, the President is requesting nearly \$1.8 billion for the USGCRP, an increase of \$105 million, or 6 percent, above the amount enacted for FY 1999. Of the FY 2000 budget request, \$828 million is for scientific research (up \$84 million) and \$958 million is for NASA's development of climate monitoring satellites and ground based observation systems. Other important USGCRP budget highlights include:

- ***Carbon Cycle Initiative.*** The FY 2000 budget request establishes a new multi-agency initiative to improve our understanding of how carbon cycles between the atmosphere, the oceans, and land. Included in this request are funds to study the role of farms, forests, and other natural or managed lands in capturing carbon. Such carbon "sinks" may provide the U.S. and other nations with new tools for offsetting greenhouse gas emissions. The initiative includes \$10 million in new funding for the Department of Agriculture (USDA) and \$5 million for the Department of Energy.
- ***Soil Carbon Inventory.*** The FY 2000 budget request includes \$14 million (an increase of \$12 million from FY 1999 appropriations) to significantly expand efforts to conduct a comprehensive scientific inventory of carbon stored in U.S. soils and to develop methods to predict how soil carbon levels would be affected by different practices and policies. The inventory will be conducted by USDA's Natural Resources Conservation Service.
- ***3-Dimensional Mapping of Forests.*** The FY 2000 budget provides funding to launch NASA's Vegetation Canopy Lidar, which, for the first time, will give scientists a three dimensional view of the Earth's forests to help determine the contribution of forests in sequestering atmospheric carbon.
- ***Consequences of Climate Change.*** The FY 2000 budget provides funding to complete a report on the first national assessment of the potential consequences of climate change on the United States. The report will identify potential impacts on key economic sectors and geographic regions, mitigation and adaptation strategies, and provide technical information for policy makers.
- ***Regional Variability.*** The FY 2000 budget request includes funding to help scientists examine climate change and variability on a regional scale. Supported in part by the Administration's new Information Technology Initiative, the funding will help improve U.S. computer capabilities to run the complex models required to understand the effects of climate change and variability at the regional level.

# Agriculture and The President's FY 2000 Climate Change Budget

Farmland, rangeland, and forests can play a critical role in meeting the challenge of global warming through carbon sequestration and renewable bioenergy. In his FY 2000 budget, the President is proposing \$251 million in funding for sequestration and bioenergy research, development, and deployment. This includes \$105 million for the Department of Agriculture (USDA), a \$50 million increase over the amount appropriated for FY 1999, and \$146 million for the Department of Energy (DOE), a \$59 million increase over FY 1999 appropriated funds. Highlights include:

## SEQUESTRATION

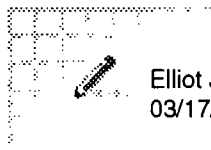
Carbon sequestration refers to the storage of carbon from the atmosphere by soils, trees, crops, and other plants.

- ***Demonstration Projects and New R&D.*** The Forest Service, the Agriculture Research Service and the Natural Resources Conservation Service will launch new R&D and demonstration projects to optimize farmland, rangeland, and forest carbon sinks.
- ***Carbon Cycle Initiative.*** The FY 2000 budget request establishes a new multi-agency initiative to improve our understanding of how carbon cycles between the atmosphere, the oceans, and land. Included in this request are funds to study the role of farms, forests, and other natural or managed lands in capturing carbon. Such carbon "sinks" may provide the U.S. and other nations with new tools for offsetting greenhouse gas emissions. The initiative includes \$10 million in new funding for USDA and \$5 million for DOE.
- ***Soil Carbon Inventory.*** The FY 2000 budget request includes \$14 million to significantly expand efforts to conduct a comprehensive scientific inventory of carbon stored in U.S. soils and to develop methods to predict how soil carbon levels would be affected by different practices and policies.

## BIOENERGY

Biomass refers to trees, crops and agricultural wastes used to produce power, fuels or chemicals. It represents a tremendous renewable resource whose use can help strengthen our energy security, protect the environment, and enhance our rural economy.

- ***Biomass Power and Fuels.*** DOE and USDA will continue developing, testing, and demonstrating high-yield, low-cost biomass feedstocks; testing and demonstrating biomass cofiring with coal; and seeking to produce alternative fuels, such as ethanol, from biomass.
- ***Advanced Biomass Technologies.*** This year, DOE, USDA and other Federal agencies and private partners will launch a national partnership to develop advanced integrated biomass technologies.
- ***Biomass Tax Credit.*** The President's tax package proposes to extend for 5 years the current 1.5 cent per kilowatt hour tax credit for electricity produced from biomass. The proposal also expands the types of biomass eligible for the credit to include certain forest-related, agricultural and other resources. Finally, the package includes a 1.0 cent per kilowatt hour tax credit for electricity produced by cofiring biomass in coal plants.



Elliot J. Diringer  
03/17/99 05:22:39 PM

Record Type: Record

To: Todd Stern/WHO/EOP@EOP, Martha L. Wofford/WHCCTF/EOP@EOP, John D. Gibson/WHCCTF/EOP@EOP

cc:

Subject: Q&A - PLS REVIEW

**Q. You talk frequently about the threat of climate change, but you haven't sent the Kyoto Protocol to the Senate for ratification, and the Administration is doing little or nothing to reduce greenhouse gas emissions. In fact, energy use and greenhouse emissions continue to rise. If the threat is so real, why aren't you doing more to address it? Could it be that the economic costs of dealing with it would be as dire as some predict?**

A. The challenge of global warming is real, and we are pursuing an aggressive, common-sense strategy to meet it. The Kyoto Protocol sets strong, realistic targets for reducing greenhouse gas emissions. And, thanks to U.S. leadership, it includes market-based tools like emissions trading that will allow us to achieve those targets at the least possible cost. The Protocol is a work in progress and, as I've said before, we will not submit it to the Senate until there is meaningful participation by key developing countries. We made significant progress at the negotiations last year in Buenos Aires, where Argentina and Kazakstan committed to take on emissions targets. Building on that progress is very much a part of our diplomatic agenda.

*10/12/97  
in 10/12/97*

At the same time, we are working hard to reduce emissions here in the United States. This year's budget includes a record \$1 billion for research investments in clean, efficient energy technology. For next year, I am proposing another significant increase in our R&D budget, plus tax incentives for the purchase of energy-efficient homes, cars, and appliances. I also am proposing a new Clean Air Partnership Fund to help finance state, local, and private efforts that both reduce greenhouse gas emissions and improve air quality.

Just as important is the growing recognition within the private sector that this challenge is real, and that we can meet it in ways that create new economic opportunities. A growing number of leading corporations are voluntarily pledging to significantly reduce their emissions. We are working closely with people in industry and in Congress to encourage these efforts through legislation that rewards early, voluntary reductions in greenhouse emissions.

As for cost, many of the studies out there greatly exaggerate the cost by using worst-case scenarios instead of modeling the policies we're actually pursuing. Our economic analysis shows that meeting the Kyoto target will likely cost the average family less than \$100 a year in higher energy bills -- and that would be substantially offset by savings from the kind of electricity restructuring we are proposing. On balance, I think that's a very modest premium for insurance

against some rather catastrophic consequences.

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## Republican Budget Fails to Extend Solvency of Social Security and Medicare and Dramatically Cuts Key Priorities

March 18, 1999

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Building on the success of six years of fiscal discipline and the virtuous economic cycle it created, President Clinton has proposed a budget that includes a more than \$3.4 trillion debt reduction lock-box that extends the solvency of Social Security until 2055 and extends Medicare's solvency for more than a decade. It invests in education and a cleaner environment, and provides a pro-savings tax cut to help American families build wealth through new Universal Savings Accounts (USAs). The Republicans have responded by proposing a budget that:

- Fails to extend the solvency of Medicare and Social Security.
- Forces dramatic cuts in key priorities -- more than 10% in 2000 and more than 20% in 2004.
- Chooses instead a large tax cut targeted away from the middle class.

### Fails to Extend Medicare Solvency

A year ago, in a radio address response [February 7, 1998], Chairman Domenici said, "*I believe that we should save Medicare first.*" In the Senate Budget Committee, he said, "*for every dollar you divert to some other program you are hastening the day when Medicare falls into bankruptcy.*" [Committee on Budget Mark-up, March 18, 1998] President Clinton's plan allocates 15 percent of the surplus over 15 years (or \$686 billion) to Medicare, and extends its solvency by more than a decade. Congressional Democrats share the President's determination to allocate 15 percent of the surplus for Medicare. However, the Republican budget:

- Does not extend Medicare solvency by one day.
- Does not set aside even one penny of the surplus to strengthen Medicare.

### Fails to Extend Social Security Solvency

- The Republican budget would do nothing to extend the solvency of Social Security. President Clinton's plan, according to the Social Security's independent actuary, extends the solvency of Social Security until 2055. Even if the Republican budget carries out any debt reduction, it does not apply the benefits of this debt reduction to Social Security. The solvency of Social Security is not extended by one day. At the same time, the Republicans are placing top priority on a tax cut that explodes in cost right when the baby boom approaches retirement.
- The Republican lock-box's debt mechanism would "*preclude the United States from meeting its future obligations to repaying maturing debt and to honor payments -- including benefit payments -- and could also run the risk of worsening a future economic downturn.*" [letter from Secretary Rubin to Senator Daschle, March 17, 1999].

### Forces Dramatic Cuts in Key Priorities: More than 10% in 2000 and roughly 25% in 2004

The Republican budget dramatically cuts the funds available for key domestic priority programs that have in the past received bipartisan support. The severity of these required cuts demonstrates that the Republican budget is unrealistic and unworkable. After factoring in Republican commitments made in their budget -- on tax cuts, defense, education, NIH -- **remaining programs would be slashed more than 10 percent in 2000 and more than 20 percent in 2004.** If cut across-the-board, the Republican budget could mean that in 2000 alone:

- Up to 100,000 children would lose access to **Head Start**.
- About 2,700 FBI agents would be cut.

## **The Congressional Budget: Sacrificing Our Environment and Public Health**

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*President Clinton is proposing a record \$33.9 billion in FY 2000 to protect our environment and public health, including major new initiatives to preserve America's lands legacy, combat air pollution and global warming, and help build livable communities for the 21st century.*

*The Congressional budget not only fails to fund these environmental priorities, but imposes drastic cuts that would stop toxic waste cleanups, shut down national parks, cripple water quality programs, and heighten the risk of deadly wildfires.*

---

*The Congressional budget slashes funding for priority domestic programs 12 percent in FY 2000 and 28 percent in 2004. Across-the-board cuts **would have these devastating impacts on public health and the environment:***

- ▶ **Stopping 135 Toxic Waste Cleanups** - The Congressional budget would cut Superfund by a total of \$1.5 billion over the next five years, needlessly jeopardizing public health by preventing as many as 135 priority cleanups nationwide -- 92 percent of the federally led cleanups planned.
- ▶ **Shutting Down National Parks** - Cuts to the National Park Service would reduce services and hours of operation at 378 parks and other facilities serving almost 300 million visitors a year. In FY 2004, \$575 million in cuts would shut down many smaller parks and backcountry areas in larger parks, and jeopardize visitor safety by blocking vital maintenance and repairs.
- ▶ **Squandering Our Lands Legacy** - By failing to fund the President's Lands Legacy initiative, the Congressional budget would block federal efforts to preserve natural treasures, and deny states and communities \$588 million to protect farmland, coastland, urban parks and other green spaces.
- ▶ **Slashing Water and Public Health Protections** - By FY 2004, cuts to the Environmental Protection Agency would eliminate funding for the Clean Water Action Plan, which helps communities clean up the 40 percent of surveyed waters still too polluted for fishing or swimming; and let polluters off the hook by crippling EPA's ability to enforce public health protections.
- ▶ **Gambling with Global Warming** - Cuts to the Department of Energy and EPA would gut efforts toward cleaner, more efficient energy for homes, transportation, and industry; and keep the Partnership for a New Generation of Vehicles from meeting its goal of new cars three times more fuel-efficient than today's models by 2004.
- ▶ **Crippling Wildlife Protections** - Cuts to the Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and Army Corps of Engineers would hamper salmon restoration in the Pacific Northwest, shut down wildlife refuges, and halt efforts to restore endangered species.
- ▶ **Raising the Risk of Deadly Wildfires** - FY 2000 cuts to the Forest Service and Bureau of Land Management would close some lands to the public and reduce firefighting capabilities. A total of \$700 million in FY 2004 cuts for these two agencies would cripple firefighting capabilities, jeopardizing lives and property throughout the West.

# President Clinton's FY 2000 Climate Change Budget

The President's climate change package for FY 2000 totals over \$4.1 billion -- an increase of more than \$1 billion (34 percent) from the amount enacted for FY 1999. It is comprised of a new Clean Air Partnership Fund to boost state and local efforts to reduce both greenhouse gases and ground-level air pollutants; the Climate Change Technology Initiative, which mixes tax incentives and direct spending to spur the research, development, and deployment of energy efficient technology and renewable energy; other climate-related investments, such as R&D of highly efficient technologies for the combustion and use of coal and natural gas, weatherization, and state energy grants; and the United States Global Change Research Program, to enhance our understanding of the human and natural forces that influence the Earth's climate system.

**Table 1. Climate-Change-Related Domestic Programs (\$ in Millions)**

|                                                                                                     | <b>FY 1999<br/>Enacted</b> | <b>FY 2000<br/>Request</b> | <b>Change</b> |
|-----------------------------------------------------------------------------------------------------|----------------------------|----------------------------|---------------|
| Clean Air Partnership Fund                                                                          | 0                          | 200                        | +200          |
| Climate Change Technology Initiative--tax incentives                                                | --                         | 383*                       | +383          |
| Climate Change Technology Initiative--spending                                                      | 1,021                      | 1,368                      | +347          |
| Other Climate-Related Investments (cleaner coal & natural gas; weatherization; state energy grants) | 387                        | 400                        | +13           |
| Global Change Research Program                                                                      | 1,681                      | 1,786                      | +105          |
| <b>TOTAL</b>                                                                                        | <b>3,090</b>               | <b>4,137</b>               | <b>+1,048</b> |

\*First year of a proposed five year, \$3.6 billion package.

# President Clinton's FY 2000 Climate Change Budget

*"Our most fateful new challenge is the threat of global warming...Tonight I propose a new clean air fund to help communities reduce greenhouse and other pollution, and tax incentives and investments to spur clean energy technology."*

President Bill Clinton, State of the Union address, January 19, 1999

**Meeting the challenge of global warming.** In his FY 2000 budget, the President is proposing a 34 percent increase for R&D in energy efficient technology and renewable energy; a new Clean Air Partnership Fund to boost state and local efforts to reduce greenhouse gases and air pollution; a five-year package of tax incentives to spur clean energy technologies; substantial new funding to focus on the ways farms and forests can reduce and offset greenhouse gas emissions; and \$1.8 billion for global change research -- a total package for FY 2000 of over \$4 billion.

**Clean Air Partnership Fund.** The President proposes \$200 million for a new fund to provide grants to state and local governments for projects that reduce both greenhouse gases and pollutants like soot, smog, and air toxics.

**Climate Change Technology Initiative (CCTI).** The CCTI is a package of targeted tax incentives and investments aimed at increasing energy efficiency and spurring the broader use of renewable energy. The package will save consumers money and reduce greenhouse gas emissions at the same time. FY 1999 appropriations represented a 25 percent increase over the prior year. The President's new budget proposes a still more accelerated effort.

**\$3.6 billion in tax incentives over five years.** The proposed package contains \$3.6 billion over five years in tax cuts (\$383 million for FY 2000) for consumers who purchase energy efficient products and for producers of energy from renewable sources. Highlights include:

- **Tax credits for energy efficient homes.** Consumers can receive a \$1000-2000 credit toward the purchase of a new energy efficient home; a 10-20 percent tax credit for the purchase of selected energy efficient products for their homes and buildings; and a \$1000-2000 credit for installing a rooftop solar system.
- **Tax credits for fuel-efficient cars.** The package includes tax credits ranging from \$1000-4000 for the purchase of a qualifying electric, fuel cell or hybrid vehicle.
- **Tax credits for renewable energy.** The package extends the 1.5 cent per kilowatt hour tax credit for the production of electricity from wind and biomass; expands the biomass credit to cover additional sources of biomass; and adds a 1.0 cent per kilowatt hour tax credit for cofiring coal and biomass in power plants.

