



CLIMATE WATCH

THE BULLETIN OF THE GLOBAL CLIMATE COALITION

RIO TREATY
ENTERS INTO FORCE
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BUSY CLIMATE SCHEDULE IN 1994

By John Shlaes



The New Year begins an extraordinary agenda of climate-related activities. With the holidays barely behind us, the administration and industry will be quickly engaged

and challenged in a wide range of climate and environmental actions both domestically and internationally.

Since President Clinton announced his Climate Change Action Plan in October, his administration has involved industry in several climate-related initiatives, including the "Climate Challenge" and the "Climate Wise" programs. Further, the President's Commission on Sustainable Development met in December, and the president's Environmental Technology Initiative is also getting under way. In January alone we can expect the publication of a Federal Register notice on sustainable development, the establishment of a joint implementation evaluation group and continued activities stemming from the U.S. Country Studies Initiative.

In February, the United States will participate in discussions on financing and technology transfer with the U.N. Commission on Sustainable Development. Also, the U.N. body responsible for follow-up to the Rio Climate Convention, the Intergovernmental Negotiating Committee (INC), will meet in Geneva to continue preparations for

the treaty's formal implementation in early 1995. Finally, expected this spring is a Federal Register Notice of Proposed Guidelines on Section 1605 of the Energy Policy Act, which will serve as a reporting framework for voluntary reductions of greenhouse gas emissions.

These are only a few of the programs that industry will be dealing with next

year on climate change, technology, the environment and energy. This issue of *Climate Watch* includes a brief review of key initiatives (below). These new programs will be a challenge for industry and government as they attempt to work together to build a strong economy, provide adequate energy and improve the environment. ●

DOMESTIC INITIATIVES

Discussions on the Section 1605 Voluntary Reporting Initiative, the Climate Wise and Climate Challenge programs, joint implementation, the President's Council on Sustainable Development meeting, and the administration's environmental technology initiatives will all command business' attention.

Section 1605(b) of the Energy Policy Act of 1992 directs the Department of Energy (DOE) and the Environmental Protection Agency (EPA) to establish "guidelines for the voluntary collection and reporting of information on sources of greenhouse gases" and is intended to serve as a framework for industry and other organizations to report "annual reductions of greenhouse gas emissions and carbon fixation achieved through any measures."

In November and December 1993, DOE and the Energy Information Agency (EIA) held workshops to explore options for voluntary reporting measures, in which industry representatives played an active role. A set of proposed guidelines will be released in late spring 1994, along with a Federal Register notice requesting public comment. A set of initial guidelines is expected in late summer 1994.

DOE intends to create voluntary reporting procedures that will allow for maximum participation by a broad range of U.S. industries. In addition, the reported emissions reductions will be incorporated into a database established by EIA.

Climate Wise is a joint DOE/EPA initiative designed to complement existing voluntary pollution prevention programs, such as Green Lights and Motor Challenge. A public workshop was held on December 17, and a final program proposal will be published in the Federal Register for public comment in 1994. Climate Wise will "provide the necessary drivers to achieve the maximum level of greenhouse gas reductions."

The Climate Challenge, created by DOE, is designed to encourage utilities and other eligible firms to explore ways they can contribute to voluntary greenhouse gas reductions. To date, more than 200 companies have sent letters stating their intent to participate. Participating companies are looking at a variety of options to help achieve limitations on gases, including demand-side management, fuel switching, forestry sequestration, energy-efficiency measures and international reduction programs.

Continued on next page

FRAMEWORK CONVENTION TO ENTER INTO FORCE

On December 21, 1993, four countries, including Spain and Denmark, ratified the United Nations Framework Convention on Climate Change, giving the treaty the last of the 50 signatories it needed to enter into force on March 21, 1994.

Citing climate change as "one of the greatest challenges facing the global community," U.N. Secretary General Boutros-Ghali said that the real challenge of the convention remains: "We must continue to improve our scientific and technical understanding of the causes and impact of climate change and of the various options for responding to it." He hailed the convention as "more than an environmental agreement; it is a commitment to sustainable development based on a renewed spirit of partnership between the developed and developing countries." ●

CLINTON ADMINISTRATION OPENS "GREEN ROOM"

In an effort to initiate a "quick start" on the implementation of President Clinton's Climate Change Action Plan, DOE has opened a suite of offices, dubbed the "Green Room," to serve as an information center and headquarters for staff coordinating the plan.

