

Innovative Policy Solutions To Global Climate Change

April 25-26, 2000
Washington, DC

A two-day international conference sponsored by the Pew Center on Global Climate Change and the Royal Institute of International Affairs (RIIA) on April 25-26, 2000 served as a showcase for innovative strategies to address the challenge of global climate change.

"Around the world, businesses and governments at all levels are working seriously on this issue, and they should be commended for taking us in new directions," said Eileen Claussen, President of the Pew Center on Global Climate Change. "Not only are they accepting responsibility for becoming a part of the solution, but they also are showing us what works."

In addition to highlighting innovative business and government responses to the issue, the conference served as a forum for a wide-ranging discussion of developing country actions and perspectives, the Kyoto Protocol, and transportation, with participants voicing a variety of views on these and other topics.

The articles in the following pages summarize the conference discussions.

National Efforts Use Trading, Taxes, Other Means to Reduce Emissions

From domestic trading schemes and revenue-neutral "eco-taxes" to innovative energy and industry-sector policies, governments are beginning to show what works to reduce greenhouse gas (GHG) emissions without harming economic growth. While there is considerable debate about whether these policies and programs are sufficient for countries to reach their Kyoto targets, it is clear that many national governments are taking their responsibilities seriously and pursuing a range of options for mitigating global climate change.

United Kingdom. The United Kingdom's new climate change program, announced in March 2000 by Deputy Prime Minister John Prescott, sets out a variety of measures to help the U.K. meet its target of a 12.5 percent reduction in emissions. "Regardless of Kyoto, we believe we can take action which cuts greenhouse gases with gain, rather than pain," Prescott said.

The U.K. program calls on all sectors of society to play a part. Specifically, it requires electricity suppliers to produce 10 percent of their energy from renewables and aims to reduce emissions from transportation by promoting public transit and imposing new vehicle and fuel taxes, among other steps.

The U.K. also is introducing a new climate change levy on the business use of energy. The levy is revenue-neutral, and British officials have agreed to a lower levy for intensive energy users that commit to emissions reduction and energy efficiency targets. The British government also is aiming to set up a domestic emissions trading market by spring 2001.

The Netherlands. The Dutch Parliament recently approved a Climate Policy Implementation Plan outlining domestic measures that will help the Netherlands achieve its commitment of a 6 percent reduction in greenhouse gas emissions. According to Jan Pronk, Minister of Housing, Spatial Planning and the Environment, the Netherlands expects to meet half of its commitment with measures at home.

One of the primary vehicles for reducing domestic emissions is a steadily increasing tax on small-scale energy consumption. Since its introduction in 1996, the tax has raised the gas and electricity prices paid by households and small businesses by about 50 percent, improving the market position of renewable energy sources, which are exempt from the tax.

In other activities, large, energy-consuming companies in the Netherlands have entered into an official agreement with the government. This "Benchmarking Protocol" commits the companies to becoming among the most energy-efficient industries in the world by 2012.

Germany: By 2005, the Germans are aiming to reduce carbon dioxide emissions by 25 percent compared to 1990 levels. Germany's short-term target is even more ambitious than the medium-term, 21 percent reduction agreed to at Kyoto for all greenhouse gases.

To meet its goals, Germany is intent on doing "homework first," said Reinhard Loske, a member of the German Parliament and environmental spokesman for Alliance 90/The Greens. The draft

At Issue: Government Actions

"The low-hanging fruit has already been taken away. Marginal costs are rising . . . [EU] member states feel they have been successful in the past but for the future we face a different picture. In my view, we will see a shift in what member states undertake on their own. The possibilities for action will decline in number if countries want to work in isolation."

-- *Jos Delbeke, Head of Unit, Climate Change, European Commission, Directorate General for Environment*

"I know some governments will bristle at this claim, but let's be honest: very little is being done and much of what countries claim to be doing about climate change is being done because the policies have benefits unrelated to the climate change problem."

-- *Scott Barrett, Director, Energy, Environment, Science and Technology Program, Paul H. Nitze School of Advanced International Studies, Johns Hopkins University*

National Climate Strategy recently presented by the Federal Ministry for the Environment includes a target to double the use of renewable energy by 2010. The government also aims to double the share of combined heat and power — or cogeneration — from 10 percent to 20 percent of power generation.

Other priorities include promoting efficient heating in new construction and a program of ecological tax reform that will raise the tax on gasoline in five steps; the government also has introduced a new, phased-in tax on electricity.