**\$1.4 billion for Energy Efficiency & Renewables.** The proposed package contains nearly \$1.4 billion in FY 2000 to research, develop, and deploy clean technologies for the four major carbon-emitting sectors of the economy -- buildings, transportation, industry, and electricity -- a 34 percent increase over the amount appropriated in FY 1999. Highlights include:

- **Partnership for a New Generation of Vehicles.** PNGV is a government-industry effort to develop comfortable, affordable cars that meet all applicable safety and environmental standards and get up to three times the fuel efficiency of today's cars. The combined proposal for PNGV in the FY 2000 budget is \$264 million, an increase from the \$240 million appropriated in FY 1999.

- Partnership for Advancing Technology in Housing. PATH is a government-industry partnership to improve the energy efficiency of new homes by more than 50 percent and to retrofit 15 million existing homes to make them 30 percent more energy efficient within a decade. The FY 2000 budget request for building efficiency efforts, such as PATH, Energy Star, and Building America, totals \$273 million, a 59 percent increase over FY 1999 appropriations.
- Renewable energy. The President proposes \$399 million for the Department of Energy's (DOE) solar and renewable energy programs, a 19 percent increase over the amount appropriated in FY 1999. The package includes expanded efforts in key renewable technologies, such as wind, bioenergy, photovoltaics, and geothermal energy.

**Forests and Farms.** The FY 2000 proposal includes \$105 million for the Department of Agriculture's (USDA) climate change budget, an increase of \$50 million over the amount appropriated in FY 1999 and \$40 million over the Administration's FY 1999 request. The new proposal includes funding for a new, multi-agency Carbon Cycle Initiative to better understand how carbon is absorbed by agricultural soils and forests; a soil carbon inventory; pilot projects to demonstrate how improved farming practices can help store carbon; and programs to reduce emissions through means such as the conversion of waste to energy. In addition, DOE, in conjunction with USDA, will expand efforts aimed at broadening the use of biomass to produce power, fuels, and chemicals.

**Cleaner Coal.** The budget request contains \$122 million for R&D to develop next-generation technologies for coal combustion with much higher energy efficiency and lower greenhouse gas emissions.

**Weatherization & State Energy Grants.** The budget request includes \$191 million -- a \$25 million increase over FY 1999 appropriations -- to deliver energy conservation services to low-income Americans and to assist state energy offices in addressing their energy priorities.

**U.S. Global Change Research Program.** The FY 2000 request includes \$1.8 billion for scientific research to improve our understanding of human and natural forces that influence the Earth's climate system and to assess the likely consequences of global warming.

## Clean Air Partnership Fund

To help protect public health and ease the threat of global warming, President Clinton is proposing \$200 million for the creation of a new Clean Air Partnership Fund. The Fund will provide grants to states, localities, and tribes to support state, local, tribal, and private efforts that achieve reductions in both greenhouse gas emissions and ground-level air pollutants. The Fund will be administered by the Environmental Protection Agency (EPA) under existing authority.

- ***Integrated Pollution Control.*** The Fund will stimulate integrated, cost-effective pollution control strategies. It directs new resources to state, local, and tribal governments to finance projects and programs that achieve accelerated reductions in both air pollutants, such as soot, smog, and air toxics, and in greenhouse gases.
- ***A Quicker Path to Cleaner Air.*** By providing new resources for projects that accelerate pollution reductions, the Fund will enable communities to achieve multi-pollutant clean air goals sooner and reduce greenhouse gas emissions at the same time.
- ***Technological Innovation.*** The Fund will help spur both public and private sector innovations in next-generation pollution control technology.
- ***A Magnet for Local Investment & Innovation.*** The Fund will encourage public-private partnerships to demonstrate ways to create a cleaner environment at the local level. The Fund can be used to support local revolving funds, low-interest loan programs, matching grants, and other mechanisms that will leverage the original Federal investment, greatly increasing its impact.
- ***“Win-Win” Clean Air Projects.*** The Fund will support a wide range of practical projects that will mean cleaner air, reduced greenhouse gas emissions, and real savings for taxpayers and consumers. These could include projects such as building combined heat and power facilities that put waste heat to work, reducing emissions of both sulfur dioxide and carbon dioxide; retrofitting municipal buildings to make them more energy efficient, reducing pollution resulting from electricity generation; and upgrading municipal vehicle fleets to make them more fuel efficient.

## Climate Change Technology Initiative: \$3.6 Billion in Tax Incentives

The President is proposing a new \$3.6 billion package in tax incentives over five years to help reduce greenhouse gas emissions by spurring the purchase of energy efficient products and the use of renewable energy (see Table 2).

| Table 2. CCTI Tax Incentives (\$ in Billions)                                                                                        | Revenue Effect |                  |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|
|                                                                                                                                      | FY 2000        | Total<br>FY00-04 |
| <b>Homes and Buildings</b>                                                                                                           |                |                  |
| Provide tax credit for energy efficient building equipment                                                                           | -0.2           | -1.5             |
| Provide tax credit for new energy efficient homes                                                                                    | -0.1           | -0.4             |
| Provide tax credit for rooftop solar systems                                                                                         | --*            | -0.1             |
| <b>Vehicles</b>                                                                                                                      |                |                  |
| Extend tax credit for electric or fuel cell vehicles and provide tax credits for highly fuel efficient hybrid vehicles               | 0              | -0.9             |
| <b>Renewable Energy</b>                                                                                                              |                |                  |
| Extend tax credit for electricity produced from wind and biomass; expand eligible biomass sources; and include coal-biomass cofiring | --*            | -0.3             |
| <b>Industry</b>                                                                                                                      |                |                  |
| Provide tax credit for combined heat and power systems                                                                               | -0.1           | -0.3             |
| <b>TOTAL**</b>                                                                                                                       | <b>-0.4</b>    | <b>-3.6</b>      |

\*Less than \$50 million.

\*\*Total may not add due to rounding.

## HOMES AND BUILDINGS

- ***Tax credit to consumers who purchase new energy efficient homes.*** To encourage the purchase of new energy efficient homes, consumers would receive a tax credit of \$1,000 for homes purchased from 2000-2001 that are at least 30 percent more energy efficient than the standard under the 1998 International Energy Conservation Code (IECC); a credit of \$1,500 for homes purchased from 2000-2002 that are at least 40 percent more efficient than the IECC standard; and a credit of \$2,000 for homes purchased from 2000-2004 that are at least 50 percent more efficient than the IECC standard.
- ***Tax credit for energy efficient equipment in new and existing homes or buildings.*** This credit will encourage the purchase of electric heat pump and natural gas water heaters, electric and natural gas heat pumps, advanced central air conditioners, and fuel cells. The credit would apply to both residential and commercial equipment. For electric heat pump water heaters, natural gas heat pumps, and fuel cells, the credit would be 20 percent of the cost of the investment, subject to a cap, for equipment purchased from 2000-2003. For all other equipment, the credit would be 10 percent of the cost of the investment, subject to a cap, at one level of efficiency (2000-2001) and 20 percent, subject to a cap, at a higher level of efficiency (2000-2003).
- ***Tax credit for rooftop solar systems.*** A 15 percent tax credit will encourage the purchase by consumers and businesses of rooftop solar systems. The maximum credit would be \$2,000 for rooftop photovoltaic systems placed in service from 2000-2006 and \$1,000 for solar water heating systems placed in service from 2000-2004.

## VEHICLES

- ***Tax credits for highly efficient cars and light trucks.*** Cars and light trucks (including minivans, sport utilities, and pickups) currently account for 20 percent of greenhouse gas emissions. Tax credits for electric, fuel cell, and hybrid vehicles will help to move these highly efficient technologies from the laboratory to the highway. These technologies can significantly reduce emissions of carbon dioxide, the most prevalent greenhouse gas.
- ***Extend the current tax credit for electric vehicles and fuel cell vehicles.*** Under current law, a 10 percent credit, up to \$4,000, is provided for the cost of qualified electric vehicles and fuel cell vehicles. The credit begins to phase down in 2002 and phases out in 2005. The President's proposal would extend the tax credit at its \$4,000 maximum level through 2006.

- **Tax credits for hybrid vehicles.** The credit -- available for all qualifying vehicles, including cars, minivans, sport utility vehicles, and pickup trucks -- would be:
  - \$1,000 for each vehicle that is one-third more fuel efficient than a comparable vehicle in its class -- available from 2003-2004;
  - \$2,000 for each vehicle that is two-thirds more fuel efficient than a comparable vehicle in its class -- available from 2003-2006;
  - \$3,000 for each vehicle that is twice as fuel efficient as a comparable vehicle in its class -- available from 2004-2006; and,
  - \$4,000 for each vehicle that is three times as fuel efficient as a comparable vehicle in its class -- available from 2004-2006.

## RENEWABLE ENERGY

- ***Tax credit for electricity produced from wind.*** Current law encourages the production of electricity from wind, which emits no greenhouse gases, through a tax credit of 1.5 cents per kilowatt hour (adjusted for inflation after 1992). The current tax credit covers facilities placed in service before July 1, 1999. The President proposes a 5-year extension of this tax credit.
- ***Tax credits for electricity produced from biomass.*** Biomass refers to trees, crops and agricultural wastes used to produce power, fuels or chemicals. This package of credits would:
  - **Extend current biomass credit.** This proposal extends for five years the current 1.5 cent per kilowatt hour tax credit (adjusted for inflation after 1992), which covers facilities placed in service before July 1, 1999.
  - **Expand definition of eligible biomass.** This proposal expands the definition of biomass eligible for the 1.5 cent tax credit to include certain forest-related resources and agricultural and other sources.
  - **Include cofiring biomass and coal.** This proposal adds a 1.0 cent per kilowatt hour tax credit for electricity produced by cofiring biomass in coal plants.

## INDUSTRY

- ***Tax credit for combined heat and power (CHP) systems.*** CHP systems make effective use of thermal energy that is otherwise wasted in producing electricity by more conventional methods. To encourage and accelerate investment in CHP equipment, this proposal provides an 8 percent tax credit for investments in large CHP systems that have a total energy efficiency exceeding 70 percent and in smaller systems that have a total energy efficiency exceeding 60 percent. The credit would apply to property placed in service from 2000-2002.

## Climate Change Technology Initiative: \$1.4 Billion for Energy Efficiency & Renewables

The President's FY 2000 budget proposes nearly \$1.4 billion for the research, development, and deployment of renewable energy technologies and energy efficient products that will help reduce U.S. greenhouse gas emissions. This represents a \$347 million increase (34 percent) over FY 1999 spending (see Table 3). The President's proposed investment package covers the four major carbon-emitting sectors of the economy -- buildings, transportation, industry, and electricity -- as well as carbon sequestration (see Table 4). The following sections highlight selected programs in each of these areas of effort. The full agency programs extend well beyond what is described here.

**Table 3. CCTI Funding by Agency (\$ in Millions)**

|                             | <b>FY 1998<br/>Enacted</b> | <b>FY 1999<br/>Enacted</b> | <b>FY 2000<br/>Request</b> | <b>Change<br/>from 1999</b> |
|-----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| Energy                      | 729                        | 902                        | 1,124                      | +222                        |
| EPA                         | 90                         | 109                        | 216                        | +107                        |
| Housing & Urban Development | 0                          | 10                         | 10                         | 0                           |
| Agriculture                 | 0                          | 0                          | 16                         | +16                         |
| Commerce                    | 0                          | 0                          | 2                          | +2                          |
| <b>TOTAL*</b>               | <b>819</b>                 | <b>1,021</b>               | <b>1,368</b>               | <b>+347</b>                 |

\*Totals may not add due to rounding

**Table 4. CCTI Funding by Area of Activity (\$ in Millions)**

|                                 | <b>FY 1998<br/>Enacted</b> | <b>FY 1999<br/>Enacted</b> | <b>FY 2000<br/>Request</b> | <b>Change<br/>from 1999</b> |
|---------------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| Buildings                       | 140                        | 172                        | 273                        | +101                        |
| Transportation                  | 245                        | 291                        | 377                        | +86                         |
| Industry                        | 157                        | 188                        | 239                        | +51                         |
| Electricity                     | 239                        | 310                        | 379                        | +69                         |
| Carbon Sequestration            | 0                          | 14                         | 39                         | +25                         |
| Management, Planning & Analysis | 37                         | 46                         | 60                         | +14                         |
| <b>TOTAL*</b>                   | <b>819</b>                 | <b>1,021</b>               | <b>1,368</b>               | <b>+347</b>                 |

\* Totals may not add due to rounding.

## BUILDINGS

- ***Partnership for Advancing Technology in Housing (PATH).*** PATH is a partnership between the Federal government and building industry to develop and deploy housing technologies to make new homes 50 percent more energy efficient and to make at least 15 million existing homes 30 percent more energy efficient within a decade.
- ***Energy Efficient Appliances and Products.*** Various DOE and EPA programs aim to promote the dissemination of energy efficient appliances and products:
  - DOE will accelerate its program to establish **energy efficiency standards for lighting and appliances.**
  - EPA and DOE's **Energy Star Products** program saves consumers money and reduces greenhouse gas emissions at the same time by promoting the use of energy efficient products -- everything from computers to refrigerators to central air-conditioning units. New funding will support the launch of new Energy Star product lines.
- ***Energy Efficient Commercial Buildings.*** DOE and EPA work in partnership with industry to research, develop, and deploy new technologies and practices to improve the energy performance of commercial buildings. Buildings in the top 25 percent in energy efficiency qualify for EPA's "**Energy Star Buildings**" label. Participants include the Empire State Building, the World Trade Center, and Chicago's Sears Tower.
- ***Energy Smart Schools.*** Announced in October 1998, this initiative cuts across several DOE programs and brings together public and private sector resources to cut schools' energy bills so that the savings can be reinvested in students and their education.

## TRANSPORTATION

- ***Partnership for a New Generation of Vehicles (PNGV).*** PNGV is a government-industry effort that aims to develop attractive, affordable cars that meet all applicable safety and environmental standards and get up to three times the fuel efficiency of today's cars. Since 1993, great strides have been made in producing lower-cost, light-weight materials, inexpensive fuel cells, and advanced internal combustion engines for use in hybrid vehicles. The program aims to produce a prototype mid-sized family car capable of 80 miles per gallon (mpg) with a two-thirds reduction in carbon emissions by 2004. The FY 2000 budget includes \$264 million for PNGV-related work, an increase of \$24 million over the amount appropriated for FY 1999.

- **Light and Heavy Trucks.** Similar government-industry efforts are aimed at developing cleaner, more efficient diesel engines for both light and heavy trucks.
  - By 2002, DOE aims to develop **advanced diesel cycle engine technologies** for pickup trucks, vans, and sport utility vehicles which achieve at least a 35 percent fuel efficiency improvement relative to current gasoline-fueled trucks while meeting strict emission standards.
  - By 2004, DOE, in coordination with EPA and the Department of Defense, aims to develop **engine and vehicle technologies for heavy trucks** that will increase the fuel economy to 12 mpg from the current average of 5.3 mpg.
- **Biofuels.** Working with the Department of Agriculture (USDA), DOE will continue its work in the biochemistry of converting wood chips, grasses, agricultural wastes, and other products into ethanol and other potentially useful fuels.

