



## Global Climate Change

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In December 1997 the U.S. and more than 150 other countries signed the Kyoto Protocol to the United Nations Framework Convention on Climate Change. This agreement marks a turning point, both in the world's response to the threat of global warming and in international environmental diplomacy in general.

Climate change may be one of the defining issues of the twenty-first century, because it pits the potential disruption of our global climate system against the future of a fossil fuel-based economy. Policymakers are the arbiters in this battle. They attempt to negotiate between vastly different interests, and they are challenged both by the sheer dimensions of the problem and by remaining uncertainties in climate science and economic modeling.

and insect-borne diseases, such as cholera and malaria. Areas currently facing food or water shortages are likely to suffer further shortages in the future. Forests and other ecosystems might not be able to adapt to the rate of change in temperature, potentially leading to the collapse of entire ecosystems.

In the past century, atmospheric concentrations of the three most significant GHGs—carbon dioxide, methane, and nitrous oxide—have increased by about 30%, 145%, and 15%, respectively. Most of this increase can be attributed to the industrialized countries. The U.S., for example, is currently responsible for 27% of annual global emissions of GHGs. Because gases remain in the atmosphere for many decades (even centuries), the emissions from industrialized countries will continue to contribute to the greenhouse effect for some time, regardless of what action is taken to reduce current emissions.

The U.S. has not responded to climate change with the same leadership and moral conviction that it has demonstrated in response to some other global environmental problems, notably the destruction of the ozone layer. The fact that emissions of ozone-depleting chemicals (chlorofluorocarbons or CFCs) are declining is directly attributable to U.S. leadership. In contrast, the U.S. has dragged its feet on climate change, shirking positive leadership. For example, despite promises to do so, the U.S. has failed to live up to its commitment under the 1992 UN Framework Convention to attempt to return to 1990 emission levels by 2000.

Partly as a result of the U.S. failure to lead, the international community remains fractious, and the protocol reflects many disagreements that could not be resolved in Kyoto. Major splits in the negotiations exist between the U.S., which sought relatively weak commitments, and the EU, which sought much stronger ones, as well as between the U.S. and developing countries over the timing and extent of new developing-country commitments. The U.S. must work quickly to repair these rifts, resolve the many inconsistencies and ambiguities in the protocol, and begin to reduce its domestic emissions. If the U.S. does not exert this kind of leadership, the Kyoto Protocol will probably fail.

Climate change refers to the response of the planet's climate system to increased concentrations of greenhouse gases (GHGs) in the atmosphere. As their name suggests, these gases act like a greenhouse, allowing sunlight to pass through the atmosphere while trapping heat close to the earth's surface. The Intergovernmental Panel on Climate Change, a body of scientists convened by the UN and the World Meteorological Organization, has concluded that "the balance of evidence suggests a discernible human influence on global climate." 1997 was the hottest year on record, and the ten warmest years over land have occurred since 1981, with the warmest five all occurring since 1990.

Climate change is likely to have significant environmental and social ramifications. Weather patterns could become more extreme and unpredictable, and the intensity and frequency of floods and droughts are expected to increase. These conditions, coupled with warmer temperatures, could fuel the spread of water-

### Key Points

- Climate change may be one of the defining issues of the twenty-first century, because it pits the potential disruption of our global climate system against the future of a fossil fuel-based economy.
- Industrialized countries are largely responsible for the anthropogenic increase in greenhouse gases (GHGs), with the U.S. responsible for 27% of annual global emissions.
- If the U.S. does not respond to climate change with the same leadership and moral conviction that it has demonstrated in response to ozone depletion, the climate treaty will probably fail.

U.S. climate policy can be criticized on a number of fronts, all of which boil down to the failure to exercise moral leadership. In particular, the U.S. has opted not to take serious action to curb domestic emissions of GHGs, insisted that developing countries must submit to binding obligations before the U.S. Senate will ratify the protocol or take significant domestic action, and continued to tolerate (if not actively promote) loopholes in the protocol's obligations.

In contrast to its actions with respect to depletion of the ozone layer, which served to galvanize international support for the Montreal Protocol, the U.S. has failed to take early, unilateral action to reduce GHG emissions. In fact, since the adoption of the Framework Convention on Climate Change (FCCC) in 1992, U.S. emissions of GHGs have risen by roughly 8%.