In addition, according to Karsten Sach of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany has launched a “100,000 Roofs” solar program designed to boost the share of renewables. “We are taking measures that are expensive now but that we hope will have real benefits in the long term,” Sach said.

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What Tools Are Countries Using to Reduce Emissions?

Agreements with industry. While many countries have them, they are applied very differently across the OECD — for example, in concert with new tax or regulatory programs, through government/business consortia or partnerships, or on a sector-specific basis. A key consideration is how voluntary the agreements are — some countries call them “negotiated agreements,” while others allow industry-initiated efforts to qualify. Another issue centers on how strongly the agreements can be enforced and on the methods for monitoring progress in their implementation.

Taxes. The vast majority of emissions-related tax packages take the form of tax credits for energy efficiency improvements and other activities. In 1999, ten OECD countries established or modified existing energy or carbon taxes, although tax levels and strategies vary quite widely. Some countries have included emissions-related taxes as part of broader tax restructuring.

Trading. Several countries are exploring forms of trading, but only a few have incorporated consequences for noncompliance, while fewer still have proposed rules to link national programs to an international regime. Start dates for domestic trading range from 2001 to 2008.

Research and Development. While their climate benefits may be some time in the future, research and development programs for greenhouse gas reductions are part of nearly all countries’ portfolios. Total funding for R&D across the OECD in 1999 amounts to several billion dollars.

Source: Presentation by Jonathan Pershing, Head of Energy and Environment Division, International Energy Agency, during a panel discussion at the Pew Center/RIIA Conference, April 25, 2000.

Australia. Australia's program to reach its Kyoto target — an 8 percent increase in emissions by 2010 — foresees a substantial reduction from a business-as-usual course that would see the country's emissions rising by 43 percent. According to Minister for the Environment and Heritage Robert Hill, Australia aims to achieve the necessary reductions through a combination of reforestation activities and emissions reductions both at home and abroad.

To achieve domestic emissions reductions, Australia has launched a voluntary industry program called the "Greenhouse Challenge" that commits companies and industry associations to achieving specified reductions in their emissions. Participants in the program include 98 percent of the country's electricity generators, all oil and gas producers, and others. To date, these businesses and industries have committed to cutting 20 million tonnes of projected increases in emissions.

In other activities, the Australian government is developing legislation to increase residential use of renewable energy. The government also has invested A\$400 million in a new "Greenhouse Gas Abatement Program" designed to spur the development and deployment of new emissions-reducing technologies and promote sustainable land management, among other priorities.

Denmark. In March 1999, the Danish government reached an agreement with the opposition in parliament on a large reform package for the country's electricity sector. A key component of the package, according to Peter Helmer Steen, Deputy Director General of the Danish Ministry of Environment and Energy, is a "green certificates market" that provides supplementary income for producers of renewable energy.

Also contained in the Danish reforms is a cap on the electricity sector's total carbon dioxide emissions. As part of the cap program, each electricity-producing company will be allocated a specified share of carbon dioxide allowances that can then be traded with other companies in the sector.

State and Local Governments in the United States Address the Challenge

A once-inhabited barrier island off the state of New Jersey lies abandoned. The reason: a rise in sea level of six inches over the last 100 years.

Recognizing the potential impact of global climate change in their state, New Jersey officials launched a program in 1996 to slow the growth in statewide greenhouse gas emissions. The New Jersey Sustainability Greenhouse Gas Action Plan, according to Robert C. Shinn, Jr., Commissioner of the state's Environmental Protection Department, sets a goal of reducing emissions to 3.5 percent below 1990 levels by 2005. To achieve the goal, the plan relies on voluntary partnerships with industry, as well as energy conservation, pollution prevention, and the development and promotion of innovative technologies.

New Jersey is not alone among U.S. states in taking action on global climate change. In Oregon, state officials have established a procedure for siting and permitting new power plants that commits developers to keeping emissions 17 percent below those of the most efficient plants operating. According to Oregon Office of Energy Administrator John Savage, a developer can meet the standard by installing cogeneration technologies, improving plant efficiency, investing in projects that offset the plant's emissions, or contributing to the newly established Oregon Climate Trust, which invests in climate change mitigation strategies throughout the state.

Action on climate change and related issues also is happening at the local level. In 1992, Mayor Richard Daley created a Department of Environment for the City of Chicago that promotes mass transit, natural gas vehicles, renewable power, and other climate-friendly policies. "Local governments as a rule are obsessed about the idea of quality of life. We respond ... to best practices models, and we have multiple roles and multiple tools and respond to multiple incentives," said Department of Environment Commissioner William F. Abolt.