## INDUSTRY

- **Industries of the Future.** This DOE program works cooperatively with the nation's most energy-intensive industries -- such as aluminum, glass, chemicals, forest products, mining, petroleum refining, and steel -- on developing technologies that increase energy and resource efficiency. Promising collaborative efforts include improvements in the process of making steel, pulp and paper, and other energy-intensive products that could dramatically increase efficiency, lower greenhouse gas emissions, and improve competitiveness.
- **Industrial Combined Heat and Power (CHP) Systems.** DOE is developing new industrial CHP systems to capture thermal heat would otherwise be wasted. These systems are expected to be 15 percent more energy efficient and 80 percent cleaner than conventional power systems and cut electricity costs by 10 percent. In addition, EPA and DOE are also working to eliminate barriers to the rapid dissemination of combined heat and power technology.
- **Voluntary Industrial Partnerships.** EPA will expand its industry partnership programs, such as **Climate Wise** and the **Voluntary Aluminum Industrial Partnership**, to encourage businesses to take advantage of cost-effective emissions reductions opportunities -- including emissions of the most potent greenhouse gases, such as methane, perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF6).

- ***Agriculture and Forestry.*** USDA will undertake R&D and support demonstration projects aimed at both lowering greenhouse gas emissions from agriculture and forestry and reducing their vulnerability to climate change.

--The **Natural Resources Conservation Service** will invest \$3 million in projects to demonstrate and test various means of reducing greenhouse gas emissions in agriculture, such as compost-based waste-handling facilities, rotational grazing systems, and improved feed and forage systems.

--The **Agricultural Research Service** will devote \$7 million towards climate change related activities, including the development of new technology and expertise for reducing agriculture's vulnerability to a changing climate. Field experiments will seek to measure various potential effects of climate change, such as varying amounts and patterns of rainfall on forage production.

The FY 2000 budget also includes important USDA funding for developing advanced biomass energy technologies; R&D and demonstration projects for carbon sequestration; research to study the role of farms, forests, and other natural or managed lands in capturing and storing carbon; and a comprehensive U.S. soil carbon inventory (see pp. 10-12 below).

## **ELECTRICITY**

- ***Photovoltaic Energy Systems.*** Over the past 20 years, Federal R&D has resulted in a 90 percent cost reduction in solar photovoltaics. DOE will accelerate R&D of the next generation photovoltaic cells; increase manufacturing R&D; increase research in buildings-integrated applications; and fund efforts to develop new, unconventional technologies.

-- **Million Solar Roofs.** In June, 1997, the President announced an initiative to encourage the installation of one million solar systems by 2010, which would reduce carbon emissions equivalent to the annual emissions from 850,000 cars. DOE has received commitments for over half a million solar rooftop installations.

- ***Biomass.*** Biomass represents a tremendous renewable resource whose use can help strengthen our energy security, protect the environment, and enhance our rural economy.

-- **Biomass Power.** DOE is testing and demonstrating biomass co-firing with coal; developing advanced technologies for biomass gasification using paper industry by-products; and developing and testing high-yield, low-cost biomass feedstocks.

-- **Advanced Biomass Technologies.** This year DOE, USDA, and other Federal agencies and private partners will launch a national partnership to develop advanced integrated biomass technologies. These technologies will enable the production of power, transport fuels, and high-value chemicals from biomass feedstocks.

- **Wind Power.** DOE will continue developing a next-generation wind turbine able to produce power at 2.5 cents per kilowatt-hour in good wind regions, accelerate R&D on critical components, and accelerate testing and field validation.
- **Hydrogen.** DOE will accelerate research on low-cost hydrogen production and storage, prerequisites to the widespread use of hydrogen as a fuel.
- **High Temperature Superconductivity.** DOE supports industry-led projects to capitalize on recent breakthroughs in superconducting wire technology, aimed at developing devices such as advanced motors, power cables, and transformers. These technologies would allow more electricity to reach the consumer without an increase in fossil fuel input.

## **CARBON SEQUESTRATION**

- **R&D for Sequestration.** Research initiatives are being funded to find ways to sequester (store) carbon. Examples include:
  - **Enhancing Forest and Farmland Sinks.** The Forest Service, in conjunction with other USDA agencies, will spend \$6 million for R&D and demonstration projects for optimizing forest, farmland, and rangeland carbon sinks. The focus of such projects will include storage of carbon in forest soils and increased durability and use of wood products to sequester carbon.
  - **Enhancing natural geological and oceanic processes.** DOE will support research into the feasibility of capturing and storing carbon dioxide in underground geological structures and in the deep ocean.

## Other Climate-Related Investments

There are a number of additional programs for which funding is proposed in the FY 2000 budget that -- while not part of the Climate Change Technology Initiative per se -- contribute to improving energy efficiency and reducing greenhouse gas emissions. These programs include:

- ***Cleaner Coal and Natural Gas.*** The FY 2000 budget includes \$209 million to support the Department of Energy's (DOE) aggressive R&D effort to develop next-generation technologies for the combustion and use of coal and natural gas. For example, research and development of two new coal combustion technologies -- integrated gasification combined cycle and pressurized fluidized bed combustion -- could lead to ultra-high efficiency coal plants with dramatically lower greenhouse gas emissions.
- ***Low Income Weatherization and State Energy Grants.*** These DOE programs facilitate energy efficiency investments at the State and local level. The **Weatherization Assistance Program**, for example, delivers energy conservation services, such as insulation, to low-income Americans, reducing energy costs for consumers, improving health and safety, and reducing carbon emissions. The total FY 2000 budget request for these two programs is \$191 million -- a \$25 million increase over FY 1999 appropriations.
- ***Agricultural & Forestry Conservation Programs.*** Many Department of Agriculture conservation programs have the co-benefit of reducing carbon emissions resulting from agriculture and forestry and enhancing the ability of "sinks," such as forests and farmlands, to sequester or store carbon. This includes programs such as the **Conservation Reserve Program**, the **Environmental Quality Incentives Program**, and the **Farmland Protection Program**. In general, these programs assist farmers, ranchers, and other landowners in conserving and improving soil, water, and other natural resources associated with rural land.

# U.S. Global Change Research Program

The United States Global Change Research Program (USGCRP) seeks to provide a sound scientific understanding of both the human and natural forces that influence the Earth's climate system. The information produced by USGCRP's scientists is used by national and international policy makers to make informed decisions on global change issues. This multi-agency scientific research program coordinated through the National Science and Technology Council.

For FY 2000, the President is requesting nearly \$1.8 billion for the USGCRP, an increase of \$105 million, or 6 percent, above the amount enacted for FY 1999. Of the FY 2000 budget request, \$828 million is for scientific research (up \$84 million) and \$958 million is for NASA's development of climate monitoring satellites and ground based observation systems. Other important USGCRP budget highlights include:

- ***Carbon Cycle Initiative.*** The FY 2000 budget request establishes a new multi-agency initiative to improve our understanding of how carbon cycles between the atmosphere, the oceans, and land. Included in this request are funds to study the role of farms, forests, and other natural or managed lands in capturing carbon. Such carbon "sinks" may provide the U.S. and other nations with new tools for offsetting greenhouse gas emissions. The initiative includes \$10 million in new funding for the Department of Agriculture (USDA) and \$5 million for the Department of Energy.
- ***Soil Carbon Inventory.*** The FY 2000 budget request includes \$14 million (an increase of \$12 million from FY 1999 appropriations) to significantly expand efforts to conduct a comprehensive scientific inventory of carbon stored in U.S. soils and to develop methods to predict how soil carbon levels would be affected by different practices and policies. The inventory will be conducted by USDA's Natural Resources Conservation Service.
- ***3-Dimensional Mapping of Forests.*** The FY 2000 budget provides funding to launch NASA's Vegetation Canopy Lidar, which, for the first time, will give scientists a three dimensional view of the Earth's forests to help determine the contribution of forests in sequestering atmospheric carbon.
- ***Consequences of Climate Change.*** The FY 2000 budget provides funding to complete a report on the first national assessment of the potential consequences of climate change on the United States. The report will identify potential impacts on key economic sectors and geographic regions, mitigation and adaptation strategies, and provide technical information for policy makers.
- ***Regional Variability.*** The FY 2000 budget request includes funding to help scientists examine climate change and variability on a regional scale. Supported in part by the Administration's new Information Technology Initiative, the funding will help improve U.S. computer capabilities to run the complex models required to understand the effects of climate change and variability at the regional level.

# Agriculture and The President's FY 2000 Climate Change Budget

Farmland, rangeland, and forests can play a critical role in meeting the challenge of global warming through carbon sequestration and renewable bioenergy. In his FY 2000 budget, the President is proposing \$251 million in funding for sequestration and bioenergy research, development, and deployment. This includes \$105 million for the Department of Agriculture (USDA), a \$50 million increase over the amount appropriated for FY 1999, and \$146 million for the Department of Energy (DOE), a \$59 million increase over FY 1999 appropriated funds. Highlights include:

## SEQUESTRATION

Carbon sequestration refers to the storage of carbon from the atmosphere by soils, trees, crops, and other plants.

- ***Demonstration Projects and New R&D.*** The Forest Service, the Agriculture Research Service and the Natural Resources Conservation Service will launch new R&D and demonstration projects to optimize farmland, rangeland, and forest carbon sinks.
- ***Carbon Cycle Initiative.*** The FY 2000 budget request establishes a new multi-agency initiative to improve our understanding of how carbon cycles between the atmosphere, the oceans, and land. Included in this request are funds to study the role of farms, forests, and other natural or managed lands in capturing carbon. Such carbon “sinks” may provide the U.S. and other nations with new tools for offsetting greenhouse gas emissions. The initiative includes \$10 million in new funding for USDA and \$5 million for DOE.
- ***Soil Carbon Inventory.*** The FY 2000 budget request includes \$14 million to significantly expand efforts to conduct a comprehensive scientific inventory of carbon stored in U.S. soils and to develop methods to predict how soil carbon levels would be affected by different practices and policies.

## BIOENERGY

Biomass refers to trees, crops and agricultural wastes used to produce power, fuels or chemicals. It represents a tremendous renewable resource whose use can help strengthen our energy security, protect the environment, and enhance our rural economy.

- ***Biomass Power and Fuels.*** DOE and USDA will continue developing, testing, and demonstrating high-yield, low-cost biomass feedstocks; testing and demonstrating biomass cofiring with coal; and seeking to produce alternative fuels, such as ethanol, from biomass.
- ***Advanced Biomass Technologies.*** This year, DOE, USDA and other Federal agencies and private partners will launch a national partnership to develop advanced integrated biomass technologies.
- ***Biomass Tax Credit.*** The President's tax package proposes to extend for 5 years the current 1.5 cent per kilowatt hour tax credit for electricity produced from biomass. The proposal also expands the types of biomass eligible for the credit to include certain forest-related, agricultural and other resources. Finally, the package includes a 1.0 cent per kilowatt hour tax credit for electricity produced by cofiring biomass in coal plants.

## MEETING THE CHALLENGE OF GLOBAL CLIMATE CHANGE

### MARCH 1999

*Global climate change is one of our greatest environmental challenges. There is a broad scientific consensus that the problem is real and that the threats it poses -- such as increasingly frequent and severe storms and droughts, potential increases in respiratory and infectious diseases, and rising sea levels -- are too serious to ignore*

*The Clinton Administration is working hard at home and abroad to meet the challenge of climate change. Domestically, we are working to implement the President's balanced plan of win-win initiatives to reduce greenhouse gas emissions. Internationally, we are working to complete the unfinished business of the Kyoto Protocol and to secure the meaningful participation of developing countries in efforts to address global warming.*

### **THE SCIENCE OF CLIMATE CHANGE**

Greenhouse gases trap heat from the sun to keep the Earth's temperature an estimated 60 degrees Fahrenheit (F) warmer than it would be absent such gases, thus sustaining our existence on the planet. As a result of the burning of fossil fuels and deforestation, the concentration of carbon dioxide (CO<sub>2</sub>), the principal greenhouse gas, has increased 30% since preindustrial times. If we continue on a business-as-usual trajectory, this concentration is expected to reach almost twice current levels by 2100 -- a level not seen in 50 million years. The Intergovernmental Panel on Climate Change (IPCC), which represents the work of more than 2,000 of the world's leading climate scientists, estimates that this will lead to an increase in global temperature of 2 to 6.5 degrees F. By way of comparison, the last ice age was only about 9 degrees F colder than today.

Over the past year, new data from tree rings, ice melts, boreholes, and satellites have reinforced the broad scientific consensus that global warming is well underway. Studies have shown that the 20th century has been the warmest century in the past 1200 years; the 1990s have been the warmest decade in that period; and that 1997 and 1998 have been the warmest years since reliable instrument records began more than a century ago.

### **POTENTIAL IMPACTS OF CLIMATE CHANGE**

Scientists predict a range of likely effects from global warming:

- ***Extreme weather.*** As temperatures increase, so does the rate of evaporation. This acceleration of the hydrologic cycle is projected to increase the frequency and intensity of extreme weather events such as floods and droughts. Last year's El Nino -- which produced warmer and wetter conditions akin to those anticipated from global warming -- offered us a window on the type of extreme weather that global warming may bring, from droughts and fires in Florida, Texas, Mexico and Indonesia to devastating floods in China and Bangladesh.
- ***Human health.*** Warmer temperatures are projected to increase fatalities from heat stress and expand the geographic ranges for diseases like malaria and dengue fever. Additional smog caused by warmer temperatures could increase the incidence of asthma and other respiratory illnesses, particularly among children and the elderly.

- **Sea level rise.** Scientists project that the sea level will rise by an additional 6 to 37 inches by 2100, endangering island states and coastal areas. A 20-inch rise could inundate 7,000 square miles of the U.S. coastline, with Florida and the Gulf Coast at greatest risk.
- **Agricultural impacts.** Changes in growing seasons, water availability, soil moisture, and precipitation are expected to cause significant regional shifts in food productivity, with decreased production in many of the world's poorest regions. Water supplies and water quality may also be affected, posing threats to irrigation, fisheries, and drinking supplies.
- **Damage to ecosystems.** Many species are highly adapted to particular climate conditions and may not survive substantial climate shifts. For example, the United States may lose beech trees and sugar maples, and western conifer forests are likely to shrink, as the tolerable climate zones for these species shift hundreds of miles to the north.

### **PRESIDENT CLINTON'S DOMESTIC PLAN**

In October 1997, President Clinton outlined an environmentally and economically sound plan for reducing U.S. greenhouse gas emissions. The plan emphasizes win-win initiatives designed to cut emissions while increasing energy efficiency and creating new opportunities for economic growth.

- **Tax incentives and R&D.** The President's plan includes the **Climate Change Technology Initiative** -- a vigorous program of tax incentives and investments aimed at increasing energy efficiency and spurring the broader use of renewable energy. The FY 1999 appropriations for these programs totaled over \$1 billion and represented a 25% increase over the prior year. The President's FY 2000 budget proposes a still more accelerated effort.
- The **tax incentive package** contains \$3.6 billion over five years for consumers who purchase energy efficient products and for producers of energy from renewable sources. Highlights include: a tax credit of up to \$2000 for energy efficient new homes; a 10-20% credit for selected energy efficient products for homes and buildings; a credit of up to \$2000 for rooftop solar systems; a credit of up to \$4000 for qualifying electric, fuel cell or hybrid vehicles; extension of the current 1.5 cents/kilowatt hour credit for the production of electricity from wind and biomass; an expansion of the biomass credit to cover additional sources; and a 1.0 cent/kilowatt hour credit for cofiring coal and biomass in power plants.
- The **investment package** contains nearly \$1.4 billion in FY 2000 to research, develop, and deploy clean energy technologies. This represents a 34 percent increase over the amount appropriated in FY 1999. Highlights include: increased funding for the *Partnership for a New Generation of Vehicles*, a government-industry effort to develop cars that get up to three times the fuel efficiency of today's cars; the *Partnership for Advancing Technology in Housing*, which aims to improve the energy efficiency of new homes by more than 50 percent and to retrofit 15 million existing homes to make them 30 percent more energy efficient within a decade; a stepped-up bioenergy initiative to develop advanced bioenergy technologies; expanded research and development efforts in other key renewable energy technologies; and a new research project, the *Carbon Cycle Initiative*, to deepen our understanding of carbon "sinks," such as forests and farmlands.

