

# CLIMATE WATCH

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### SCIENTISTS TESTIFY ON NEED TO IMPROVE CLIMATE MODELS

limate experts recently told the Senate Energy and Natural Resources Committee that current predictions of catastrophic global warming are unreliable.

According to the scientists, enormous uncertainties still cloud the scientific community's understanding of climate change, making accurate forecasts of future warming impossible.

"[T]he claim that significant warming is 'likely' represents a virtual breakdown of scientific ethics and principles."

Massachusetts Institute of Technology meteorology professor Dr. Richard Lindzen told the committee that warming predictions are based on a number of large assumptions about climate that cannot be justified scientifically. Lindzen said, "The point simply is the popular arguments are largely irrelevant and wrong. The basis of concern is model predictions, and the model predictions in fact depend on a number of things...about which we are virtually uncertain."

"Thus far, we have been unable to simulate past climate variations with our models," Lindzen continued. "Under normal scientific circumstances, without political and environmental pressure, this would be considered a basic problem. But, it has been argued...that the [climate] observations are broadly consistent with the model predictions, given the natural variability of the climate."

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## Executive Director's Column GCC ASSESSING FIRST STEP ON JOINT IMPLEMENTATION

By John Shlaes

he Clinton administration has taken a big step in defining the procedures that will govern the ability of the private sector to support greenhouse gas reduction projects overseas. Unfortunately, it still isn't clear whether that step is entirely in the right direction.

The issue is "joint implementation," a phrase born in the Framework Convention on Climate Change signed at the Rio Earth Summit and included in the administration's Climate Change Action Plan. Simply stated, joint implementation (JI) is a concept that would recognize a given party for actions taken to reduce greenhouse gas emissions in another country. This could include everything from providing more efficient technology to planting forests.

The Global Climate Coalition enthusiastically supports JI. We believe national governments should begin to assess pro-

grams and procedures for joint implementation through pilot programs that will help define efficient, effective means to implement the concept nationally and internationally. GCC encourages the U.S. government to maintain its lead in this effort.

On June 1, the State Department published in the

Federal Register its guidelines for the U.S. Initiative on Joint Implementation (USIJI) contained in President Clinton's Climate Change Action Plan. GCC and several of its member organizations submitted extensive comments last December after initial draft guidelines were issued.

The State Department and other involved federal agencies worked hard to develop a broad and comprehensive plan. A JI pilot program represents a new concept in international structures and relationships; it was a difficult task. The program also marks the first time that some industries have extensively engaged foreign partners and may serve as a vehicle for their participating much more actively overseas.

The GCC is pleased to note that several key concerns were addressed in the guidelines that appear to make the

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# COOLING TREND MORE PRONOUNCED THAN PREVIOUSLY REPORTED

Cientists at NASA's Marshall Space Flight Center and the University of Alabama at Huntsville (UAH) say global composite temperatures have decreased much more during the past decade than was previously thought.

"The temperature recorded for some of the most recent months changed by as much as 0.1 degrees Celsius. The 10year trend was also affected," according to UAH scientist Dr. John Christy. "Through March, the decadal trend was -0.26 degrees Celsius before the correction and -0.56 degrees Celsius after the correction."

As part of an ongoing project, NASA and UAH use data collected by the National Oceanic and Atmospheric

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#### Joint Implementation

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pilot program more workable, including the creation of a governmental secretariat/special staff to help administer the USIJI and serve as a focal point to help manage the program. Another important issue was not limiting the concept to "net" emissions. This will allow projects to be evaluated on the basis of greenhouse gases that it reduces, avoids or sequesters.

GCC comments requesting more complete definitions or clarifications of procedures were left for an Evaluation Panel. How these procedures are eventually clarified could have a significant impact on industry.

The GCC remains strongly concerned about the concept of "additionality." The revised groundrules appear to require that pilot programs include specific measures to reduce or sequester greenhouse gas emissions that would not otherwise have been taken.

Industry is concerned with how this term will ultimately be defined and thinks that an overly stringent application of the criteria would make viable projects difficult. Few firms would be able undertake joint implementation projects solely on the basis of reducing greenhouse gas emissions, although this consideration could be sufficient to tilt the balance in favor of an otherwise marginal economic venture. Projects that achieve emissions reductions should be provided appropriate recognition regardless of the motivation for making the investment. In summary, overly strict interpretation of "additionality" could substantially limit U.S. industry participation in joint implementation projects under USIJI.

