

A truly global problem

Costs, stakes, uncertainties high in climate change debate

By Greg Botelho

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(CNN) -- While the recent implementation of the Kyoto Protocol marked a key milestone, international accord on how best to address climate change remains elusive, as doomsday scientific forecasts clash with thorny political realities.

No one knows exactly how, when or where global warming will play out. And in diplomatic circles, the "who" and "what" may be most significant, as in which countries -- citizens and companies included - will bear the greatest burdens to control greenhouse gas emissions.

"There are likely to be significant losers," said Richard Morgenstern, a senior fellow at Resources for the Future, an independent think-tank based in Washington. "It's hard to get a country to get significant reductions, and it is especially hard to get a country to act unless all its key economic rivals do."

Kyoto has been the debate's focus, exemplifying the issue's complexity and distinctiveness, since multinational talks began in earnest after the 1992 U.N. Framework Convention on Climate Change. The treaty, which requires nations to cut greenhouse gases to curb global warming, went into effect this February, after intense debate left it close to being scrapped. ([Other key environmental issues](#))

More than 140 nations signed on, but the world's largest greenhouse gas producer, the United States, did not, with Under Secretary of State Paula Dobriansky citing an unfair economic onus. Even with perfect compliance, the treaty would lead to a 2

The Kyoto Protocol, an international treaty, was created to reduce global emissions and control global warming.

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percent cut in greenhouse gas emissions -- short of the 50 to 80 percent drop experts deem necessary to avert a crisis in the next 50 to 100 years.

Even supporters acknowledge Kyoto's limitations, most importantly, that it expires in 2012. But they call the system essential to start the process and learn how better to run international environmental treaty regimes.

"Even if these percentages are not enough to solve the climate problem, they do require substantial efforts," said Joke Waller-Hunter, executive secretary of the U.N. convention on climate change that oversees Kyoto. "It's an important ... first step that sets a lot in motion."

The debate revolves around assessments of risk, as they pertain to science and economics.

Some call the issue urgent and insist on immediate action, while others favor more research to better understand and new technology to better tackle the problem.

"The Earth's climate system is very complex, so nobody can say absolutely, without question, this is going to happen in five, 10, 50 years time," said Oran Young, a professor at the University of California's Donald Bren School for Environmental Science and Management.

Great Kyoto debate

For years, some policymakers and scientists doubted whether temperatures were rising, and, if they were, that greenhouse gas emissions were to blame. Today, "consensus in the scientific community is virtually unprecedented" that global warming exists, Young said.

If left unabated, some scientists say climate change could elevate sea levels (meaning more flooding, fewer beaches and less land) and alter weather patterns (hurting agriculture and producing more extreme weather events), among other repercussions. The costs -- including effects on property values, insurance rates, food and water supplies -- would be in the tens or hundreds of billions of dollars, according to the United Nations and other organizations.

While most nations acknowledge the reality of climate change, questions persist about its pace, severity and expense -- both of fixing the problem now and paying for its effects later.

Talks are complicated by the fact that -- unlike the ozone layer, in which it was clear solar rays that got through cause cancer -- climate change's health effects are

generally indirect. Moreover, politicians are being asked to shell out public money now to avoid crises that might only arise many election cycles in the future.

Given such challenges, many view Kyoto as an impressive accomplishment. The protocol sets binding greenhouse gas limits on 38 industrialized nations and sets up apparatus such as "emissions trading," in which a country having trouble meeting its requirements can buy credits from others that exceed them. Another 106 signatories do not have mandatory requirements, but participate in the process and have incentives to curb emissions.

"The Kyoto Protocol is quite unique and innovative," said Waller-Hunter. "It has created a new commodity that can and will be traded: carbon. ... This system can [address the problem] in the most cost-effective manner."

Yet not everyone lauds Kyoto, most notably, the U.S. government.

The top U.S. official on the matter, Dobriansky, calls the treaty "unworkable," saying it puts a "significant and unnecessary burden on the U.S. economy" in mandating a roughly 35 percent U.S. drop in greenhouse gas emissions by 2012. The Bush administration also faults the treaty for not sufficiently limiting emissions in China, India and other developing nations.