- ***Credit for Early Action.*** The Administration is working closely with industry and Congress on legislation to reward companies taking early, voluntary action to reduce their greenhouse gas emissions or increase carbon sequestration.
- ***Clean Air Partnership Fund.*** The President's FY 2000 budget also proposes \$200 million for the creation of a new Clean Air Partnership Fund to support state and local efforts to reduce both greenhouse gas emissions and ground-level air pollutants. The Fund will help finance projects that go beyond legal requirements and enable communities to achieve clean air goals sooner. It will also stimulate cost-effective pollution control strategies, spur technological innovation, and leverage substantial non-Federal investment in cleaner air.
- ***Industry consultations.*** The President's plan also involves building partnerships with key energy-intensive industries to develop sector-by-sector initiatives to cut emissions. These partnerships are identifying opportunities for working together to remove barriers to the development and widespread use of energy efficient technologies and practices.
- ***Electricity restructuring.*** Another core element of the President's plan involves restructuring the electricity industry by introducing competition that will reduce greenhouse gas emissions while saving consumers millions on their energy bills. The Administration's restructuring proposal would provide a profit incentive for generators to produce more electricity with less fuel and to improve energy efficiency. It also includes a renewable portfolio standard to increase the use of electricity from renewable sources and a Public Benefits Fund to spur greater investment in energy efficiency and renewables.
- ***Federal energy use and procurement.*** The President's plan seeks to substantially reduce the Federal government's own greenhouse gas emissions by improving the energy efficiency of Federal facilities and activities and reforming procurement practices. These actions are important in their own right, since the Federal government is the nation's largest single energy user, but they also set an important example for the private sector.
- ***Domestic emissions trading.*** The President has proposed a domestic emissions trading system to begin by 2008 so that we can achieve our emissions target at the lowest possible cost. The U.S. has used emissions trading successfully to reduce the pollution that causes acid rain -- exceeding environmental objectives at about 50% the expected cost.
- ***Scientific research.*** The Administration is continuing its strong support for the U.S. Global Change Research Program. This program provides a sound science foundation for policy decisions as it furthers our understanding of human and naturally induced changes in the Earth's environment and assesses the likely consequences of global warming.

## **DIPLOMATIC AGENDA**

Thanks largely to U.S. leadership, the international climate change agreement reached at Kyoto, Japan in December 1997, combines strong environmental targets with flexible, market-based mechanisms that will allow nations to meet their targets in a cost-effective manner.

- ***Emissions targets.*** The Kyoto Protocol's emissions targets include a multi-year time frame (2008-2012), giving our economy and our technologies more time to adapt; differentiated targets for developed countries; coverage of all six greenhouse gases; and inclusion of so-called carbon "sinks" – so that nations can receive credit for activities that absorb carbon dioxide, such as afforestation, reforestation, and better forestry and agricultural conservation practices.
- ***Flexible market mechanisms.*** The Protocol includes key market mechanisms that will provide nations and companies with real flexibility in how they achieve emissions reductions, including international emissions trading and the Clean Development Mechanism (CDM). Trading among countries that have taken on targets can dramatically cut the cost of reducing emissions. The CDM will allow U.S. companies to gain low-cost emissions credits through, for example, emissions-cutting, clean technology projects undertaken in developing countries.
- ***Meaningful participation by developing countries.*** President Clinton has called for more meaningful participation on the part of key developing countries in addressing global warming. He has made clear that he will not submit the Kyoto Protocol to the Senate until such participation is achieved.

At the November 1998 UN climate change conference in Buenos Aires, the parties agreed to a two-year timetable for filling in the key details of the Kyoto Protocol in areas such as emissions trading, the Clean Development Mechanism, compliance, and the scope and use of carbon sinks. Buenos Aires also saw a significant breakthrough on the issue of developing country participation as Argentina and Kazakhstan announced their intention to take on binding emissions targets for the 2008-2012 time period.

### **ECONOMIC COST OF KYOTO**

The Administration's economic analysis of the Kyoto Protocol concludes that the cost to the United States of meeting our Kyoto target for reducing greenhouse gases should be modest. Even without counting the impact of domestic policies or the benefits of acting to mitigate climate change, estimates derived from economic modeling suggest an emissions price in the range of \$14 to \$23 per ton of greenhouse gases. In 2010, that would translate into an increase of \$70 to \$110 per year for an average family's energy bill. This increase, however, would be substantially offset by the decline in electricity prices resulting from restructuring the electricity industry, as the Administration and others have proposed. In addition, noted economists have estimated the ancillary benefits of reducing greenhouse gas emissions -- such as reduced air pollution -- could produce savings equal to one quarter of the costs of meeting our Kyoto target.

### **CONCLUSION**

For the past 25 years, efforts to protect the environment, whether by cleaning our air, our water, or eliminating acid rain, have been repeatedly assailed as a threat to our economy. Yet today we have the cleanest environment in a generation and the strongest economy in a generation. President Clinton's balanced approach to the challenge of climate change will allow us to grow the economy and protect the environment at the same time.

## **Fact Sheet on EIA Economic Analysis**

*The Energy Information Administration's (EIA) recent analysis of the Kyoto Protocol is significantly flawed. In modeling implementation of the Protocol, EIA fails to take into account the Protocol's flexibility mechanisms, incorrectly assumes that most businesses will fail to take action to address climate change until 2005 or later, and uses a model that underestimates the dynamism of the U.S. economy. In contrast, the Administration's economic analysis of the Protocol, released in July, demonstrates that with effective market mechanisms, meaningful developing country participation, and a realistic ramp up period, the costs of meeting the Kyoto target should be modest.*

### **The EIA Analysis Fails to Model the Kyoto Protocol's Flexibility**

- ***The EIA analysis fails to model international trading.*** EIA's model is not capable of modeling international emissions trading, even though this is a critical feature in reducing the cost of compliance for the United States and other countries. By contrast, the Administration explicitly modeled international trading, as has every modeling team participating in the exercise assessing Kyoto conducted under Stanford's Energy Modeling Forum -- which includes virtually all of the leading energy economic modelers in the world. These models have demonstrated that international trading among industrialized countries could lower costs of emissions reductions by as much as half.

EIA does attempt to include scenarios which assume an amount of domestic reductions intended to mirror the level of domestic reductions implied in the model used by the Administration. However, these EIA scenarios still overstate the cost of permits because they fail to take into account the way that an international market, bidding to a single international permit price, lowers cost.

- ***The EIA analysis fails to account for all six types of greenhouse gases.*** The EIA study assumes that the United States would achieve its target only through carbon dioxide reductions. In fact, the Kyoto Protocol covers all six major greenhouse gases, and permits countries to achieve their targets through reductions made in any of these gases. This flexibility allows countries and companies to make reductions in the most cost-effective manner possible, reducing the cost of compliance.

### **EIA Assumes Firms Take Little or No Action to Address Climate Change before 2005**

- In EIA's study, most businesses do not take action to address climate change until 2005, and therefore only have a short time until the 2008-2012 budget window to reduce emissions. Studies have demonstrated that the amount of lead time a company takes has dramatic economic implications. For example with EIA's model, a 5-year "ramp-up" (starting in 2005) would result in economic costs 65% greater than that associated with a 10-year "ramp-up" (starting in 2000). Thus, EIA's assumption that many businesses would fail to plan for the future results in higher projected costs.

- Already businesses are taking action to address climate change. For example, on September 18, British Petroleum announced its plan to reduce emissions of greenhouse gases worldwide by 10% below 1990 levels by the year 2010. In July, United Technologies announced their plan to reduce its worldwide energy consumption by 25% by the year 2007.

### **The EIA Analysis Does Not Include Policy Elements That Will Lower Costs**

- In the Administration's analysis, additional elements of policy were recognized as having the potential to significantly decrease the costs of compliance and increase the amount of reductions that might be accomplished at home. These policies were not factored into the illustrative model the Administration cited, but were qualitatively taken into account in reaching the conclusion that the United States could meet its Kyoto target for a relatively modest cost. The EIA analysis, however, ignores elements such as forestry activities (covered under the Kyoto Protocol) and the Administration's electricity restructuring proposal, which could significantly lower compliance costs.
- Studies put out by the Department of Energy's National Laboratories (the so-called Five Lab and Eleven Lab studies) demonstrate that there are many viable technology pathways to reduce greenhouse gas emissions at low cost.

### **The EIA Study Ignores the Dynamism of the U.S. Economy**

- The EIA study uses a macroeconomic model -- a short-term forecasting tool that is inappropriate to use for making forecasts going out a decade or more -- as opposed to a general equilibrium-type model that would incorporate the dynamism and flexibility that is the hallmark of the American economy. (For example, the American economy has adopted the Internet in the past decade, leading to industries and services that could not have been imagined a decade ago.) A study by the World Resources Institute indicates that this one factor is often enough to double the estimated costs of meeting a given emissions reduction goal.
- The EIA study assumes that in their use of energy, consumers and businesses are much less responsive to price changes than is commonly assumed in the economics literature. A more moderate choice of price responsiveness would reduce the estimated permit prices and reduce the economic costs estimated by EIA.

### **The EIA Study is Pessimistic About the Role of Technology**

- The EIA study is pessimistic about the potential of technology and market innovation. It assumes no direct effect of substantially higher fuel prices on the availability of more advanced technology or more innovative uses of technology, both of which could contribute significantly to reducing emissions.

## THE CLINTON-GORE ECONOMIC RECORD

|                                                                                            | <u>Before</u>                                                               | <u>After Six Years</u>                                                                              |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Budget Deficit/Surplus</b>                                                              | \$290 billion <u>deficit</u> in 1992 -- the highest dollar level in history | First budget <u>surplus</u> in a generation -- the largest dollar surplus on record                 |
| <b>Job Growth</b>                                                                          | Previous Administration: worst record since the Great Depression            | 17.7 million new jobs -- with the highest percentage in the private sector in 50 years              |
| <b>Unemployment</b>                                                                        | 7.5% in 1992                                                                | 4.5% in 1998 -- the lowest in 29 years and lowest peacetime rate in 41 years                        |
| <b>Median Family Income</b><br>(Adjusted for Inflation)                                    | Down \$1,835 from 1988-1992                                                 | Up \$3,517 since 1993                                                                               |
| <b>Real Hourly Wages</b>                                                                   | Down 5% from 1981-1992                                                      | Up about 2.5% over past year -- the fastest real wage growth in over 20 years                       |
| <b>Private-Sector Growth</b><br>(Average Annual Rate)                                      | 2.4% from 1981-1992                                                         | 3.9% -- the fastest rate since Johnson was President                                                |
| <b>Business Investment</b><br>(Producer's Durable Equipment<br>Average Annual Growth Rate) | 1.9% from 1988-1992                                                         | 12.1% -- the fastest rate since Kennedy was President                                               |
| <b>Federal Government Spending</b><br>(As A Share of GDP)                                  | Up from 21.7% in 1980 to 22.5% in 1992                                      | Cut from 22.5% in 1992 to 19.6% in 1998 -- lowest level in 25 years                                 |
| <b>Welfare Rolls</b>                                                                       | 14.1 million people on welfare in Jan. 1993                                 | 8.4 million people on welfare -- down 41% since 1993 -- lowest percentage since 1968                |
| <b>Inflation</b><br>(Average Annual Rate)                                                  | 4.2% from 1981-1992                                                         | 2.5% -- the lowest since Kennedy was President                                                      |
| <b>Homeownership Rate</b>                                                                  | Down, from 65.4% in 1981 to 64.2% in 1992                                   | 7.4 million new homeowners -- the highest homeownership rate in history (66.8% in 3rd qtr of 1998 ) |
| <b>Auto Production</b>                                                                     | 1992: Trailed Japan for 13th consecutive year                               | World's #1 auto producer for five years in a row                                                    |
| <b>Competitiveness</b>                                                                     | 1992: Trailed Japan, Germany, Denmark, and Switzerland                      | World's most competitive economy for five years in a row                                            |

**Providing Safe After-School Opportunities for A Quarter of A Million Children Each Year --** expanded the 21st Century Community Learning Centers program to provide safe and educational after-school opportunities for up to 250,000 school-age children in rural and urban communities each year.

**Preparing for the 21st Century by Expanding Access to Education Technology --** created the Technology Literacy Challenge Fund to help connect every school to the Internet by 2000, increase the number of multimedia computers in the classroom and provide technology training for teachers. Increased overall investments in educational technology by thirty-fold, from \$23 million in 1993 to \$698 million this year. Secured low-cost connections to the Internet for schools, libraries, rural health clinics and hospitals.

**Establishing the GEAR-UP Mentoring Program for Middle School Children --** created a new mentoring initiative to help up to 100,000 low income middle school children prepare for college.

**Expanding Choice and Accountability in Public School --** supported increase of public charter schools, from one charter school in the nation in 1993 to more than 1,000 charter schools in 1998, on track toward 3,000 quality charter schools early next century.

**Providing Early Education to 835,000 Children with Head Start --** now reaching more kids than at any time since its creation in 1965 and more than 200,000 additional children than in 1992.

#### **Crime and Drugs: Lowest Crime Rates in 25 Years**

**Violent Crime at Lowest Level since 1973 --** violent crime fell 7% in 1997 and 21% since 1993. The murder rate is down more than 25% since 1993, its lowest point in 30 years.

**Putting 100,000 New Police on the Street --** in 1999, ahead of schedule and under budget, the Administration will meet its commitment of 100,000 police officers for our communities.

**Over 250,000 Felons, Fugitives and Stalkers Denied Handguns --** since the President signed the Brady Bill into law. And the historic 1994 Crime Bill banned 19 of the deadliest assault weapons and their copies, keeping assault weapons off our streets.

**Developed Comprehensive Anti-Drug Strategy Including an Unprecedented \$2 Billion Anti-Drug Youth Media Campaign --** appointed four-star General Barry McCaffrey as the nation's Drug Czar.

**Fighting Hate Crimes --** enacted the Hate Crimes Sentencing Enhancement Act in 1994. Announced sponsorship of the Hate Crimes Prevention Act during the historic White House Conference on Hate Crimes in 1997.

#### **Health Care: Increasing Access for Millions of Americans**



Bureau of Oceans and International  
Environmental and Scientific Affairs

Washington, D.C. 20520

DATE: 10/21

NUMBER OF PAGES TO FOLLOW: 7

FAX TO: Martha Wofford

TELEPHONE: \_\_\_\_\_ FAX: \_\_\_\_\_

OFFICE: \_\_\_\_\_

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FAX FROM: Susan Povenmire

TELEPHONE: 202-647-3486 FAX: 202-647-4221

OFFICE: \_\_\_\_\_

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MESSAGE:

*As we discussed...*

HFCs, PFCs, METHANE, Nitrogen,  $\text{CO}_2$ ,  $\text{SF}_6$

IBM Announcement

# White House Update on Global Climate Change

July 20, 1998

*This is the first of a series of White House updates on climate change. Attached to this e-mail is a four-page fact sheet that outlines the science, potential impacts of climate change and the President's plan to address the challenge of climate change.*

## Climate Change & Weather

A study published in the science journal *Nature* on April 23 found, based on data from the Northern Hemisphere, the 20th century to be the warmest century in 600 years, and three years in the 1990s to be the warmest ever -- with 1997 the single warmest year on record.

**The Hottest June on Record.** Last week, the Vice President along with the National Oceanic and Atmospheric Administration (NOAA), announced new data showing that last month was the hottest June on record and that the additional heat in the climate system is leading to more extreme weather -- such as the fires in Florida, the drought in Texas and the flooding in the Northeast.

**Record Temperatures January through May.** The Vice President's announcement last week follows a report from NOAA that each of the first five months of this year, January through May, set new records for global temperature. Thomas Karl, senior scientist at the National Climatic Data Center, said "The data also suggest that the year's El Nino may have been made worse by global warming. In any event, the extreme events brought on by El Nino's warmer, wetter weather provides a taste of what we can expect from a warmer, wetter world under global warming." As Vice President Gore stated "this winter's El Nino...is a window on the future -- a future that could include more flood, drought, disease and forest fires -- if we don't act today."