U.S. business and industry can contribute to and benefit from participation in JI projects. Such efforts will help identify new markets and strong overseas partners, promote the exchange of technology and valuable information, reduce costs, bring sound rates of return on investments, and offer opportunities to diversify and obtain other commercial benefits. Joint implementation should be defined so as to encourage collaborative projects that make both economic sense and reduce greenhouse gas emissions. That is the spirit of the president's Climate Change Action Plan, a spirit American industry can enthusiastically support.

# STATE DEPARTMENT ESTABLISHES GROUNDRULES FOR TECHNOLOGY COOPERATION

What is the U.S. Initiative on Joint Implementation (USIJI)? The USIJI is a pilot program that aims to encourage private sector investment and innovation in the development and dissemination of technologies that reduce greenhouse gas emissions in developing nations.

What were the key changes made in the guidelines? GCC and other groups voiced concerns that evaluating projects based on "net emissions," as the groundrules originally proposed, could be interpreted as requiring submitters to total their domestic and international emissions from all projects. The State Department changed the language throughout the text to ensure that projects will be evaluated on the basis of the emissions that they reduce or sequester.

The department also extended the definition of eligible participants to include groups, thereby taking into account "the potential for a consortium of companies to coordinate in the preparation and implementation of a JI project."

The department, again incorporating GCC's comments, deleted the requirement that projects be registered under the 1992 Energy Policy Act. It also left room to include projects begun before the Framework Convention, provided that submitters demonstrate that the projects were implemented in anticipation of joint implementation and/or that the project was altered to reflect considerations related to joint implementation.

The panel also may consider a project's potential to lead to reductions elsewhere and its potential effects apart from greenhouse gas reductions and sequestration. Domestic emissions reduction and sequestration efforts by both U.S. and foreign participants also may figure into the panel's evaluation.

# GCC MEMBERS OPTIMISTIC AFTER RELEASE OF VOLUNTARY REPORTING GUIDELINES

lines for the voluntary reporting of greenhouse gas emissions reductions by utilities and other entities reflect a level of flexibility that is engendering optimism among several GCC members, who are now examining the documentation more closely. Required by the 1992 Energy Policy Act, the guidelines have been cited by many industries as the key to their continued voluntary efforts in support of President Clinton's Climate Change Action Plan.

The proposed guidelines, published by the Department of Energy on June 1, outline rules for the voluntary reporting of reductions of carbon dioxide, nitrous oxide, methane and halogenated carbon substances. The guidelines establish the framework for the forms to be developed by the Energy Information Administration for the voluntary reporting of greenhouse gases.

To encourage broad participation and small-scale initiatives, the DOE proposes to allow any U.S. citizen or resident alien, incorporated group or government entity to report its reduction or sequestration efforts as long as it can "define a project and report physical data in enough detail to quantify results of the activity." Similarly, DOE is not proposing a minimum reporting threshold and is suggesting that third parties, such as trade associations, be able to report aggregate data from the reduction or sequestration efforts of multiple entities.

DOE also is broadening its criteria for eligible projects, so that participation in the Climate Challenge program will not be limited to projects that result in net greenhouse gas emission reductions. "Project-level reporting provides maximum flexibility....Participation is facilitated since growing entities would be able to report, even though their

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# Cooling Trend Continued from page 1

Administration's TIROS-N satellites to get accurate temperature readings for almost all regions of the Earth. The team processes the data monthly to determine 10-year and seasonal trends. For the most part, the team has found a slight cooling trend in global composite temperatures for each month.

One of the NOAA satellites drifted in its orbit, affecting the team's analyses. When it was launched, the NOAA-11's orbit carried it over the equator at 1:30 p.m. and 1:30 a.m., local standard time. Due to orbital drift, it now crosses the equator at 4:30 p.m. and 4:30 a.m.

"We were observing the Earth at a warmer time of day than when the satellite was launched," UAH scientist Dr. John Christy explains. "Fortunately, we had two other satellites in orbit to compare against NOAA-11. We have corrected the data to compensate for the orbital shift."

Although average global temperatures in April warmed slightly, the global composite temperature remained 0.95 degrees Celsius below the 10-year average for the month.

(Source: UAH Earth Science Lab release.)