The office complex is envisioned to serve as both an external and internal hub for activity on the action plan. According to Eric Petersen, executive director of the Green Room, "The Green Room will serve to provide a point of focus for programs across the structure of the plan."

It is also expected that the Green Room will play a major role in DOE's future outreach efforts, providing a place for workshops and focus groups to facilitate stakeholders' involvement in the implementation process. Petersen remarked, "There is a lot of good experience out there, and we definitely want to draw on it."

For further information on the DOE Green Room, call (202) 586-7541. ●

Domestic Initiatives

Continued from front page

The President's Council on Sustainable Development, composed of 25 leaders from business, industry, environmental and conservation organizations, was created on June 14, 1993, and was charged with "developing and recommending to the President a national sustainable development action strategy that will foster economic vitality." The council is divided into six task forces and three "scoping groups," including one on climate change. On July 20, 1993, at its first meeting, the council embraced a broad agenda of environmental issues, including greenhouse gases and energy use. The council is expected to serve for at least two years and is scheduled to meet again in January.

The Interagency Environmental Technologies Exports Working Group, established in response to the president's Earth Day address, recently published a framework report to promote the development, commercialization and export of U.S. environmental technologies. The details of the government's program will be worked out in "joint government-business dialogues in the coming months."

INTERNATIONAL INITIATIVES

The INC climate negotiations, the U.N. Commission on Sustainable Development and the U.S. Country Studies Initiative will develop policies or offer programs that will require industry input.

The U.N. Intergovernmental Negotiating Committee (INC) will meet February 7-18 in Geneva to continue preparation for the first meeting of the Conference of the Parties, which, according to news sources, is expected to occur in November 1994. Topics to be addressed at the February INC meeting include the adequacy of commitments, the roles of subsidiary bodies, financial mechanisms, criteria for joint implementation, and technical and financial support provisions for developing countries.

The U.N. Commission on Sustainable Development (CSD) will hold a Working Group Intersessional in February to discuss financial flows and technology cooperation. A full meeting of the commission will then take place in May 1994. An additional full CSD meeting is expected in spring 1995 specifically to discuss issues concerning climate change. Early next year the United States will submit its national report to the CSD. The report, which is being coordinated by an interagency task force, will summarize U.S. efforts to implement specific provisions of Agenda 21 that are on the commission's 1994 agenda. Two briefings on the report have already been held for NGOs, and additional briefings are scheduled for February, April and June 1994.

The U.S. Country Studies Initiative, which was begun in October 1992, is designed to provide technical support to developing countries for greenhouse gas inventory methodologies, vulnerability assessments, and analysis of adaptation and mitigation options. The program is overseen by an Interagency Coordinating Committee comprising representatives from 11 federal agencies. In May and June 1993, teams were sent to the countries that had officially requested support. Twenty countries have received awards. Most projects started in October 1993 and will run for two years. A second round of proposals is now under way. Workshops to provide guidance and training will be held from December 1993 through spring 1994. The program received \$12.5 million in funding for FY 1993. ●

Swedish Report Continued from page three

The report notes the disparity between observed temperatures and the temperature increases predicted by general circulation models (GCMs). According to Dr. Christensen's analysis, today's models are inadequate because they fail to allow for variations in solar activity, which have been linked to climate change. All three scholars agreed that a greater knowledge of natural variations in climate and of atmospheric conditions is needed to better understand or predict climate change.

The report was published by Elforsk AB, the Swedish electrical utilities' joint company for research and development. Copies of the report are available from the GCC. ●

SUPERCOMPUTERS COULD BRING COMPLETE WEATHER MODEL

The National Center for Atmospheric Research (NCAR), the principal center for atmospheric and oceanic research and modeling for the University Corporation on Atmospheric Research, has announced the activation of a union of supercomputers that it expects will advance

climate modeling research and answer questions about global climate change and greenhouse gases.