## Recent Energy Efficiency & Renewables Initiatives

**PATH.** On May 4, the President launched the Partnership for Advancing Technology in Housing (PATH) in Los Angeles. PATH is an ambitious partnership between the building industry and government to accelerate the deployment and development of advanced technologies that will make houses far more energy efficient as well as more affordable, durable and of higher quality. As the President said, PATH "will be the most ambitious effort ever to help private homebuilders and homeowners make cost-effective, energy saving decisions that will pay big dividends throughout the 21st Century."

- ▶ PATH aims to build homes that use 50 percent less energy within a decade and to retrofit 15 million existing homes to make them 30 percent more energy efficient.
- ▶ Residential homes account for 20 percent of all U.S. greenhouse gas emissions. If PATH goals are met, the housing sector will reduce greenhouse gas emissions by around 24 million metric tons of carbon in 2010, at a savings of some \$11 billion to consumers.

# ***PRESIDENT CLINTON: PROTECTING THE ENVIRONMENT AND PUBLIC HEALTH***

October 15, 1998

***In the Fiscal Year 1999 budget, President Clinton won important increases to combat water pollution, protect precious lands, restore endangered species, and develop clean energy technologies. At the same time, the President forced Congress to drop special-interest riders that would have rolled back protections already in place.***

***Clean, Safe Water for America.*** The budget provides \$1.7 billion -- a 16 percent increase -- for the President's Clean Water Action Plan, a five-year initiative to help communities and farmers clean up the almost 40 percent of America's surveyed waterways still too polluted for fishing and swimming. In addition, the budget provides States \$2.13 billion in financing for water quality construction projects.

***Preserving Precious Lands.*** An additional \$325 million through the Land and Water Conservation Fund in Fiscal Year 1999 -- a \$55 million increase -- will be used to acquire dozens of natural and historic sites around the country, including critical winter range for Yellowstone bison, New Mexico's Baca Ranch and the last remaining private stretches of the Appalachian Trail. In addition, the budget provides \$226 million to continue the Administration's Everglades restoration effort.

***Leading the Fight Against Global Warming.*** The budget provides over \$1 billion -- a 26 percent increase -- for research investments that will reduce greenhouse gas pollution, save energy, create jobs, and save consumers money through energy efficiency and renewable energy technologies. An additional \$192.5 million goes to the Global Environment Facility, an international fund that invests in clean energy and other environmental projects in developing countries.

***Protecting Endangered Species.*** The budget provides a 23 percent increase for efforts to restore threatened and endangered species, including \$5 million to provide incentives for habitat conservation on private lands. An additional \$115 million goes toward salmon restoration in the Pacific Northwest.

***Defending Our Environment Against Stealth Attacks.*** President Clinton forced Congress to drop special-interest riders that would have rolled back hard-won environmental protections.

**Anti-environmental riders stripped from budget bills would have:** Carved the first road ever through a designated wilderness area; forced overcutting of timber on national forests; accelerated logging of Alaskan rain forest; allowed intrusive helicopter landings in Alaska wilderness; hindered salmon restoration in the Pacific Northwest; allowed harmful commercial fishing in wilderness waters of Glacier Bay National Park; blocked common-sense actions to reduce greenhouse gas pollution; barred the Administration from informing the public about the threat of global warming.

## **More Work Ahead:**

***Speeding Toxic Cleanups.*** President Clinton called for an additional \$650 million -- a 40 percent increase -- to accelerate Superfund cleanups. But the Republican majority refused to provide these funds now, threatening to delay cleanup at up to 171 sites across the country.

***Ending Taxpayer Ripoffs.*** The Republican majority insists on blocking rules requiring oil companies to pay fair-market for oil from federal lands, costing the U.S. Treasury an estimated \$64 million a year.

## Outline of Events

- ▶ President's plan announced, Oct. 22, 1997
- ▶ Kyoto -- historic agreement
  - ▶ 7% below 1990 levels
  - ▶ flexibility mechanisms -- CDM, trading, all six ghg
- ▶ Budget package -- CCTI
- ▶ PATH
- ▶ Energy Star Buildings

## Our Role

- we reflect the people's view, people expect their gov't to foresee (emerging block of new voters -- environment #1 issue)
- It's our job to provide good info to the public and legislators so they can make good decisions
- We're at a stage when things are polarized
- Business community seems to be moderating, want a good env. reputation and want a good outcome, requires being at the table, not being in denial

## To ratify the Kyoto Protocol takes 67 votes in the Senate

- Need a coalition that includes business, environmentalists, economist who believe the risks are serious, the technology is there, it's not overly expensive and it's fair.
- The risks of not acting are too great to ignore even though it's not popular politically
- We have a tremendous amount of work to do to help them understand
- What we've been doing: economic modeling, regional workshops, technology trying to do R&D

You'll hear a variety of different perspectives on climate today and in your reading. Remember that people have different interests at stake and that we have a vibrant political system that allows everyone to be heard -- \$\$\$

## Communications planning

1st thing in developing a communications plan is determining audience

challenge with cc is so many different audiences

International front -- many different audiences

broadest scope of any international treaty on the environment -- involves nearly every government, how gov'ts power their economies, transportation, etc.

Small, incremental steps.

Difficult to move domestic audiences -- few benchmarks to use

*Talking Points on the  
Economic Impact of the Kyoto Protocol  
June 9, 1998*

**1. *The model used to derive these numbers is flawed. It omits all the flexibility mechanisms included in the Kyoto Protocol and the Administration's policies.***

- **The WEFA analysis omits international emissions trading.** This study assumes that no countries undertake emissions trading, even though the right to trade is explicitly stated in the Kyoto agreement. International trading among industrialized countries could reduce costs of emissions by half.
- **The WEFA study does not include developing country participation in emissions reduction.** This study assumes developing countries do nothing to reduce greenhouse gas emissions. However, the Kyoto Protocol establishes the Clean Development Mechanism, and even if developing nations only participate in this mechanism the costs to the United States could be 20 to 25% lower. If key developing countries participate more fully, for example by taking on emissions targets and undertake emissions trading, the costs to the United States could be reduced even more.
- **The WEFA study does not account for six categories of greenhouse gases.** This study assumes that emissions reductions would occur only through carbon dioxide reductions, even though all six major greenhouse gases are covered by the Protocol. Since the Kyoto agreement requires countries to reduce emissions to specific targets, on average across all kinds of greenhouse gases, the flexibility is available to reduce emissions of some gases more than others if it is cost-effective. Allowing for trading across gases could lower costs by about 10%.
- **The WEFA analysis omits carbon sinks.** This study assumes that no carbon sink opportunities for absorbing greenhouse gas emissions are available, even though the Kyoto agreement explicitly includes forestry activities. Low-cost carbon sink options provide another opportunity to achieve emissions targets at a modest cost.

***By ignoring these flexibility mechanisms, this analysis fails to assess accurately the Kyoto Protocol as well as the Administration's efforts to reduce greenhouse gas emissions. The Administration has always said that reducing emissions can be done smart or dumb. By failing to account for these flexibility mechanisms, the WEFA analysis illustrates the costs of doing it dumb. The Administration believes that by including market mechanisms it can be done smart.***

***The costs of meeting the challenge of climate change will be modest.*** The Administration is working to ensure that greenhouse gas emissions that contribute to global warming are reduced in common sense, cost-effective ways. The Administration believes that with effective market mechanisms -- international emissions permit trading, the Clean Development Mechanism joint implementation, timing flexibility during the commitment period, opportunities to trade across greenhouse gases, and carbon sinks -- as well as with meaningful developing country participation and flexible timetables, the economic cost to the United States of meeting the Kyoto targets will be modest.

2. ***The potential costs of waiting too long to address the threat of climate change exceed the costs of acting now.*** The threats climate change presents are widespread and range from potential increases in asthma and infectious diseases to increasingly frequent and severe storms. Despite the challenge of putting a price tag on the risks of inaction, economists have nonetheless developed troubling cost estimates of the risks of global climate change -- ranging in the tens of billions of dollars per year for the United States.
- ***Human health.*** Warmer temperatures are projected to increase fatalities attributable to heat waves in the U.S. of the kind that killed 400 in Chicago in 1995. The incidence of asthma and other respiratory illnesses, particularly among children and the elderly, is expected to increase from the additional smog caused by warmer temperatures. In a warmer, wetter world, the geographic ranges for infectious diseases could significantly expand. The incidence of malaria, for example, could increase by 50 million or more cases a year by 2100.
  - ***Extreme weather.*** Warmer, wetter weather is projected to increase the frequency and intensity of extreme events such as floods and drought. The 1993 Mississippi River flood alone caused damages of \$10-20 billion, while the Pacific Northwest floods in 1996-97, and the 1997 Ohio River and Red River floods resulted in substantial costs to business and homeowners. Global warming may also mean increased drought in the U.S., particularly in the Great Plains and other arid areas.
  - ***Sea level rise.*** Scientists project that sea level will rise by an additional 6-38 inches by 2100. A 20 inch-rise could inundate 7,000 square miles of the U.S. coastline, with Florida and the Gulf Coast at greatest risk. Changes in rain and snowfall could affect water supplies and water quality, posing threats to irrigation, fisheries, and drinking supplies
  - ***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.
3. ***The President's plan protects the environment and grows the economy.*** In October 1997, President Clinton put forward a responsible, balanced approach to begin meeting the challenge of global warming, while protecting our economy and maintaining our international competitiveness. 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 a \$6.3 billion package of tax incentives and R&D aimed at cutting greenhouse gas emissions and building partnerships with industry to remove barriers to the development and widespread use of energy efficient technologies and practices.
4. ***Enabling environmental protection and economic growth to go hand-in-hand.*** For the past 25 years, efforts to protect the environment, whether by cleaning our air and water, eliminating acid rain or closing the ozone hole, have been repeatedly assailed as a threat to our economy. Yet today we have the cleanest environment in a generation and the strongest economy in a generation. President Clinton's balanced approach to the challenge of climate change will allow us to grow the economy and protect the environment at the same time.

- Nine of the last 11 years have been the hottest this century; and the 1990's were the warmest decade in 600 years.
- Although this winter's severe El Nino cannot be directly linked to global warming, it provides a preview some of the extreme, erratic weather that can be expected more frequently as the climate changes.
- U.S. rainfall has increased 5 to 10 percent over the last century, an increase consistent with projections of a warmer, wetter world resulting from climate change.
- Most mountain glaciers around the world have receded significantly in the last 100 years. For example, Glacier National Park has lost 70 percent of its glaciers, and they are predicted to be completely gone by 2030.

### **POTENTIAL IMPACTS OF CLIMATE CHANGE**

#### ***Health***

- Warmer temperatures are projected to increase fatalities from heart failure and pulmonary disease of the kind that killed 400 people in Chicago in 1995. In the next 50 years, deaths attributable to heat waves in the U.S. could double.
- The prevalence of asthma and other respiratory illnesses, particularly among children and the elderly, is expected to increase from the additional smog caused by warmer temperatures.
- In a warmer, wetter world, the geographic ranges for infectious diseases could significantly expand, resulting in 50 million or more additional cases of malaria a year by 2100.

#### ***Increased Costs from Flooding and Drought***

- Warmer, wetter weather means increased flooding. Recent years have shown us how vulnerable we are to such events. The 1993 Mississippi River flood caused damages of \$10-20 billion, the Pacific Northwest floods in 1996-1997 resulted in \$3 billion in losses, the 1997 Ohio River flood cost \$1 billion, and the 1997 Red River flood in the Northern Plains caused \$2 billion in losses.
- Global warming may also mean increased drought. Large areas of the eastern and central United States would face more frequent moderate to severe droughts, particularly in the Great Plains. Damage from the Southern Plains drought of 1996 was estimated at \$4 billion.

**Energy Star Building Label.** On April 20, the Administration launched the Energy Star Building Label Program, a market-driven, voluntary partnership to reduce energy consumption by 30%, reducing the emissions that cause global climate change and saving money from lower energy costs. Key charter members include the Empire State Building, the World Trade Center and the Sears Tower in Chicago.

**Solar Roof Financing.** On Thursday, June 25, a new private sector partnership to provide long-term, low-cost financing for solar energy systems was announced. The announcement comes one year after the President launched the Million Solar Roofs Initiative -- with a goal of placing solar energy systems on 1 million U.S. roofs by 2010. Under the partnership between General Motors Acceptance Corporation and the Solar Energy Industries Association, financing for solar systems will be made available at the same rate as standard home mortgages, rather than at the much higher rates that are typically charged.

A year after the President's announcement, the Department of Energy has received commitments for over half a million solar roofs. Meeting the goal of 1 million solar roofs will help reduce carbon emissions equivalent to the annual emissions from 850,000 cars; create approximately 70,000 high-tech jobs; and increase domestic production of solar technologies, helping reduce production prices and keeping the U.S. solar energy industry competitive in the \$1.5 billion solar global market.

#### **Industry Consultations**

On October 22, 1997, the President announced a plan to begin addressing the challenge of climate change. A major component of the President's plan is working with key industries to encourage them to prepare voluntary action plans to reduce greenhouse gases and to work with the government to identify and remove barriers to energy efficiency. Consistent with the President's call, White House staff are consulting leading companies from several key industries to start a dialogue on voluntary emissions reductions.

Over the last two <sup>weeks</sup> senior White House staff met with senior executives of the aluminum industry, the public power and rural electricity co-ops, and the steel industry. Over the next couple of months, White House staff will be meeting with other key industries to advance similar dialogues on voluntary emissions reduction strategies.

#### **Industry Support**

The support among business for taking action to meet the challenge of climate change is growing.

- **Pew Center.** In April, the new Pew Center on Climate Change, with \$5 million from Pew Charitable Trusts, launched a campaign to build support for action on climate change. The Center ran ads in *The Wall Street Journal*, *The Washington Post*, and *The New York Times* that featured a joint statement by 13 major companies that said, "We believe we must address one of the major challenges of the 21st Century: responding to global climate change while

maintaining economic growth.” The companies, members of the Business Environmental Leadership Council, are: Boeing, Lockheed-Martin, Toyota, Maytag, Whirlpool, United Technologies, 3M, British Petroleum, Sun Oil. American Electric Power, U.S. Generating Co., Enron and Intercontinental Energy.

- **Shell Oil.** Also in April, Shell Oil quit the Global Climate Coalition, an oil industry coalition opposed to the Kyoto Protocol, because the group’s agenda conflicted with Shell’s commitment to help reduce carbon dioxide emissions, according to a company spokesman. A report released by Shell stated that “Shell companies are committed to play their part in making the savings in energy needed.”
- **American Public Power Association.** Last month the American Public Power Association approved a new policy on global climate change acknowledging utilities’ responsibility to work to reduce greenhouse gas emissions. “Investments at home in our local communities, in tandem with developing mitigation projects in other countries, will help the United States reduce domestically its greenhouse gas emissions in a way that will benefit our national economy and improve our local environment.”
- **United Technologies.** On July 14, United Technologies Corporation, a \$25 company that produces high-tech systems including Otis elevators, Carrier air conditioners, Pratt & Whitney engines and Sikorsky helicopters, announced a plan to reduce energy consumption by 25% by 2007, in an effort to combat global climate change. George David, United Technologies Corporation Chairman and CEO, stated: “we, along with many others, recognize the substantial ambiguities and open questions in research on global climate change, but we believe also that the prudent course is to work to reduce greenhouse gas emissions.”

### Congressional Activity

There has been recent action on the three appropriations bills that contain funding for the R&D portion of the President’s Climate Change Technology Initiative. This initiative involves historically bi-partisan energy efficiency and renewable energy programs that help decrease our dependence on foreign oil, improve air quality, decrease energy costs for consumers and business, increase our economic competitiveness and reduce greenhouse gas emissions.

- ▶ The VA-HUD bill, as reported by the House Appropriations Committee, includes an anti-environmental rider stating that no funds can be used by the Environmental Protection Agency (EPA) to: “*develop, propose or issue*” rules, regulations, decrees, or orders for the purpose of implementation of *or in contemplation of implementation* of the Kyoto Protocol.”
- ▶ Moreover, the report language in the bill would seek to impose a gag rule on the Administration, stating that “[EPA] and the CEQ (Council on Environmental Quality) are thus directed to refrain from conducting educational outreach or informational seminars on policies underlying the Kyoto Protocol until or unless the Protocol is

ratified by the Senate.”