Private Sector Achieving Emissions Reductions Without Sacrificing Competitiveness

"We must have a strategy. And we must deliver results."

That is how Rodney Chase of BP Amoco summed up the challenge facing companies as they set out to address the issue of climate change. Businesses, he said, need to accept the "mounting evidence of human effect on the climate" and take the necessary actions to control greenhouse gas emissions.

"Surely, none of us wishes to deliberately squander the rights of future generations," according to Chase, who serves as BP Amoco's Deputy Group Chief Executive. "That is why I think it's fair to emphasize that while there may be a debate over the means, we should all be united in one objective — which is sustainable development."

BP Amoco has adopted a "precautionary approach" to the issue of climate change and intends to reduce its greenhouse gas emissions by 10 percent from 1990 levels by 2010. In order to achieve this target cost-effectively, the company has implemented an emissions trading system across all of its businesses in 100 countries around the world.

"One of the true advantages of emissions trading is that it is incentive-driven and provides real rewards to those who meet their targets efficiently," Chase said.

Under the trading system, each business unit has a fixed number of allowances to emit greenhouse gases. Units are permitted to exceed their allocation only by buying additional allowances from those that are prepared to emit less. Since its launch in January 2000, the trading system has been "surprisingly active" with BP Amoco units trading nearly 400,000 tonnes of greenhouse gases at an average price of about \$11 per tonne.

Trading is just one of many innovative strategies that BP Amoco is using to achieve its emissions reduction goals. Simply promoting process efficiencies won't be enough, said Chase. In other activities, BP Amoco aims to build its solar operations into a billion-dollar business by 2007.

BP Amoco is by no means the only company that is taking action to meet the challenge of global climate change. Others include:

Shell International. Shell International has three principal ways to reveal, monetize and act upon the emerging "cost of carbon," which is the cost to reduce a tonne of greenhouse gas emissions. First, an internal emissions trading program called STEPS is created to help the company achieve its goal of a 10 percent reduction in greenhouse gas emissions by 2002, relative to 1990 levels. The scheme includes operations representing 30 percent of the company's emissions from chemicals, refining, and upstream energy businesses, all in industrialized countries. Second, Shell companies in developing countries are involved in a model project to test the potential of the Kyoto Protocol's Clean Development Mechanism. Finally, shadow carbon values are applied to test the robustness of new investment decisions, according to Robert Kleiburg, Climate Change Analyst with Shell International in London.

American Electric Power (AEP). AEP Senior Vice President for Environmental Affairs Dale E. Heydlauff used the occasion of the Pew Center/RIIA conference to announce his company's support of three new research and development efforts that will focus attention on the technical feasibility and economic viability of new technologies to remove carbon dioxide from power plant emissions. The company's commitment to carbon management research represents an extension of AEP's work with the U.S. Department of Energy's voluntary Climate Challenge program. According to Heydlauff, AEP has undertaken a broad portfolio of actions since 1995 that will avoid nearly 10 million tons of carbon dioxide emissions in 2000 alone.

Dow Chemical Company. Dow has adopted a corporate goal to improve energy efficiency by 20 percent from 1995 to 2005, according to Robert J. Russell, the company's Global Opportunity Leader on Climate Change. Among the specific steps the company is taking to reduce greenhouse gas emissions are: the increased application of cogeneration technology around the world; the use of lower global warming potential blowing agents in Styrofoam® brand insulation in Europe; and the development of plastic-like materials from renewable resources (such as corn) called "Ecopla."

United Technologies Corporation (UTC). UTC has initiated a voluntary program to reduce its worldwide energy and water consumption by 25 percent as a percentage of sales by 2007. The program, said UTC's Director of Environmental Governmental Affairs Judith Bayer, includes more than 200 facilities in more than 30 countries. In addition, UTC continues to develop products and technologies that mitigate climate change. For example, Carrier's Evergreen chiller is at least 21 percent more efficient than chillers sold 6 years ago; Pratt & Whitney's electronic controls for jet engines save 2 million tons of CO₂ per year and International Fuel Cells' PC25 TM 200 kw system avoids 2.4 million pounds of CO₂ emissions per year.

Ford Executive: Automakers in Europe Moving Beyond “Old Paradigm”

Until recently, according to Ford of Europe's Wolfgang Schneider, typical behavior for government interactions with the auto industry over environmental standards was that companies focused on the difficulty of reducing emissions, but eventually did it when legislation has been passed.