The NCAR project includes a massively parallel processing (MPP) supercomputer, the "Connection Machine" (CM-5) from the Massachusetts-based Thinking Machines Corporation, and the Cray-3, a vector supercomputer from the Colorado Springs-based Cray Computer, Inc. Of these, only the CM-5 has passed NCAR's acceptance testing. NCAR is currently testing the Cray-3, which it installed in May.

"The goal of this initiative is to produce modeling capability that accommodates higher resolution, more sophisticated physics and a computing system that facilitates incremental and cost-effective use of MPP technology," explained Bill Buzbee, director of NCAR's scientific computing division. Developing more sophisticated computers is a critical need in model research, as an ideal model would incorporate every atmospheric and oceanic dynamic on Earth and would require an enormous amount of computing power.

Funded by the National Science Foundation, NCAR has a budget of \$90 million, a staff of 800 and an estimated 500 users.

For more information, contact Rich Loft at NCAR, P.O. Box 3000, Boulder, CO, 80307-3000. Phone: 303/497-1262. ●

CLIMATE NOTES

NODC CREATES NEW DIVISION

The National Oceanographic Data Center has designated its developing research group as a new division, the Ocean Climate Laboratory. Divided into two branches, physical oceanography and biological/chemical oceanography, the Ocean Climate Laboratory's goal is to produce research-quality data sets, analyze data and study the role of oceans in the Earth's climate system. Part of this process will include both examining historical oceanographic data and locating new data.

The Ocean Climate Laboratory already has completed and analyzed comprehensive, quality-controlled databases on ocean temperature, salinity, oxygen and nutrients (e.g., nitrate and phosphate). Results will be published in a series of scientific papers and in a multivolume world ocean atlas that will be issued in late 1993 or early 1994. The new division also is directing the international Global Oceanographic Data Archaeology and

Rescue Project. Endorsed by the Intergovernmental Oceanographic Commission, this project has received worldwide support and has obtained 1 million additional ocean temperature or temperature-salinity profiles from nine countries.

For more information, contact Sydney Levitus, at NOAA/NODC Ocean Climate Lab, 1825 Connecticut Ave., NW, Washington, DC 20235. Phone: 202-606-4507. ●

STARTING A GLOBAL NETWORK

The International Council of Scientific Unions, the U.N. International Oceanographic Commission, the World Meteorological Organization, and the International Social Science Council are developing an international network to help develop consensus on scientific issues worldwide and to bring a global scientific perspective to regional research.

Called START (Global Change System for Analysis Research and Training), the project will include a network of regional

research centers, each of which will have access to regional and international climate change databases. Thirteen regions have been delineated across the globe. Three have been given highest immediate priority because of their sensitive and poorly understood climates: Equatorial South America, Northern Africa and the Tropical Asian Monsoon region.

For more information, contact The International START Secretariat, 1825 K Street NW, Suite 1101, Washington, DC 20006. Phone: 202/457-5840. ●

WORLD BANK EXPANDS "GREEN" FINANCING

The World Bank recently increased its loans for environmental protection from \$1.2 billion to \$2 billion for the business year ending June 1994. According to a World Bank release lending targets include a \$1.3 billion "brown agenda" for pollution control and urban projects, as well as a \$694 million "green agenda" for natural resource management and environmental protection. ●

SWEDISH REPORT FINDS CLIMATE MODELS INADEQUATE

A new report by Swedish climate experts concludes that, before substantive measures are taken to reduce emissions of greenhouse gases, more time should be devoted to detailed investigations of natural variations in climate and of atmospheric conditions, as well as to continued development of climate models.

"The Earth's Climate Natural Variations and Human Influence" contains an analysis of climate change, by Prof. Wibjorn Karlen of Stockholm University; an assessment of variation in solar activity and its effects on climate, by Dr. Eigil Friis Christensen of the Danish Meteorological Institute; and an assessment of climate models and climate data and the inferences one can draw from them, by Dr. Bengt Dahlstrom of the Swedish Meteorological and Hydrological Institute.

Continued on page four

EUROPEAN UPDATE

EC TO RATIFY CLIMATE CONVENTION

On December 16, EC environment ministers, who were gathered in Brussels, set aside a long-running dispute over energy taxes and agreed to ratify jointly the international convention on climate change by the end of 1993.