- ▶ The Appropriations Committees in the House and Senate have cut all of the President’s requested funding increases for energy efficiency and renewable energy programs. On the Energy and Water bill, the Senate accepted a floor amendment sponsored by Senator Jeffords to add back \$70 million of the \$100 million for renewable energy that had been cut in the Appropriations Committee.

### **Diplomatic Activity**

- **China.** During the President’s recent trip to China, he raised the issue of global warming on numerous occasions. In his speech at Beijing University, the President departed from his prepared text and made a strong appeal to the students to lead the charge on this issue: “But I will say this again...your generation must do more about this. This is a huge challenge for you, for the American people and for the future of the world.”
- **G8.** At the G8 meeting in Birmingham, England in May, the Eight countries agreed that industrialized countries should lead in the effort to combat global climate change, but that all countries should participate in the global regime. The Eight agreed that the remaining steps needed to ratify Kyoto included gaining broader participation from developing nations. The Eight pledged “to work as a group with developing nations to secure participation and commitments from all nations” and to develop rules for market-based emissions trading and other flexibility mechanisms.
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## July 16, 1998

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July 6, 1998

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TO: Martha Wofford  
FROM: Timothy Parr  
RE: Tom Karl Quotes

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- Tom Karl

*CBS Evening News 6/8/98*

"Every month so far in 1998 we've broken an all-time record for global average temperature. This is just unprecedented."

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*NBC Nightly News 6/19/98*

"Increased precipitation averaged across the US is three inches. This may not sound like much, but is equivalent to about half the annual discharge of water that drains out of the Mississippi River every year."

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*NBC Nightly News 6/19/98*

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**UNITED STATES DEPARTMENT OF  
COMMERCE  
NEWS**

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WASHINGTON, D.C. 20230

NATIONAL  
OCEANIC AND  
ATMOSPHERIC  
ADMINISTRATION

NOAA 98-15

**CONTACT:** Patricia Viets, NOAA  
(301) 457-5005  
Stephanie Kenitzer, NOAA  
(301) 763-8000, ext. 7007

**FOR IMMEDIATE RELEASE**  
3/9/98

**JANUARY AND FEBRUARY WARMEST AND WETTEST ON RECORD,  
NOAA REPORTS**

The first two months of 1998 were the warmest and wettest in the 104-year record of temperatures and precipitation measurements for the contiguous 48 states, according to preliminary data compiled by the Commerce Department's National Oceanic and Atmospheric Administration.

"During the period January-February the national average temperature was 37.5 degrees Fahrenheit compared with a normal of 32.1. The previous record was 37.0 in 1990. For precipitation, 6.01 inches fell, compared with a normal of 4.05. The previous record was 5.7 inches in 1979," said William Brown of NOAA's National Climatic Data Center.

For the winter (December-February) as a whole, however, temperatures and precipitation were not as extreme. This past winter was the second warmest on record and the seventh wettest. The normal national average temperature for the winter months of December, January and February is 32.3 degrees F. This year's figure is 36.4 degrees F. The record is 36.6 set in 1991-1992. For the three-month period, the normal precipitation value for the country is 6.35 inches. This year's figure is 7.96 inches, compared with 8.5 inches in 1932.

NOAA reports that California and North Dakota had their wettest February on record. Florida, Maryland, Nevada, Rhode Island and Virginia had their second wettest February since 1895. The warmest February on record took place in much of the upper Midwest and parts of the East, including Minnesota, Wisconsin, Illinois, Michigan, Ohio, Pennsylvania and Connecticut.

"These are the patterns one would typically expect during a strong El Niño event," said Ants Leetmaa, director of NOAA's Climate Prediction Center in Camp Springs, Md.

(more)

(2)

"With the newest figures, the long-term trend of increasing temperatures and precipitation in the United States continues," said Tom Karl, senior scientist at NOAA's National Climatic Data Center in Asheville, N.C. "These record-breaking statistics are generally consistent with both a strong El Niño and climate model projections of a continuing trend toward a warmer and wetter world as greenhouse gases continue to increase."

The temperature and precipitation patterns that have dominated much of the winter months are expected to continue through March and April, according to NOAA's climate predictions. In the summer, at least slightly warmer than normal conditions are expected across Southern California, the southwest and much of the East Coast. There are no strong indications for either above or below normal precipitation across the country. El Niño conditions in the tropical Pacific will gradually diminish through the summer. Ocean temperatures in this region are predicted to be near normal later in the year.

The next monthly El Niño advisory from the Climate Prediction Center will be available on Tuesday, March 10, on the Internet at <http://nic.fb4.noaa.gov>. Click on El Niño.

###

#### Editors' Notes:

Statistics about the past months, compiled by NOAA's National Climatic Data Center, are available on the center's World Wide Web site at: <http://www.ncdc.noaa.gov>. Click onto <http://www.ncdc.noaa.gov/ol/climate/warmest.html> for "What's Hot."

A map of individual state rankings is available on the World Wide Web from NOAA's Climate Prediction Center:

#### February Precipitation

Rankings [http://nic.fb4.noaa.gov/products/analysis\\_monitoring/regional\\_monitoring/1mpranks.gif](http://nic.fb4.noaa.gov/products/analysis_monitoring/regional_monitoring/1mpranks.gif)

#### February Temperatures Rankings

[http://nic.fb4.noaa.gov/products/analysis\\_monitoring/regional\\_monitoring/1mtranks.gif](http://nic.fb4.noaa.gov/products/analysis_monitoring/regional_monitoring/1mtranks.gif)

#### Dec - Feb Historical Precipitation Rankings

[http://nic.fb4.noaa.gov/products/analysis\\_monitoring/regional\\_monitoring/3mpranks.gif](http://nic.fb4.noaa.gov/products/analysis_monitoring/regional_monitoring/3mpranks.gif)

#### Dec - Feb. Historical Temperature Rankings

[http://nic.fb4.noaa.gov/products/analysis\\_monitoring/regional\\_monitoring/3mtranks.gif](http://nic.fb4.noaa.gov/products/analysis_monitoring/regional_monitoring/3mtranks.gif)

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# FAX

**OFFICE OF PUBLIC & CONSTITUENT AFFAIRS  
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION  
U.S. DEPARTMENT OF COMMERCE  
WASHINGTON, D.C.**

FROM:

*Janne Lenhart*

PHONE:

202/482-6090 (voice)

202/482-3154 (fax)

TO:

*Martha Wofford*

AT:

*395-2342*

COMMENTS:

*Please attached, per  
your request.*

PAGE 1 OF \_\_\_\_\_

— MIAMI & JULY

— TEXAS AUG

## White House Update on Global Climate Change July 6, 1998

This is the first of a series of White House updates on climate change. Attached to this e-mail is a four-page fact sheet that outlines the science, potential impacts of climate change and the President's plan to address the challenge of climate change.

### Climate Change & Weather

A study published in the science journal *Nature* on April 23 found that the 20th century has been the warmest century in 600 years, the 1990s have been the warmest decade, 1997 has been the single warmest year.

Earlier this month the Vice President along with the National Oceanic and Atmospheric Administration, announced new data showing record temperatures in each of the first five months of this year. Thomas Karl, senior scientist at the National Climatic Data Center, said "The data also suggest that the year's El Nino may have been made worse by global warming. In any event, the extreme events brought on by El Nino's warmer, wetter weather provides a taste of what we can expect from a warmer, wetter world under global warming." As Vice President Gore stated "this winter's El Nino...is a window on the future -- a future that could include more flood, drought, disease and forest fires -- if we don't act today."

### Recent Energy Efficiency & Renewables Initiatives

**PATH.** On May 4, the President launched the Partnership for Advancing Technology in Housing (PATH) in Los Angeles. PATH is an ambitious partnership between the building industry and government to accelerate the deployment and development of advanced technologies that will make houses far more energy efficient as well as more affordable, durable and of higher quality. As the President said, PATH "will be the most ambitious effort ever to help private homebuilders and homeowners make cost-effective, energy saving decisions that will pay big dividends throughout the 21st Century."

- PATH aims to build homes that use 50 percent less energy within a decade and to retrofit 15 million existing homes to make them 30 percent more energy efficient.
- Residential homes account for 20 percent of all U.S. greenhouse gas emissions. If PATH goals are met, the housing sector will reduce greenhouse gas emissions by around 24 million metric tons of carbon in 2010, at a savings of some \$11 billion to consumers.

**Energy Star Building Label.** On April 20, the Administration launched the Energy Star Building Label Program, a market-driven, voluntary partnership to reduce energy consumption by 30%, reducing the emissions that cause global climate change and saving money from lower energy costs. Key charter members include the Empire State Building, the World Trade Center and the Sears Tower in Chicago.

foreign oil, improve air quality, decrease energy costs for consumers and business, increase our economic competitiveness and reduce greenhouse gas emissions. The VA-HUD bill, as reported by the Appropriations Committee includes an anti-environmental rider that states that no funds can be used by the Environmental Protection Agency (EPA) or the Council on Environmental Quality (CEQ) to: "develop, propose or issue" rules, regulations, decrees, or orders for the purpose of implementation of or in contemplation of implementation of the Kyoto Protocol."

In addition, the report language in the bill would seek to impose a gag rule on the Administration, stating that "[EPA] and the CEQ are thus directed to refrain from conducting educational outreach or informational seminars on policies underlying the Kyoto Protocol until or unless the Protocol is ratified by the Senate."

Appropriations Committee in the House and Senate have cut all of the President's requested funding increases for energy efficiency and renewable energy programs. On the Energy and Water bill, the Senate accepted a floor amendment sponsored by Senator Jeffords to add back \$70 million of the \$100 million for renewable energy that had been cut in the Appropriations Committee.

### Diplomatic Activity

- that among the remaining steps needed to ratify Kyoto included giving broader participation from developing nations. The eight pledged and to develop rules for market-based emission trading and other flexibility mechanisms.

At the G8 meeting in Birmingham, England last month, the Eight countries agreed that industrialized countries should lead in the effort to combat global climate change, but that all countries should participate in the global regime. The Eight agreed "to work as a group with developing nations to secure participation and commitments from all nations."
- At the Summit of the Americas in Santiago, Chile in April, President Clinton and President Frei of Chile agreed "that developing countries should participate meaningfully in efforts to address climate change, taking on emissions targets whenever possible." Argentina took the same position last Fall.
- Emissions trading and the Clean Development Mechanism, established under the Kyoto Protocol, represent immense opportunity for the private sector and particularly for American clean technology firms. In a sign of international business interest in emissions trading, in April, Japan and Russia reached an agreement to begin feasibility studies on reducing emissions at 20 power plants in Russia to offset Japanese emissions. In addition, last month, the International Petroleum Exchange in London announced its intention to begin developing an emissions trading system and Canada began a pilot greenhouse gas emissions trading system.

to prepare for
- Parties to the Framework Convention on Climate Change met in Bonn, Germany from June 1-12, at the ~~only~~ planning meeting preparatory to the next Conference of the Parties to be held November 2-13 in Buenos Aires, Argentina. In an effort to prepare for the Buenos Aires meeting, the Bonn meeting considered a number of items that stemmed from the Protocol and related Kyoto decisions, including: international emissions trading, joint implementation, the Clean Development Mechanism and carbon sinks.

## NATIONAL SECURITY COUNCIL

## FAX COVER SHEET

**NATIONAL  
SECURITY  
COUNCIL**17th & Penn, N.W.  
Washington, D.C.  
20504Did you get a complete,  
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(202) 456-\_\_\_\_\_

**From: William Antholis****To: Martha Wofford****Agency: WHCCTF****Fax Number: 52342****Date/Time:****No. of pages to follow:****Message:****martha** – you might also include a bullet about the china trip, including the Potus mentioning climate in the Beijing University speech, his raising it with Jiang and Zhu, and his discussing climate change and clean energy with enviro NGOs in Guilin.**-- wja**

## White House Update on Global Climate Change June 29, 1998

This is the first of a series of White House updates on climate change. Attached to this e-mail is a four-page fact sheet that outlines the science, potential impacts of climate change and the President's plan to address the challenge of climate change.

### Climate Change & Weather

- ✓ A study published in the science journal *Nature* on April 23, found that the 20th century has been the warmest century in 600 years, the 1990s have been the warmest decade, 1997 has been the single warmest year, and that it is human activity -- the release of carbon dioxide and other greenhouse gases into the atmosphere -- that is to blame.

Earlier this month the Vice President along with the National Oceanic and Atmospheric Administration, announced new data showing record temperatures in the first five months of this year, and global warming's potential worsening effect on El Niño. As Vice President Gore stated "this winter's El Niño gave us a taste of the extreme, erratic weather our children and grandchildren can expect more of unless we reverse the trend of global warming. It is a window on the future -- a future that could include more flood, drought, disease and forest fires -- if we don't act today."

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- PATH aims to build homes that use 50 percent less energy within a decade and to retrofit 15 million existing homes to make them 30 percent more energy efficient.
- Residential homes account for 20 percent of all U.S. greenhouse gas emissions, so increasing their efficiency will not only save consumers money on their energy bills, but will also significantly reduce the greenhouse gases that cause global warming.

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**Solar Roof Financing.** On Thursday, June 25, a new private sector partnership to provide long-

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If PATH goals are  
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ghg by around  
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of some  
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to consumers.

Under  
term, low-cost financing for solar energy systems was announced. The announcement comes one year after the President launched the Million Solar Roofs Initiative -- with a goal of placing solar energy systems on 1 million U.S. roofs by 2010. The partnership between General Motors Acceptance Corporation and the Solar Energy Industries Association ~~removes a significant barrier to the installation of solar energy systems in new and existing homes -- the availability of long-term, low-cost financing -- and will help make the million solar roof goal a reality.~~

financing for solar systems will be made available at the same rate as rather than at the much higher rates that are typically charged.

A year after the President's announcement, the Department of Energy has received commitments for over half a million solar roofs. Meeting the goal of 1 million solar roofs will help reduce carbon emissions equivalent to the annual emissions from 850,000 cars; create approximately 70,000 high-tech jobs; and increase domestic production of solar technologies, helping reduce production prices and keeping the U.S. solar energy industry competitive in the \$1.5 billion solar global market.

### Industry Support

The support among business for taking action to meet the challenge of climate change is growing.

- Last week the American Public Power Association approved a new policy on global climate change acknowledging utilities' responsibility to work to reduce greenhouse gas emissions. "Investments at home in our local communities, in tandem with developing mitigation projects in other countries, will help the United States reduce domestically its greenhouse gas emissions in a way that will benefit our national economy and improve our local environment."

- In April, the new Pew Center on Climate Change, with \$5 million from Pew Charitable Trusts, launched a campaign to build support for action on climate change. The Center ran ads in *The Wall Street Journal*, *The Washington Post*, and *The New York Times* that featured a joint statement by 13 major companies that said, "We believe we must address one of the major challenges of the 21st Century: responding to global climate change while maintaining economic growth." The companies, members of the Business Environmental Leadership Council, are: Boeing, Lockheed-Martin, Toyota, Maytag, Whirlpool, United Technologies, 3M, British Petroleum, Sun Oil, American Electric Power, U.S. Generating Co., Enron and Intercontinental Energy.

- In April, Shell Oil quit the Global Climate Coalition, an oil industry coalition opposed to the Kyoto Protocol, because the group's agenda conflicted with Shell's commitment to help reduce carbon dioxide emissions, according to a company spokesman. A report released by Shell stated that "Shell companies are committed to play their part in making the savings in energy needed."

### Congressional Activity

There has been recent action on the three appropriations bills that contain funding for the R&D portion of the President's Climate Change Technology Initiative. ~~historically bi-partisan energy efficiency and renewable energy programs that help decrease our dependence on foreign oil, improve air quality, decrease energy costs for consumers and business, increase our economic~~

this initiative involves

competitiveness and reduce greenhouse gas emissions. On the VA-HUD bill, that funds EPA the Council on Environmental Quality, among other Agencies, the House Appropriations Committee accepted an anti-environmental rider that states that no funds can be used to: "develop, propose or issue" rules, regulations, decrees, or orders for the purpose of implementation of or in contemplation of implementation of the Kyoto Protocol."