For more information, contact Dr. John Christy, 205/895-6257 or 205/544-6962.

#### Scientists

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"This is a profoundly dishonest statement," said Lindzen, "since it would be equally true if the models predicted no warming or even some cooling over the past century....Under the circumstances, the claim that significant warming is 'likely' represents a virtual breakdown of scientific ethics and principles."

Dr. Jerry Mahlman, director of the National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory, told the committee, "[M]odels have improved in their ability to simulate the current climate. Unfortunately substantial uncertainties remain due to deficiencies in our scientific understanding and in our computer power."

Office of Science and Technology Policy said, "It is quite evident that there are significant scientific uncertainties. There is no question about that." The question for policy makers, he suggested, is how "risk averse do they want to be?"

In further testimony, Dr. Sallie Baliunas, an astrophysicist with the Harvard-Smithsonian Center for Astrophysics, challenged the assumption that greenhouse gas emissions are responsible for climate change. Dr. Baliunas showed that changes in greenhouse gas emissions do not correlate with observed changes in global temperatures over the last century. Instead, her data link climate changes to solar activity.

"If not caused by the buildup of green-house gases, then what changed the Earth's climate? There is evidence the sun does," Baliunas said, referring to a chart (reproduced below) that compares changes in the sun's 11-year activity cycle — measured by the cycle length — with the Earth's temperature record.

"The close agreement doesn't prove there is a causal connection," said Baliunas, "but [it] certainly suggests it." Copies of hearing testimony are available from the GCC Press Office at (202) 628-3622.