The industry's new attitude toward environmental issues including global climate change is evident in its 1998 agreement with EU officials to voluntarily reduce carbon dioxide emissions from vehicles by 25 percent in ten years. As part of the agreement, the industry has committed to producing cars with an average fleet-wide CO₂ level of 140 gr/km by 2008 (equivalent to 41.3 miles per gallon) and to review the possibility of a further reduction to 120 gr/km (equal to 48 miles per gallon) by the year 2012.

New technologies will be necessary to allow auto manufacturers such as Ford to achieve these efficiency levels. One of the most exciting potential technologies is fuel cells. Schneider said Ford of Europe will introduce the first fuel cell-powered cars in 2004 and could have them in production as early as between 2008 and 2010.

In the future, Schneider said, Ford of Europe sees itself as evolving into a provider of mobility services – which could include close cooperation with public transport. He added that governments around the world can help companies like Ford keep moving toward improved environmental performance by allowing for voluntary measures rather than regulation.

At Issue: Transportation

“From a policy perspective, the principal challenge is not development of new and better technologies. Rather, the chief challenge is moving technology from the lab to the market-place. ... Companies are willing to make R&D investments in leapfrog technologies, and are doing so. But without strong policy support — not necessarily financial — they cannot justify the much larger investments needed to commercialize those technologies on a large scale.”

— Daniel Sperling, *Institute of Transportation Studies, University of California, Davis*

Perspectives: The Kyoto Mechanisms and U.S. Participation

The Pew Center/RIIA conference featured a great deal of discussion of the Kyoto Protocol and the upcoming sixth Conference of the Parties (COP6) at The Hague. Although speakers and panelists addressed a number of issues relating to continuing work on the Protocol, much of the commentary focused on the issues of flexible mechanisms and U.S. participation. The following quotes provide a sampling of the discussion:

“Renegotiating Kyoto is out of the question. However, for the first commitment period, there should be a certain degree of flexibility as to which instruments countries wish to use. Important areas of flexibility could be emissions trading, sinks and domestic action versus action abroad. This will facilitate all countries in meeting their commitments. In the end it is in our common interest to meet the Kyoto targets globally. We can be more strict on the choice of instruments in future commitment periods.”

-- *Jan Pronk, Minister of Housing, Spatial Planning and the Environment, The Netherlands*

“In agreeing to the Kyoto Protocol we, in essence, said we were prepared to pay a price for carbon reduction. But if that same price could deliver a greater carbon reduction offshore as opposed to domestically, then we believed there should be flexibility for nations to opt for that better environmental outcome.”

-- *Robert Hill, Minister for the Environment and Heritage, Australia*

“The German government is not against the flexible mechanisms but we see the loopholes. I believe there is a danger: to get the U.S. on board you have to accept almost total flexibility, but even then you can't be sure of U.S. ratification, because they still ask for meaningful participation of developing countries in the first budget period.”

-- *Reinhard Loske, Member of the German Parliament and environmental spokesman for Alliance 90/The Greens*

“It is true that the Kyoto Protocol could come into force without the U.S. But I reject any strategy which encourages or depends on this. Because in the long term the U.S. has to be part of the solution, like the rest of us.”

-- *John Prescott, Deputy Prime Minister, United Kingdom*

"If we allow full flexibility, then the OECD countries receive a free license to increase their emissions. We are not against the flexible mechanisms, but they must provide reductions of emissions that would not occur otherwise."

-- *Stephan Singer, Head, European Climate and Energy Policy Unit, World Wide Fund for Nature*

"We will be careful to find ways to accommodate the real concerns of the U.S. But I do counsel against the belief that the EU would not ratify without the U.S. If that were the only answer, it is a perfectly possible political outcome."

-- *John Gummer, Member of Parliament (UK) and Chairman, Sancroft International Ltd.*

The View from Developing Countries

Industrialized countries are not alone in taking seriously the challenge of global climate change. In developing nations around the world, governments, businesses and non-governmental organizations (NGOs) are important participants in the global dialogue on climate issues and are beginning to take actions that could reduce their countries' contributions to the problem.

"It is not true that the developing countries do not have commitments," said Luis Gylvan Meira Filho, President of the Brazilian Space Agency and one of several participants in a roundtable discussion of developing country perspectives co-sponsored by the Pew Center and the Sustainable Energy Program of the Shell Foundation.

Despite the fact that the Kyoto Protocol and the United Nations Framework Convention on Climate Change (UNFCCC) established differentiated responsibilities for developed and developing nations, both agreements contain pledges from non-Annex I countries to take serious steps to address the issue, Meira said.