House was reported by the Appropriations Committee, includes by EPA or CEQ

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continues

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Let Bill rewrite this

Elliott

88-1570

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Earlier this month the Vice President along with National Oceanic and Atmospheric Administration, announced new data showing record temperatures in the first five months of this year and global warming's potential worsening effect on El Nino. -- That each year sets a record etc.

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Have to explain this. Precisely.  
~~On also no more~~

help make the million solar roof goal a reality.

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- In April, Shell Oil quit the Global Climate Coalition, an oil industry coalition opposed to the Kyoto Protocol, because the group's agenda conflicted with Shell's commitment to help reduce carbon dioxide emissions.

## Congressional Activity

*House & Senate*  
In a short-sighted fashion, Appropriations Committees have been slashing funds requested by the President for historically bi-partisan programs that would help decrease our dependence on foreign oil, improve air quality, decrease energy costs for consumers and business, increase our economic competitiveness and reduce greenhouse gas emissions. Not only is the funding request being cut, but at least one of the relevant Appropriations bills also contains restrictive legislative language. Earlier this month, the Vice President and a dozen Members of Congress denounced the kind of backdoor attempts to roll back environmental protection that the climate change rider represents.

The anti-environment rider in the VA, HUD & Independent Agencies bill states that no funds can

*Quote*

*to improve energy efficiency  
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These programs*

*These bills*

be used to: "*develop, propose or issue*" rules, regulations, decrees, or orders for the purpose of implementation of *or in contemplation of implementation* of the Kyoto Protocol." In addition, the report language in the bill would seek to impose a gag rule on the Administration, stating that "[EPA] and the CEQ are thus directed to refrain from conducting educational outreach or informational seminars on policies underlying the Kyoto Protocol until or unless the Protocol is ratified by the Senate."

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- Parties to the Framework Convention on Climate Change met in Bonn, Germany from June 1-12, at the only planning meeting preparatory to the next Conference of the Parties to be held November 2-13 in Buenos Aires, Argentina. In an effort to prepare for the Buenos Aires meeting, the Bonn meeting considered a number of items that stemmed from the Protocol and related Kyoto decisions, including: international emissions trading, joint implementation, the Clean Development Mechanism and carbon sinks.

*Drawn ?*

## White House Update on Global Climate Change

June 22, 1998

first of a regular series of

This is the inaugural White House update on climate change, a fact sheet that we will be distributing twice a month. Attached to this e-mail is a four-page fact sheet that outlines the science and potential impacts of climate change and the President's plan to address the challenge of climate change.

Science -- Nature, maybe of future.

### El Nino & Climate Change

Earlier this month the Vice President along with NOAA, announced new data showing record temperatures in the first five months of this year and global warming's potential worsening effect on El Nino. With the recent fires in Mexico and continued coverage of the devastation that El Nino caused in the past year, there has been more discussion in the media of the link between climate change and the severity of El Nino.

Too thin. Need more data on what NOAA found.

### Recent Energy Efficiency & Renewables Initiatives

The Clinton Administration is working in partnership with U.S. industry and consumers to increase energy efficiency in businesses and homes, reducing greenhouse gas emissions and saving energy costs. The President launched the Partnership for Advancing Technology in Housing (PATH) in May, an initiative to partner with the housing industry to build homes that are affordable, durable and 50 % more energy efficient. In addition, EPA launched the Energy Star Building Label Program in April, a voluntary partnership to reduce energy consumption by 30%.

Strong focus. This is a fact sheet & we don't need to report on what.

have to mention key buildings. need more

### Industry Support

The support among big business for taking action to meet the challenge of climate change appears to be growing.

Last week the American Public Power Association approved a new policy on global climate change acknowledging utilities responsibility to work to reduce greenhouse gas emissions. The tone of APPA's statement was positive: "Investments at home in our local communities, in tandem with developing mitigation projects in other countries, will help the United States reduce domestically its greenhouse gas emissions in a way that will benefit our national economy and improve our local environment."

Last month, the Pew Center on Climate Change, with \$5 million from Pew Charitable Trusts, launched a campaign to build support for action on climate change. The Center ran ads in *The Wall Street Journal*, *The Washington Post*, and *The New York Times* that featured the logos of some of the major companies that are partnering with them, including: Boeing, Lockheed-Martin, Toyota, Maytag, Whirlpool, United Technologies, 3M, British Petroleum, Sun Oil, American Electric Power, U.S. Generating Co., Enron and Intercontinental Energy.

A joint statement by 13 major companies that said: "\_\_\_\_\_". The companies, ~~some~~ members of the \_\_\_\_\_, ~~are~~ are!

need more-mention the housing project & the savings there at no cost

What? 13 companies is a plus media

[Let's attack backbone implementation & specifically Senate & House risks. mention VP event]

- In April, Shell Oil quit the Global Climate Coalition, an oil industry coalition opposed to the Kyoto Protocol, because the group's agenda conflicted with Shell's commitment to help reduce carbon dioxide emissions.

### Congressional Activity

- Congressional interest in climate change remains strong, with both the House and Senate holding multiple hearings.
- Despite formation of a new Renewables and Efficiency Caucus in the Senate, and a letter with over 40 Senators supporting increased spending on renewables, in the first round of Congressional action on appropriations, the President's request for increased funding for renewables and other activities to ensure energy security, provide clean air, save consumers money and reduce greenhouse gas emission, is being cut.

### Diplomatic Progress Activity

Work continues on achieving meaningful participation by developing nations and establishing the rules and guidelines for the free market mechanisms -- an emissions trading system and a Clean Development Mechanism -- that the U.S. negotiated into the Kyoto Protocol.

- Bonn
- At the G8 meeting in Birmingham, England last month, the world's largest economies followed the U.S.' lead in agreeing that all countries, including developing nations, should do their part to battle climate change.
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- Parties to the FCCC from June 1-12  
The international community met in Bonn, Germany earlier this month to follow-up on elements of the Kyoto Protocol, including market mechanisms, laying the groundwork for the upcoming Conference of the Parties at Buenos Aires, Argentina in November.

at the only plenary meeting preparatory to the next C & Parties, to be held Nov 2-13 14 B-A. The Bonn meeting [ ]

## White House Update on Global Climate Change June 22, 1998

*NATURE*  
*MAAG*  
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*do Next*  
On Thursday, June 25, the first-year anniversary of the launch of the President's Million Solar Roofs initiative, senior administration officials will participate in an event announcing a breakthrough in achieving more affordable financing of solar installations. Currently, the interest rate on a loan to pay for the installation of solar panels in a new or retrofitted home is nearly double that of a normal mortgage. On Thursday, GMAC, one of the country's leading lenders, will sign a Memorandum of Understanding with the Solar Energy Association, agreeing to work together to make photovoltaic and solar -powered housing more affordable. GMAC has agreed to offer loans for people buying homes with solar installations or retrofitting their homes with solar at the prime mortgage rate or below.

*do*  
The event will take place at the ground breaking for an energy efficient 18-unit moderate- to low-income housing project with solar generated heat and electricity in an empowerment zone in Southwest Philadelphia.

### Economic Front

Last week, the Global Climate Coalition released a study by the Wharton Econometrics Forecasting Association (WEFA), that asserted the Kyoto Protocol would cost American households \$2,700 annually and predicted how many jobs and how much income each state would lose because of the treaty. WEFA, in developing their economic model, ignored all of the flexibility mechanisms that were negotiated into the Kyoto Protocol, including emissions trading and a Clean Development Mechanism. The study did not gain any national press coverage largely because it was funded by the Global Climate Coalition and because it modeled a scenario significantly different (than) the Kyoto Protocol. *from ?*

CEA Chair → We plan to release our economic analysis next month, which will provide the statistical support for Dr. Janet Yellen's, Chair of the Council of Economic Advisers, testimony on the economic impacts of the President's climate change plan. Dr. Yellen's testimony conveyed that the impact on the economy would be modest and that the risks of not acting far outweighed the costs. (of acting -) →

## Industry Support

The support among big business for taking action to meet the challenge of climate change appears to be growing.

- • Last week the American Public Power Company released a good statement on climate change
- Last month, the Pew Center on Climate Change, with \$5 million from Pew Charitable Trusts, launched a campaign to build support for action on climate change. The Center ran ads in *The Wall Street Journal*, *The Washington Post*, and *The New York Times* that featured the logos of some of the major companies that are partnering with them, including: Boeing, Lockheed-Martin, Toyota, Maytag, Whirlpool, United Technologies, 3M, British Petroleum, Sun Oil, American Electric Power, U.S. Generating Co., Enron and Intercontinental Energy.
- In April, Shell Oil quit the Global Climate Coalition, an oil industry coalition opposed to the Kyoto Protocol, because the group's agenda conflicted with Shell's commitment to help reduce carbon dioxide emissions.

## Congressional Activity

- Congressional interest in climate change remains strong, with both the House and Senate holding multiple hearings.
- Despite formation of a new Renewables and Efficiency Caucus in the Senate, and a letter with over 40 Senators supporting increased spending on renewables, in the first round of Congressional action on appropriations, the President's request for increased funding for renewables and other activities to ensure energy security, provide clean air, save consumers money and reduce greenhouse gas emissions is being cut.

## Diplomatic Progress

Work continues on achieving meaningful participation by developing nations and establishing the rules and guidelines for the free market mechanisms -- an emissions trading system and a Clean Development Mechanism -- that the U.S. negotiated into the Kyoto Protocol.

- At the G8 meeting in Birmingham, England last month, the world's largest economies followed the U.S.' lead in agreeing that all countries, including developing nations, should do their part to battle climate change.
- At the Summit of the Americas in Santiago, Chile in April, President Clinton and Chilean President Frei agreed that developing countries should participate meaningfully on climate change, taking on emissions targets whenever possible. Argentina took the same position last

Fall.

INT'L BUS. INTEREST IN EMISSIONS TRADING  
METS IN EARLY STAGES IF RESPONSE

- Emissions trading and a Clean Development Mechanism represent immense opportunity for the private sector and particularly for American clean technology firms. Other countries are beginning to explore the possibilities and in April, Japan and Russia reached an agreement to begin feasibility studies on reducing emissions at 20 power plants in Russia to offset Japanese emissions. In addition, last month, the International Petroleum Exchange in London announced its intention to begin developing an emissions trading system and Canada is starting a pilot trading system in green gases.

- The international community met in Bonn, Germany earlier this month to follow-up on elements of the Kyoto Protocol, including market mechanisms, laying the groundwork for the upcoming Conference of the Parties at Buenos Aires, in November.

Argentina (--- consistent)

BRIEF ON ECONOMIC ANALYSIS?

Weekly White House Update on Global Climate Change  
May 27, 1998

Should  
clear:

Donk  
Dkvd  
Loretta  
Elliot  
Todd

Roger  
Shelley

Recent Energy Efficiency Initiatives

The Clinton Administration is working in partnership with U.S. industry and consumers to increase energy efficiency in their businesses and homes, to reduce emissions and save energy costs.

**PATH.** On May 4, the President launched the Partnership for Advanced Technology in Housing (PATH) in Los Angeles. PATH is an ambitious partnership between the building industry and government to accelerate the deployment and development of advanced technologies that will make houses far more energy efficient as well as more affordable, durable and of higher quality.

- PATH aims to build homes that use 50 percent less energy within a decade and to retrofit 15 million existing homes to make them 30 percent more energy efficient.
- Residential homes account for 20 percent of all U.S. greenhouse gas emissions, so increasing their efficiency will not only save consumers money on their energy bills, but will also significantly reduce the greenhouse gases that cause global warming

**Energy Star Building Label.** On April 20, the Administration launched the Energy Star Building Label Program, a market-driven, voluntary partnership to reduce energy consumption by 30%, reducing the emissions that cause global climate change and saving money from lower energy costs. Key charter members include the Empire State Building, the World Trade Center and the Sears Tower in Chicago.

Growing Industry Support

- Earlier this month, the Pew Center on Climate Change, with \$5 million from Pew Charitable Trusts, launched a campaign to build support for action on climate change. The Center ran ads in *The Wall Street Journal*, *The Washington Post*, and *The New York Times* that featured the logos of some of the major companies that are partnering with them including, Boeing, Lockheed-Martin, Toyota, Maytag, Whirlpool, United Technologies, 3M, British Petroleum, Sun Oil, American Electric Power, U.S. Generating Co., Enron and Intercontinental Energy.
- ~~Last month~~, Shell Oil quit the Global Climate Coalition, an oil industry coalition opposed to the Kyoto Protocol, because the group's agenda conflicted with Shell's commitment to help reduce carbon dioxide emissions.

Congressional Activity

- In a sign of growing support for the President's budget request, the Senate is forming a Renewables and Efficiency Caucus that will be officially launched next week.

update

## Diplomatic Progress

Work continues on achieving meaningful participation by developing nations and establishing the rules and guidelines for the free market mechanisms -- an emissions trading system and a Clean Development Mechanism -- that the U.S. negotiated into the Kyoto Protocol.

- At the G8 meeting in Birmingham, England <sup>in May</sup> earlier this month, the world's largest economies followed the U.S.' lead in agreeing that all countries, including developing nations, should do their part to battle climate change.
- <sup>In April</sup> Last month in Santiago, Chile, at the Summit of the Americas, President Clinton and Chilean President Frei ~~announced~~ <sup>agreed</sup> that developing countries should participate meaningfully on climate change, taking on emissions targets whenever possible. ~~Chile thus became the second key developing nation, following Argentina last Fall, to agree that developing countries should join in fighting climate change.~~
- Emissions trading and a Clean Development Mechanism represent immense opportunity for the private sector and particularly for American clean technology firms. Other countries are beginning to explore the possibilities and last month Japan and Russia reached an agreement to begin feasibility studies on reducing emissions at 20 power plants in Russia to offset Japanese emissions. In addition, earlier this month, the International Petroleum Exchange in London announced its intention to begin developing an emissions trading system.
- The international community will meet in Bonn, Germany on June 2-12 to lay the groundwork for the upcoming Conference of the Parties at Buenos Aires in November.

need to  
get a  
suitable  
budget  
from  
states

Argentina  
took a similar  
position last  
fall.

→ We need to know more  
here. What exactly does

30 Jan / Russia agreement say.

Do we ~~or~~ think this is good development  
or worrisome?

(leg  
at  
state,  
in low  
community)

DBS edits 4/26

The anti-environment rider in the VA, HUD & Independent Agencies bill states that no funds can be used to: "develop, propose or issue" rules, regulations, decrees, or orders for the purpose of implementation of *or in contemplation of implementation* of the Kyoto Protocol." In addition, the report language in the bill would seek to impose a gag rule on the Administration, stating that "[EPA] and the CEQ are thus directed to refrain from conducting educational outreach or informational seminars on policies underlying the Kyoto Protocol until or unless the Protocol is ratified by the Senate."

### Diplomatic Activity

- At the G8 meeting in Birmingham, England last month, the world's largest economies ~~followed the U.S. lead in agreeing~~ that all countries, including developing nations, should do their part to battle climate change.

At the Summit of the Americas in Santiago, Chile in April, President Clinton and ~~Chilean~~ President Frei agreed that developing countries should participate meaningfully on climate change, taking on emissions targets whenever possible. Argentina took the same position last Fall.

of Chile

- Emissions trading and a Clean Development Mechanism <sup>established under the Kyoto Protocol</sup> represent immense opportunity for the private sector and particularly for American clean technology firms. In a sign of international business interest in emissions trading, in April, Japan and Russia reached an agreement to begin feasibility studies on reducing emissions at 20 power plants in Russia to offset Japanese emissions. In addition, last month, the International Petroleum Exchange in London announced its intention to begin developing an emissions trading system and Canada began a pilot greenhouse gas emissions trading system.
- Parties to the Framework Convention on Climate Change met in Bonn, Germany from June 1-12, at the only planning meeting preparatory to the next Conference of the Parties to be held November 2-13 in Buenos Aires, Argentina. In an effort to prepare for the Buenos Aires meeting, the Bonn meeting considered a number of items that stemmed from the Protocol and related Kyoto decisions, including: international emissions trading, joint implementation, the Clean Development Mechanism and carbon sinks.

