

# Appendixes

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# Appendix A: The Kyoto Protocol on Climate Change

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At a conference held December 1–11, 1997, in Kyoto, Japan, the Parties to the United Nations Framework Convention on Climate Change agreed to a historic protocol to reduce greenhouse gas emissions by harnessing the forces of the global marketplace to protect the environment. The Kyoto Protocol makes a down payment on the meaningful participation of developing countries, but more needs to be done in this area. Securing the meaningful participation of developing countries remains a core U.S. goal.

## Emission Targets

A central feature of the Kyoto Protocol is a set of binding emission targets for developed nations. The specific limits vary from country to country, though those for the key industrial powers are similar — 8 percent below baseline emissions levels for the European Union, 6 percent for Japan, and 7 percent for the United States.

Emission targets are to be reached over a five-year budget period as proposed by the United States, rather than by a single year. The first commitment period will be the U.S. proposal of 2008–2012. The emission targets include all six major greenhouse gases. (More precisely, the U.S. reduction called for is 7 percent below a baseline of 1990 levels for the bulk of emissions and 1995 levels for three synthetic greenhouse gases.) Some activities that absorb carbon,

such as planting trees, will be offset against emission targets.

## International Emission Trading

Under an emission trading regime, countries or companies can purchase emission permits from countries that have more permits than they need (because they have met their targets with room to spare). This free-market approach, pioneered in the United States, will allow countries to seek out the most economical emission reductions, substantially lowering costs for the United States and others. Structured effectively, emission trading can provide a powerful economic incentive to cut emissions while also allowing important flexibility for taking cost-effective actions.

The inclusion of emission 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.

## Joint Implementation Among Developed Countries

Countries with emission targets may get credit toward their targets through

project-based emission reductions in other such countries. The private sector may participate in these activities.

### **Clean Development Mechanism**

The 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 powerplants — 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 Clean Development Mechanism will certify and score projects, and it 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 emission reductions. In addition, Parties will ensure that a small portion of proceeds is used to help particularly vulnerable developing countries, such as island states, adapt to the environmental consequences of climate change and to cover administrative expenses for the operation of the mechanism.

With the Clean Development Mechanism, developed countries will be able to use certified emission reductions from project activities in developing countries to contribute to their compliance with greenhouse gas reduction targets. Importantly, certified emission 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 provisions of the Kyoto Protocol, taken together, represent a down payment

on developing countries' participation in efforts to reduce greenhouse gas emissions. The Clean Development Mechanism represents one way developing countries will be engaged, as outlined above.

In addition, the protocol also 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 energy, transport, and industry 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.

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 United States Senate for advice and consent to ratification.

### **Meeting the Emission Reduction Goal**

A global solution is critical to the global threat of climate change. This Administration pursues the most efficient approach to reduce global greenhouse gas emissions. The nature of the climate change problem suggests three basic methods to lower costs of achieving given levels of environmental protection. They can be characterized in terms of three categories of flexibility: (1) “when” flexibility; (2) “what” flexibility; and (3) “where” flexibility, which may be the most important of all. Such methods have long been championed by economists interested in increasing the efficiency of protection. Economic studies have found that there are many potential policies to reduce greenhouse gas emissions for which the benefits outweigh the costs. The most efficient approach to slowing climate change is through market-based policies.

According to a Council of Economic Advisers analysis, the costs of greenhouse

gas emission reductions called for under the Kyoto Protocol are not very large (about 0.1 percent of GDP in 2010). Most of the studies that show tremendous impacts on the gross domestic product from imposition of greenhouse gas emission limits ignore the cost-reducing effect of emission trading. They also ignore many benefits likely to re-

sult from reducing the threat of climate change. This Administration's policies on R&D, tax incentives, and permit trading will provide flexibility to meet the U.S. emission targets. They also will allow markets to respond efficiently to find the least-cost approach in meeting the goals.



# Appendix B: The President's Climate Change Technology Initiative

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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

Following the Kyoto Protocol negotiated in December 1997, the Administration is proposing a new program of tax cuts and R&D aimed at cutting greenhouse gas emissions. The initiative amounts to \$6.3 billion over 5 years.

### *\$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.

- **Tax credits for rooftop solar systems.** Another tax provision provides a 15-percent credit (up to \$2,000) for purchases of rooftop solar equipment — 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 R&D spending — covering the four major greenhouse gas emitting sectors of the economy (buildings, industry, transportation, and electricity), plus greenhouse gas removal and sequestration, Federal facilities, and cross-cutting analyses and research. Selected examples of the R&D effort include:

- **Partnership for a New Generation of Vehicles (PNGV).** PNGV is a 10-year government-industry R&D partnership to develop the technologies needed for a new generation of attractive, affordable

vehicles that can achieve three times the fuel efficiency of 1994 models while meeting all applicable safety and environmental standards. The President's budget request calls for a \$50-million increase in fiscal year 1999 for PNGV, to \$277 million. Similar joint efforts are proposed to develop more efficient diesel engines for both light and heavy trucks.

- **Renewable energy.** Expand research partnerships for key renewable technologies such as wind, photovoltaics, geothermal, biomass, and hydropower to accelerate price reductions and improve performance.