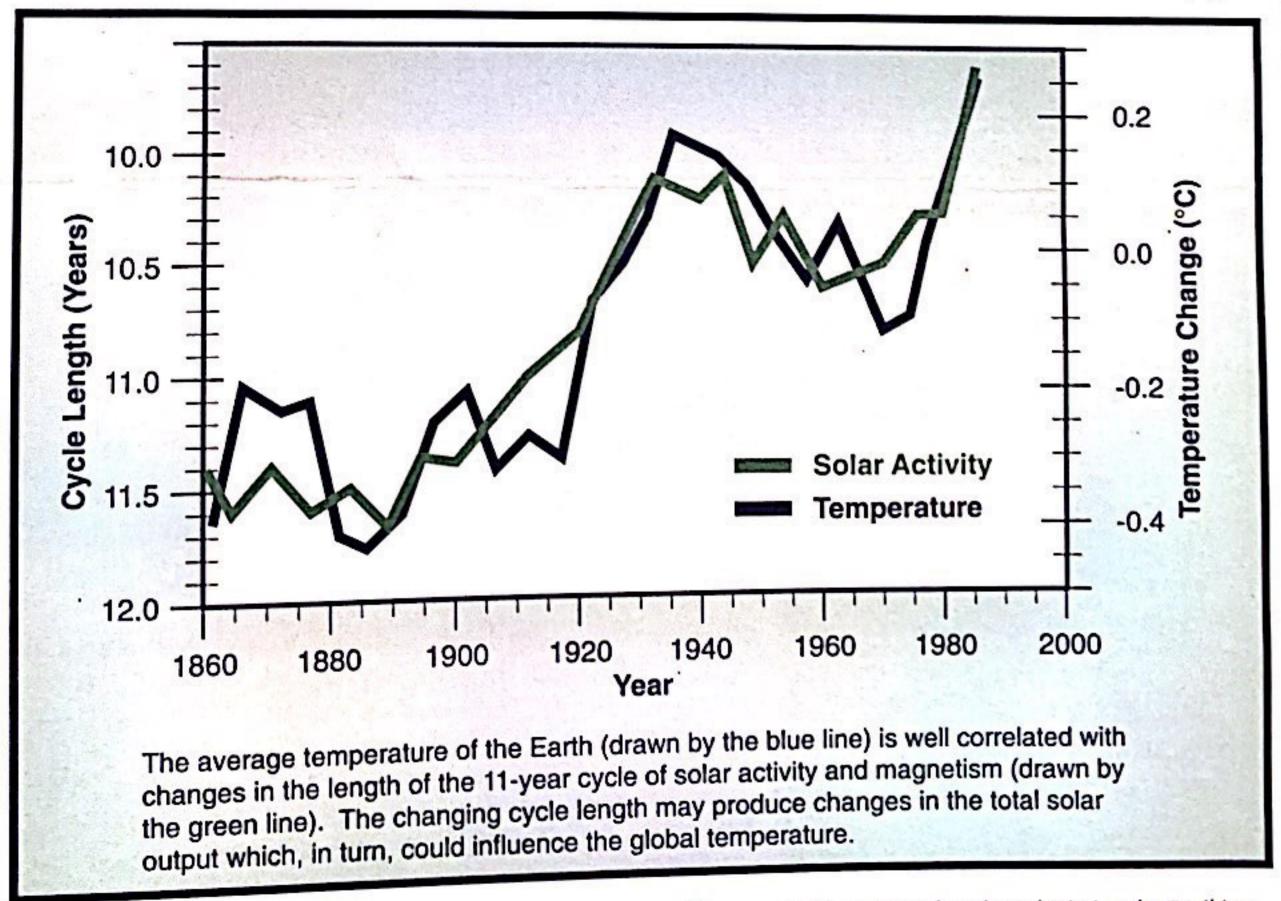
### NCA PROGRAM CUTS EMISSIONS, IMPROVES SAFETY, CREATES JOBS

he National Coal Association (NCA), the Department of Energy and the Environmental Protection Agency have devised a comprehensive plan to slow the growth of greenhouse gas emissions.

Through the plan, NCA will encourage industry participation in several Climate Change Action Plan programs—including the Motor Challenge (of which NCA is a signatory member) Climate Wise and Green Lights—and will report results to DOE. NCA also is working with states, federal agencies and other organizations to develop reclamation projects that encourage reforestation as a post-mining land use.

Among the most ambitious of NCA's projects is the Coalbed Methane Outreach Program, a partnership with EPA aimed at slashing emissions of methane, a greenhouse gas that traps heat 20 times more effectively than carbon dioxide. The program targets 75 mines for cost-effective methane recovery efforts. By 2000, more than 20 mines are expected to be operating coalbed methane recovery projects,

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Dr. Sallie Baliunas recently showed the Senate Energy & Natural Resources Committee this chart depicting the "striking correlation between solar activity and climate."

### EIA PREDICTS INCREASED ENERGY EFFICIENCY

efficiency will restrain growth in U.S. energy demand through 2010, according to the latest projections from the Energy Information Administration. EIA Administrator Jay Hakes credits advances in appliance and building efficiency for much of the anticipated improvement.

In its Annual Energy Outlook 1994 — With Projections to 2010, EIA projects that from 1990 to 2010, total end-use consumption (excluding fuel consumed in electricity generation) will increase from 63 to 79 quadrillion Btus. However, energy intensity (the amount of energy consumed per dollar of output) will decline at an average annual rate of 1 percent through 2010. Continued energy savings are expected in response to energy-efficiency standards mandated by the 1992 Energy Policy Act, fuel price increases and continuing changes in the output mix of U.S. industry. Hakes notes that residential energy consumption per household also is projected to decline between 1990 and 2010.

Copies of Annual Energy Outlook 1994 are available from the EIA's National Energy Information Center, Room 1F-048, Forrestal Building, Washington, DC 20585. Phone: 202/586-8800.

# Coal Industry to Cut Emissions Continued from page 3

yielding emissions reductions of half a million metric tons. In addition to reducing methane emissions, the program will improve mine safety and create new jobs. EPA will help the industry market the recovered methane to electric utilities and pipeline companies.

In addition to these programs, the coal industry will continue to develop clean coal technologies that cover the entire process, from pre- through post-combustion. NCA also is working with the Department of State to identify projects—that may be suitable for the administration's joint implementation pilot program.

NCA President Richard L. Lawson stressed that all initiatives under the plan are voluntary and are meant to be implemented by member companies "over time and wherever business and mining conditions permit." Lawson said that such a voluntary and flexible approach is mandated by the scientific uncertainties surrounding global climate change.

For more information, contact John Grasser at 202/463-2651.

### Guidelines Released

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total emissions are growing; and parties who do not have or cannot develop data at the total organization level will be able to report quality data on an individual project," DOE said.

DOE will hold a public meeting on the guidelines on June 29 in Washington, DC, and will accept written comments on the proposal through August 1. The department hopes to publish its final rules by the end of September.

To receive a copy of the draft guidelines, or to obtain information about speaking at the public meeting, call 301/601-8284.

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