~~The G-8 agreed that industrialized~~ The G-8 agreed that industrialized countries ~~should~~ <sup>should</sup> lead, but that all countries should participate in the global regime. A G-8 climate working group was established.



**-EXECUTIVE OFFICE OF THE PRESIDENT-  
COUNCIL ON ENVIRONMENTAL  
QUALITY**

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DATE: 6/26 PAGES: 2

(INCLUDING COVER SHEET)

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→ ON BACKGROUND

ASSESSES STATUS:

PROGRESS: ① DOMESTIC FRONT:

GETTING INDUSTRY ON BOARD — PATH ←

ENERGY STAR

BREIT STEEL

→ SHELL OIL

PEW

CONNECT THE DOTS

- COALITION ② CLIMATE CHANGE HAVING PROBLEMS

② INTERNATIONAL

CHILE, ARGENTINA, 68

→ FULL COURT PRESS — MADEIRAINE'S SPEECH

BUS. OPTICS — EMISSIONS TRADING

CREATING A MARKET FOR POLLUTION CONTROL

LONG, TOUGH ROAD — BUT SERIOUS ABOUT IT & MAKING PROGRESS

BUDGET HILL — ~~then~~

— NATURE MAG.

— STATE DEPT — KYOTO

— STATE OF KNOWLEDGE

EXTENT & FORTITUDE OF ORIG.

→ MAY 27 — EL NINO

PROMPTS FOR DEVELOPING COUNTRIES

TALKING POINTS

→ NATURE

→ PEW

POSINA → NOTA

## PRESIDENT CLINTON'S \$6 BILLION CLIMATE CHANGE INITIATIVE

"Our overriding environmental challenge tonight is the worldwide problem of climate change, global warming, the gathering crisis that requires worldwide action...We have it in our power to act right here, right now. I propose \$6 billion in tax cuts and research and development to encourage innovation, renewable energy, fuel-efficient cars, energy-efficient homes." President Bill Clinton, State of the Union address, January 27, 1998

**A \$6 billion initiative over 5 years to cut greenhouse gas emissions.** The Administration is proposing a \$6.3 billion package of tax incentives and research and development investment to stimulate development and use of energy-efficient technologies and clean energy sources. The initiative was announced on October 22, 1997, by the President and builds on U.S. government efforts to encourage voluntary reduction of greenhouse gas emissions.

**\$3.6 billion in tax credits.** The proposed package contains \$3.6 billion over the next 5 years in tax cuts for energy efficient purchases and renewable energy.

- **Tax credits for fuel efficient cars.** The tax package includes tax credits of \$3,000 to \$4,000 for consumers who purchase advanced technology, highly fuel efficient vehicles -- expected to total \$660 million over the next five years.
- **Tax credits for rooftop solar systems.** Another tax provision provides a 15 percent credit (up to \$2,000) for purchases of rooftop solar electricity and hot water systems -- to provide incentives for meeting the Million Solar Roofs goal.
- **Other tax credits for energy efficiency.** The tax cuts also include a 20 percent credit (subject to a cap) for purchasing energy-efficient building equipment, a \$2,000 credit for purchasing energy-efficient new homes, an extension of the wind and biomass tax credit, and a 10 percent investment credit for the purchase of combined heat and power systems.

**\$2.7 billion in new R&D spending.** The package also contains \$2.7 billion over the next 5 years in additional research and development spending -- covering the four major carbon-emitting sectors of the economy (buildings, industry, transportation, and electricity), plus carbon removal and sequestration, Federal facilities, and crossing cutting analyses and research. Selected examples of the R&D effort include:

- **Partnership for a New Generation of Vehicles (PNGV).** PNGV is a government-industry effort to develop attractive, affordable cars that meet all applicable safety and environmental standards and get up to three times the fuel efficiency of today's cars. In FY99, the combined proposal for PNGV is \$277 million, up from \$227 million appropriated in FY98. Similar government-industry efforts are proposed to develop cleaner, more efficient diesel engines for both light trucks and heavy trucks.
- **Renewable energy.** The package includes expanded research partnerships for key renewable technologies such as wind, photovoltaics, geothermal, biomass, and hydropower to accelerate price reductions and improve performance. The FY99 budget proposes a \$100 million increase in DOE for solar and renewable energy R&D -- a 37 percent increase over FY98.

GENERAL STATUS OF CHAIRMAN MCINTOSH  
REQUESTS REGARDING CLIMATE CHANGE

- McIntosh has sent over **44** oversight requests to **22** agencies.
- The 22 agencies were asked over **485** questions, with hundreds of additional subsidiary questions and numerous document requests.
- Over **4,000** staff hours have been spent to date responding to the questions and compiling documents responsive to the Subcommittee's requests.
- Over **22,000** pages have already been produced to the Subcommittee.
- Over **150,000** pages of documents are currently under internal review and some agencies are still conducting searches.

SEA LEVEL RISE →  
DROWNING / FOODS  
HEAT WAVES

AGGRESSIVE ON TRADING

- 6 COUNTRIES

NON-ANNEX B COUNTRIES  
(KEM DEVELOPING)

- NO SINKS

- NO DOMESTIC

- NO PAYOFF FROM TECH.

- INDUSTRY CONSULTATIONS.

COSTS OUTWEIGH NON-CLIMATE

BENEFITS - DIDN'T MONETIZE

CLIMATE BENEFITS

→ IMPROVED AIR QUAL.

REDUCED NOX & SULFUR

COSTAL DAMAGE

**The Kyoto Protocol on Climate Change**  
**State Department Fact Sheet**  
**January 15, 1998**

**BACKGROUND**

- At a conference held December 1 - 11 1997, in Kyoto, Japan, the Parties to the UN Framework Convention on Climate Change agreed to an historic Protocol to reduce greenhouse gas emissions by harnessing the forces of the global marketplace to protect the environment.
- The Kyoto Protocol in key respects -- including emissions targets and timetables for industrialized nations and market-based measures for meeting those targets -- reflects proposals advanced by the United States. The Protocol makes a down payment on the meaningful participation of developing countries, but more needs to be done in this area. Securing meaningful developing country participation remains a core U.S. goal.

**EMISSIONS TARGETS**

- A central feature of the Kyoto Protocol is a set of binding emissions targets for developed nations. The specific limits vary from country to country, though those for the key industrial powers of the European Union, Japan, and the United States are similar -- 8% below 1990 emissions levels for the EU, 7% for the U.S., 6% for Japan.
- The framework for these emissions targets is based largely on U.S. proposals:
  - Emissions targets are to be reached over a five-year budget period as proposed by the U.S., rather than by a single year. Allowing emissions to be averaged across a budget period increases flexibility by helping to smooth out short-term fluctuations in economic performance or weather, either of which could spike emissions in a particular year.
  - The first budget period will be the U.S. proposal of 2008-2012. The Parties rejected proposals favored by others, including budget periods beginning as early as 2003, that were neither realistic nor achievable. Having a full decade before the start of the binding period will allow more time for U. S. companies to make the transition to greater energy efficiency and/or lower carbon technologies.
  - The emissions targets include all six major greenhouse gases. The EU and Japan initially favored counting only three gases -- carbon dioxide, methane, and nitrous oxide. Ensuring the inclusion of the additional gases (synthetic substitutes for ozone-depleting CFCs) that are highly potent and long-lasting in the atmosphere provides more comprehensive environmental protection and lends more certainty concerning the treatment of the additional gases.

- Activities that absorb carbon, such as planting trees, will be offset against emissions targets. The treatment of these so-called "sinks" was another controversial issue at Kyoto. Many countries wanted sinks to be excluded. The United States insisted that they be included in the interest of encouraging activities like afforestation and reforestation. Accounting for the role of forests is critical to a comprehensive and environmentally responsible approach to climate change. It also provides the private sector with low-cost opportunities to reduce emissions.

***Is the target the United States agreed to actually 7% lower than what the President proposed in October?***

**No.** The 7% target represents at most a 3% real reduction below the President's initial proposal of reducing greenhouse gases to 1990 levels by 2008-2012. The remaining 4 percentage points result from certain changes in the way gases and sinks are calculated and do not reflect any increase in effort as compared to the President's original proposal.

- Changing the baseline for the three synthetic greenhouse gases from 1990 to 1995 accounts for about 1% of the 7% reduction. Use of these three gases has grown since 1990, so that permitting a 1995 baseline allows for a higher overall baseline than the Administration assumed last October when the President announced his goal of reaching 1990 levels by 2008-2012. Making reductions to meet a higher baseline is of course easier than making reductions to meet a lower baseline. Had the United States maintained the same level of effort assumed by the President in October, and no other factors had changed, the shift to a 1995 baseline for the three synthetic gases would, alone, have transformed the President's goal of 1990 levels into a goal equivalent to 1% below 1990 levels.
- Altering the accounting method for carbon-absorbing activities, such as planting trees, accounts for about 3% of the 7% reduction. The President's original goal assumed that the 1990 baseline would be lowered by carbon-absorbing activities, but under the method agreed in Kyoto, such activities do not lower the 1990 baseline. Because the 1990 level baseline is thus higher under the Kyoto agreement, the U.S. target becomes somewhat less stringent. Specifically, had the U.S. maintained the same level of effort assumed by the President in October, and no other factors had changed, the shift in the accounting method for carbon-absorbing activities would, alone, have transformed the President's goal of 1990 levels into a goal equivalent to at least 3% below 1990 levels. (As noted above, certain carbon-absorbing activities will count against emission reduction commitments in the budget period.)

## **INTERNATIONAL EMISSIONS TRADING**

- The United States prevailed in securing acceptance of emissions trading among nations with emissions targets. This free market approach, pioneered in the U.S., will allow countries to seek out the cheapest emissions reductions, substantially lowering costs for the U.S. and others.

- Under an emissions trading regime, countries or companies can purchase less expensive emissions permits from countries that have more permits than they need (because they have met their targets with room to spare). Structured effectively, emissions trading can provide a powerful economic incentive to cut emissions while also allowing important flexibility for taking cost-effective actions.
- The Kyoto Protocol enshrines emissions trading. Rules and guidelines – in particular for verification, reporting, and accountability – are to be discussed at the next meeting of the Parties at Buenos Aires in November 1998.
- The inclusion of emissions trading in the Kyoto Protocol reflects an important decision to address climate change through the flexibility of market mechanisms. Led by the United States, the Conference rejected proposals to require all Parties with targets to impose specific mandatory measures, such as energy taxes.
- The United States also reached a conceptual agreement with a number of countries, including Australia, Canada, Japan, New Zealand, Russia and Ukraine, to pursue an umbrella group to trade emissions permits. Such a trading group could further contribute to cost-effective solutions to this problem.

## **JOINT IMPLEMENTATION AMONG DEVELOPED COUNTRIES**

- Countries with emissions targets may get credit towards their targets through project-based emission reductions in other such countries. The private sector may participate in these activities.
- Additional details may be agreed upon by the Parties at future meetings.

## **CLEAN DEVELOPMENT MECHANISM**

- Another important free market component of the Kyoto Protocol is the so-called "Clean Development Mechanism" (CDM). The CDM embraces the U.S. proposal for "joint implementation for credit" in *developing* countries.
- With the Clean Development Mechanism, developed countries will be able to use certified emissions reductions from project activities in developing countries to contribute to their compliance with greenhouse gas reduction targets.
- This Clean Development Mechanism will allow companies in the developed world to enter into cooperative projects to reduce emissions in the developing world – such as the construction of high-tech, environmentally sound power plants – for the benefit of both parties. The companies will be able to reduce emissions at lower costs than they could at home, while developing countries will be able to receive the kind of technology that can allow them to grow more sustainably. The CDM will certify and score projects. The CDM can also allow developing countries to bring projects forward in circumstances where there is no immediate developed country partner.

- Under the Clean Development Mechanism, companies can choose to make investments in projects or to buy emissions reductions. In addition, Parties will ensure that a small portion of proceeds be used to help particularly vulnerable developing countries, such as island states, adapt to the environmental consequences of climate change.
- Importantly, certified emissions reductions achieved starting in the year 2000 can count toward compliance with the first budget period. This means that private companies in the developed world will be able to benefit from taking early action.

## **DEVELOPING COUNTRIES**

- Various Protocol provisions, taken together, represent a down payment on developing country participation in efforts to reduce greenhouse gas emissions:
  - Developing countries will be engaged through the Clean Development Mechanism, noted above.
  - The Protocol advances the implementation by *all* Parties of their commitments under the 1992 Framework Convention on Climate Change. For example, the Protocol identifies various sectors (including the energy, transport, and industry sectors as well as agriculture, forestry, and waste management) in which actions should be considered in developing national programs to combat climate change and provides for more specific reporting on actions taken.
- Developing countries may, as a prerequisite for engaging in emissions trading, voluntarily assume binding emissions targets through amendment to the annex of the Protocol that lists countries with targets. The Kyoto Protocol does not include a separate article for nations to voluntarily assume binding emissions targets.
- Securing meaningful participation from key developing countries remains a priority for the United States. The Administration has stated that without such participation, it will not submit the Kyoto Protocol to the Senate for advice and consent to ratification.

## **MILITARY EMISSIONS**

- The Kyoto Protocol achieves the objectives identified by the Department of Defense where international agreement was necessary to protect U.S. military operations.
  - Emissions from "bunker" fuels (for international maritime or aviation use) are exempted from emissions limits.
  - Emissions from multilateral operations pursuant to the United Nations Charter are exempted from emissions limits. This includes not only multilateral operations expressly authorized by the UN Security Council (such as Desert Storm, Bosnia, Somalia) but also multilateral operations not expressly authorized that are nonetheless pursuant to the UN Charter, such as Grenada.

- Countries may decide, among themselves, how to account for emissions relating to multilateral operations (for example, U.S. training in another NATO country). This provision avoids the need to use emissions trading to allocate such emissions.

## **COMPLIANCE AND ENFORCEMENT**

- The Protocol contains several provisions intended to promote compliance. These include requirements related to measurement of greenhouse gases, reporting, and review of implementation.
- The Protocol also contains certain consequences for failure to meet obligations. For example, as a result of a U.S.-proposed provision, a Party not in compliance with its measurement and reporting requirements cannot receive credit for joint implementation projects.
- Effective procedures and a mechanism to determine and address non-compliance are to be decided at a later meeting. For both environmental and competitiveness reasons, the United States will be working on proposals to strengthen the compliance and enforcement regime under the Protocol.

## **ENTRY INTO FORCE**

- The Kyoto Protocol will be open for signature in March 1998. To enter into force, it must be ratified by at least 55 countries, accounting for at least 55 percent of the total 1990 carbon dioxide emissions of developed countries. U.S. ratification will require the advice and consent of the Senate.

## 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.

## Domestic Initiatives

In October 1997, President Clinton put forward a responsible, balanced approach to begin meeting the challenge of global warming, while protecting our economy and maintaining our international competitiveness. 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 FY 1999 budget request includes a program of tax incentives 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 incentive package** includes tax credits <sup>to highly purchasers of highly</sup> 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.

*of* The **investment package** includes research and development spending <sup>to improve the efficiency</sup> ~~in the three~~ major carbon emitting sectors of the economy -- buildings, transportation, and industry. The President recently launched Partnership for Advanced Technology in Housing -- a public private partnership to build affordable, durable homes that are 50% more energy efficient, and 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 are also being invested in research partnerships for key renewable energy technologies.

*The President has also launched*

- **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 of greenhouse gases -- ~~the pollution that contributes to global warming~~. These partnerships will identify opportunities for working together to remove barriers to the development and widespread use of energy efficient technologies and practices. STET

- **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.

- **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. <sup>already</sup> 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.