The White House touts "long-term" solutions -- spending nearly \$5.8 billion annually on research, creating new technologies and participating in international working groups "to understand climate change and develop diversified and flexible approaches to address it."

"This goal sets America on a path to slow the growth of greenhouse gas emissions and, as the science justifies, to stop and then reverse that growth," Dobriansky said in an e-mail to CNN.com while traveling in Europe.

U.S. action, inaction

While calling the idea of negotiating with 180-plus nations "ridiculous" and Kyoto's targets "too ambitious," Morgenstern criticizes the U.S. policy as "far short of aggressive."

"Clearly, there's no mandatory action; it's strictly voluntary initiatives," he said. "The State Department will tell you about all the great bilateral agreements in place. But ... that only means there's a bunch of meetings taking place."

Political pressure may be building. The McCain-Lieberman Climate Stewardship Act -- first raised (and rejected) in 2003, and set to be revived in 2005 -- would limit

greenhouse gases in the power, transportation, industrial and commercial sectors. Besides Sens. John McCain and Joe Lieberman, fellow Sens. Jeff Bingaman, Chuck Hagel and Tom Carper have advocated more federal action, something many experts increasingly see as likely.

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-- *Jonathan Wiener*

Some of the most significant moves have come on the state level. California, for instance, has led about 15 states that have set stricter emissions standards for cars. Nine northeast states formed the Regional Greenhouse Gas Initiative, a cap-and-trade system that allows states to buy credits if they do not meet emissions limits.

Individual companies also have stepped up, intent on helping the environment and/or promoting energy efficiency (thus, saving money). The Chicago Climate Exchange, for one, allows firms to trade emissions credits, with an eye on reducing greenhouse gases.

"At the very least, [such actions] signal to society and the world that a lot of Americans do see this as an issue of some urgency," Young said. "Here, the national government is not speaking, but lots of other players are."

Some world leaders, particularly British Prime Minister Tony Blair and German Chancellor Gerhard Schroeder, are prioritizing climate change -- a reflection, experts said, of growing public support in Europe for action (plus resentment of what critics view as U.S. unilateral moves in this and other instances).

"Blair has sought to link climate change to international security by suggesting that if the United States wants cooperation on international security and counterterrorism, then it should be more forthcoming," said Jonathan Wiener, head of the Duke Center for Environmental Solutions.

Different approaches

While championing Kyoto, Waller-Hunter does not discount the U.S. thinking -- especially if America continues to participate earnestly in talks -- saying new ideas could be beneficial.

"[The U.S.] has chosen a different path to address climate change: They prefer a long-term to a short-term approach," she said. "All approaches ... are being followed and assessed."

With major, likely contentious negotiations on the horizon to address the issue beyond 2012, ideas are bountiful. Wiener, part of U.S. negotiating teams in the early 1990s, advocates that the White House forge a binding accord -- setting greenhouse gas limits -- with China and other developing nations. Morgenstern says the process -- limited to top emitters -- should start now, with an emphasis on finding new technologies and systems.

"There may not be a magic pill," Young said. "There may well be certain players -- nations, states, companies -- that address the issue in different ways."

One possible, positive upshot of Kyoto: establishing the real costs of reducing greenhouse gases. Great Britain's economy has thrived as it has addressed global warming, said Chris Rolfe, head of the Canadian-based West Coast Environmental Law Association. Advocates say such efforts could be cost effective in the long-term, saving money by using renewable energy more and making existing energy supplies more efficient.

But while public sentiment and individual action can factor in, experts say politicians will play the biggest role in determining how well and how soon the climate change issue is addressed.

"To make a major dent ... requires a treaty regime that's not only good for the planet, but also in the interest of each of those countries individually," Wiener said. "It's not surprising to me that it's taken a long time to reach an agreement."

Waller-Hunter said she was "somewhat optimistic" that the world could come together and effectively combat climate change, as long as the issue remains high on the political agenda.

"Action now is essential," she said. "Otherwise, the problem will become unsolvable. Every year that goes by, the task becomes more difficult."

While nations have come together in the past on environmental issues, notably the ozone layer and acid rain, experts say that most everything is amplified in this debate: the stakes, the costs and the uncertainties.

"The capacity of human beings to take actions have truly global consequences is a new thing," said Young. "This is a big challenge, and it requires some real effort to open up dialogue."