If the U.S. refuses to implement strong domestic measures to curb its emissions, it is hard to see how the Kyoto Protocol will succeed. Although the U.S. has only 5% of the world's population, it produces more than one-quarter of worldwide emissions of GHGs. Failure to take responsibility for its own emissions raises questions about how seriously the U.S. considers the problem of climate change.

The Clinton administration has bungled repeated chances to initiate domestic measures. For example, recent legislation proposed by the White House to restructure the electric utility industry could have been crafted to require utilities to reduce their carbon dioxide emissions. In fact, the Environmental Protection Agency lobbied hard for the authority to impose a cap-and-trade program on utilities' CO<sub>2</sub> emissions, similar to the trading system that has lowered sulphur dioxide (SO<sub>2</sub>) emissions in a cost-effective way. This was a golden opportunity, as the restructuring bill is projected to save the average consumer roughly \$200 a year, which would have more than offset the cost of reducing GHG emissions. Unfortunately, the White House chose to forgo this opportunity.

The second problem with U.S. policy is its demand for participation by key developing countries as a condition for Washington's own ratification and implementation of the Kyoto Protocol. The nonbinding Byrd-Hagel Resolution in the Senate conditions treaty ratification on "new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period" as developed countries. This demand, which the U.S. tried and failed to have accepted in Kyoto, is a nonstarter with developing countries. Nevertheless, the U.S. insists that it will not ratify the protocol until it has lined up commitments from key developing countries.

GHG emissions are growing rapidly in many developing countries, making their eventual participation essential to the ultimate success of the treaty. Afraid that limiting GHG emissions will stifle their economic

development, however, most developing countries are unlikely to undertake commitments to limit their emissions until they see meaningful domestic action from the U.S. and other industrialized countries.

The third U.S. policy failure is its unwillingness to insist on closing the Kyoto Protocol's gaping loopholes. The U.S. was largely responsible for the inclusion of these elements in the protocol, and it continues to oppose efforts to constrain their adverse impacts on the FCCC.

The first loophole allocates surplus emissions allowances that vastly exceed some countries domestic requirements—a situation created largely by the post-1990 collapse of formerly socialist economies. This loophole permits the U.S. to avoid many of its mandated emission reductions by purchasing allowances from other countries through the protocol's "flexibility mechanisms"—adopted mainly at Washington's insistence. If it buys all (or most) of its reductions, the U.S. will not get its own house in order. In the long run, efficiency and productivity in the U.S. economy will suffer because domestic industry will be shielded from any incentive to adapt.

Yet the U.S. is already negotiating with Russia and the Ukraine to use these surplus emissions allowances to their mutual advantage. Washington wants to purchase some or all of the surplus under the protocol's trading provisions, probably for a price well below what real reductions by U.S. industry would cost—an approach sure to undermine U.S. leadership even further in the eyes of developing countries. The EU and other parties have sought to impose limits on the extent of a party's reduction commitment that may be met outside its borders, but Washington opposes such limits.

The second loophole is the lack of agreed definitions on how to include forest activities in the calculation of net emissions under the protocol. As forests grow they remove carbon from the atmosphere, and when they burn or decompose they release carbon. Some parties want to include forests in calculations when they act to remove carbon emissions but exclude them when they act as sources of carbon emissions. In addition, the failure to clearly define which forest activities may be used to offset GHG emissions could lead individual parties to adopt interpretations that would skew their emissions inventories. Again the U.S. sends the wrong message to the international community by refusing to advocate reasonable and standardized limits on the use of forests to meet GHG emissions standards.

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## Key Problems

- The U.S. has failed to assert international leadership on climate change by spurning early, unilateral action to curb GHG emissions.
  - The U.S. government wrongly insists that developing countries commit to reducing emissions before it will ratify and abide by the protocol.
  - The U.S. has tolerated, if not promoted, the serious loopholes in the protocol that allow ambiguity and financial clout to encourage evasion of accountability.
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If the U.S. is to assert moral leadership on climate change, Washington must put domestic action at the top of its agenda. Generating more than one-fourth of the world's GHG emissions, the U.S. must not shirk its responsibility to clean its own house. The administration should immediately announce a national commitment to achieve (through domestic action) a substantial majority of the reductions it needs to meet its Kyoto obligations before the commitment period mandated in the protocol. Then, at the next climate negotiation in November, Washington should propose a legally binding decision placing limits on the use of flexibility mechanisms. The administration must also begin to implement its commitments by enacting concrete, mandatory, domestic programs that will lead to early, permanent GHG reductions. Such a course would demonstrate U.S. seriousness to the rest of the world.