Taking Action to Reduce Emissions

As evidence that his country is living up to its commitments, Meira pointed to a range of energy efficiency and biomass projects that are under way in Brazil, as well as legislation creating a framework for reviewing the impact of new public policies on the nation's greenhouse gas emissions.

Another South American country that is working to reduce emissions from a business-as-usual path is Argentina. At the fifth Conference of the Parties in 1999, Argentina announced its commitment to reduce the rate of growth of its greenhouse gas emissions by between 2 and 10 per-

cent during 2008-12, based on three different scenarios of GDP growth.

Raimondo Florin, Executive Director of the Argentine Business Council for Sustainable Development, said his country's goal-setting efforts should serve as a model for others in the developing world. "I don't see the possibility of all these countries to survive if they don't set targets and goals for sustainable development," he said.

In many developing countries, policies that can help to mitigate climate change already are in effect to address other environmental problems. Mexico City, for example, in an effort to limit air pollution from 3.5 million motor vehicles, has implemented a number of programs to evaluate and verify auto emissions, promote alternative fuels, and expand public transit.

Although she acknowledged that much progress still needs to be made in fighting pollution, Gloria Soto, Director of International Affairs in Mexico City's Secretariat of Environment, said these and other efforts helped to ensure that 1999 was "the cleanest year of the decade" in Mexico City. Soto added that Mexico City recently joined with other cities in Central and South America to develop the Clean Air Initiative in Latin American Cities.

An Early Start for the CDM?

How can industrialized countries best support efforts such as these that will put developing countries on a path to fighting pollution and reducing their emissions growth? One answer, according to roundtable participants, is by finishing work on the Kyoto Protocol and its Clean Development Mechanism (CDM), which can help to promote emissions reductions throughout the developing world.

At Issue: Developing Countries and Climate

"It's right that developing countries will in the future need to be part of the solution. It will require fresh thinking and new formulas to allow reasonable development. But the developed world is largely responsible for making the mess. We must take the lead in cleaning it up."

-- *John Prescott, Deputy Prime Minister, United Kingdom*

"... There is a huge market [in developing countries] for efficiency technology, and the United States can do a great deal to help our industries and developing countries find one another. Industry needs investment capital with which to develop this export market and the commitment of public resources to trade promotion. Just as important, however, the United States can take action to help developing countries assimilate these technologies through assistance aimed at building institutional and financing capability."

-- *Theodore Roosevelt IV, Managing Director, Lehman Brothers*

“In addition to our national measures, CDM can be an important instrument to help deflect the growth in emissions,” said Meira.

Bakary Kante, Director of the Division of Policy Development and Law at the United Nations Environment Programme, agreed. Kante, who chaired the roundtable discussion, noted that there was consensus among participants that CDM should get “an early start” so developing countries can begin to step up their efforts to mitigate climate change as soon as possible.

Liu Deshun, Professor and Deputy Director of the Global Climate Change Institute at Tsinghua University in China, addressed equity and efficiency in global GHG emissions reduction. There is flexibility regarding the timing of reductions when GHG concentrations are considered on a global scale, but this should not delay reduction efforts by developed countries. In addition, early reductions by developed countries can ease the future burden on developing countries in terms of both timing and quantity of reductions. He supported entry into force of the Kyoto Protocol, asserting that the current Kyoto regime, especially the mechanisms, must be well designed to ensure environmental integrity.

Viewing NGOs as a Resource

In addition to working to ensure speedy implementation of the CDM, industrialized countries should be looking to NGOs in developing countries as partners in meeting the challenge of climate change. In particular, said Pankaj Bhatia of India’s Tata Energy and Resources Institute, funding agencies like the U.S. Agency for International Development and the World Bank need to invest in strengthening the NGO sector in these countries so it can fulfill its role as “a moral voice of the society.”

Grace Akumu, Executive Director of Climate Network Africa, added that the greatest challenge facing NGOs and others working on climate issues in developing countries is a lack of resources. Today, she said, most investors use consultants from industrialized countries to help design and implement environmental projects, depriving local individuals and organizations of the opportunity to increase their capacity to address these issues.

The Pew Center on Global Climate Change is a non-profit, non-partisan, and independent organization dedicated to providing credible information, straight answers, and innovative solutions in the effort to address global climate change. The Pew Center includes the Business Environmental Leadership Council, which is composed of 21 major corporations (largely Fortune 500) working with the Center to address issues related to climate change. The companies do not contribute financially to the Pew Center, which is solely supported by contributions from charitable foundations.