The administration's proposed package of consumer incentives (following Kyoto) was a good start, but the proposed measures did not demonstrate any real leadership or seriousness of purpose. Inclusion of a mandatory cap-and-trade program in the electric restructuring bill, in contrast, would have sent an unambiguous message to Congress, recalcitrant industries, and the world, that the U.S. takes climate change seriously and is prepared to do something about it.

To demonstrate real leadership, the U.S. should defer its demand that developing countries accept GHG emissions limitations commensurate with those for the developed countries. Washington would probably be happy to drop

this demand—even though the president has expressed support for it—as the administration recognizes the difficulty of securing the participation of the most important developing countries before these countries

see proof of a downward trend in U.S. emissions. In this regard the Montreal Protocol on ozone is instructive. It secured developing-country participation by deferring binding reductions for such countries. The climate regime should follow suit.

The developing countries are keenly aware of the significant disparities in levels of development and the vast consumption of energy that has gone into industrialization. They are deeply distrustful of any policy that, in their perception, threatens to slow their own growth. The U.S. will win the participation of these countries only by taking significant first steps—such as quickly ratifying the protocol and passing legislation that mandates significant reductions in domestic emissions. Washington must also be prepared to provide financial and technical assistance to help developing countries lower their emissions without harming their economies. In this respect, the U.S. could send no better signal than to begin paying its full contribution to the Global Environment Facility, the world's funder of GHG reduction activities in developing countries.

Finally, the U.S. must close the loopholes in the climate treaty. Surplus emissions allowances could be eliminated by imposing two simple conditions on all emissions trades: first, oblige the selling country to adopt new projects or policies that achieve real GHG reductions equal to or greater than the amount of allowances it seeks to sell; second, require that the proceeds from such purchases be invested directly in activities that would produce additional emissions reductions. Additionally, ambiguity about (and abuse of) the effect of vegetation on GHG emissions should be rectified by Washington insisting on an agreed set of definitions for all forest activities and a fair and honest accounting system for determining compliance.

By reducing domestic GHG emissions, constructively engaging developing countries, and removing loopholes in the document's language, Washington can assert the leadership necessary to ensure the success of the Kyoto Protocol. Alternatively, if it refuses to take the lead, the U.S. must be willing to accept responsibility for the protocol's failure and the resulting climate-related damage.

## Key Recommendations

- The U.S. government should immediately make a national commitment to (and enact programs to achieve) early and permanent reductions in domestic GHG emissions.
- The U.S. should advocate an approach to developing countries that defers the application of binding obligations until the end of a grace period.
- Loopholes in the Kyoto Protocol should be closed by limiting the purchase of surplus GHG allowances and by insisting on a fair and honest accounting system for defining forest activities relative to carbon emissions.

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## Publications

Catrinus Jepma and Mohan Munasinghe, *Climate Change Policy: Facts, Issues and Analyses* (Cambridge, UK: Cambridge Univ. Press, 1998).

Intergovernmental Panel on Climate Change, *Climate Change 1995—The Science of Climate Change: Volumes I, II and III* (Cambridge, UK: Cambridge University Press, 1996).

Stephen H. Schneider, *Laboratory Earth: The Planetary Gamble We Can't Afford to Lose* (New York: Harper Collins, 1997).

## World Wide Web

### Environmental Protection Agency

<http://www.epa.gov/globalwarming/index.text.html>  
(This site offers an explanation of global warming, a chart tracking global temperatures, a reference guide to government publications, and slides on the topic.)

### Pace University

<http://www.law.pace.edu/env/energy/globalwarming.html>  
(The Pace Energy Project at Pace University has set up "Global Warming Central." This site lists key reports, speeches, and treaties.)

### University of Oregon

<http://gladstone.uoregon.edu/eaglej/>  
(This home page, titled "The Challenge of Global Warming," offers a thorough introduction to the mechanics of global warming, with linked pages on underlying chemical and scientific assumptions.)

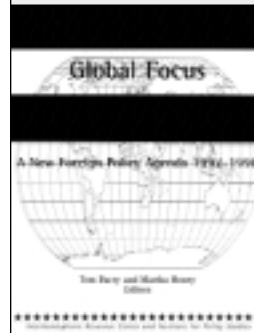
## United Nations Framework Convention on Climate Change

<http://www.unfccc.de>  
(This home page provides full-text versions of all documentation from Kyoto, as well as all past and present UN press releases.)

### *Global Focus: A New Foreign Policy Agenda 1997-1998*

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