The convention sets the goal of reducing carbon dioxide and other greenhouse gas emissions to 1990 levels by 2000 on the grounds that they increase the risk of potentially dangerous climate change.

Such an agreement seemed impossible throughout much of the year. A meeting chaired by Belgian Environment Minister Magda de Galan earlier this month resulted in agreements to phase out ozone-depleting HCFCs by 2015 and to curb the use of methyl bromide, but participants were unable to reach a similar agreement on the climate convention. The dissension had proved a source of embarrassment to the EC, which, after playing a leading role at the 1992 Rio Summit, found itself trailing the United States, Japan, China and dozens of other countries in ratifying the Framework Convention on Climate Change.

Much of the disagreement within the EC centered on a proposed EC energy/carbon dioxide tax, which had the support of Italy, the Netherlands, Denmark and Germany, but not France and the United Kingdom.

Another obstacle to ratification had been the issue of joint ratification, whereby wealthier member countries would have committed themselves to larger car-

bon dioxide cuts than poorer ones. Britain opposed such a policy. However, Ireland, Spain, Greece and Portugal contend that they should have to make fewer emissions reductions than richer countries, which are responsible for most of the EC's carbon dioxide output.

The new convention bypasses rather than resolves these disputes by avoiding the link between joint ratification and the need for an energy tax to achieve the emissions reduction goal. *Source: Reuter 121152303 Brussels (Dec. 16).* ●

VOTERS FORCE BRITAIN TO RETHINK REDUCTION

On December 1, the British government set forth its plan to increase fuel taxes and energy-efficiency grants to pensioners in order to freeze its carbon dioxide emissions by 2000. Britain is the first European country to detail measures designed to reduce greenhouse gas emissions in response to the 1992 Rio Summit.

The fuel duty will rise 5 percent each year for the next decade, an increase that is expected to reduce carbon emissions by 2.5 million tons each year. Savings from other measures are expected to be 4 million tons from private homes, 2.5 million tons by business and 1 million tons in the public sector.

The Department of the Environment also almost doubled its £37.5 million per year Home Energy Efficiency Scheme, which gives advice and grants for ener-

gy-saving home improvements, such as loft insulation. The plan is designed to boost energy savings in the home and to help low-income households cope with a recent 17.5 percent increase in the value-added tax (VAT) on domestic fuel.

The plan's increased budget is in part a response to concerns voiced earlier this year by voters of Christchurch in Hampshire, England, who dealt the British government its worst election defeat since 1945. Among the main issues were the introduction of a VAT on domestic heating fuel and the effect such a tax would have on pensioners and low-income families. "The problem is inelasticity of demand," Ben Plowden of the Council for the Protection of Rural England told *Nature* magazine. "Those who cannot afford to improve the efficiency with which they use energy just end up paying more, not consuming less." *Source: Nature Vol. 364 August 5, 1993; The Daily Telegraph, Dec. 1, 1993.* ●

NETHERLANDS WON'T MEET REDUCTION GOAL

This fall, the Netherlands reported that its carbon dioxide emissions would increase between 1 and 10 percent by 2000. Four years ago, the Netherlands' National Environmental Policy Plan had envisioned a 3 to 5 percent reduction by 2000, but higher economic growth and lower energy prices than predicted have made this target unrealistic. *Source: Change Newsletter #18, 1993.* ●

COMPUTER MODELS MISTAKE RAINFOREST ROLE

Contradicting the predictions of computer models, a new rainforest study by the UK-based Natural Environment Research Council has found that higher temperatures could result in a "far drier" climate according to the *London Independent*. The council released the results of its latest study to the British Association for the Advancement of Science on August 31.

Computer models "have forecast a wetter, windier world," the council reported. However, if temperatures increase three degrees, plants are likely to "breathe out" less water vapor than previously thought, resulting in fewer clouds and, consequently, less rainfall. "Simply put," said the authors, "rain exists because of the rainforests, not the other way around." ●

MORE CO₂ COULD BENEFIT TREES

Regardless of global warming, rising carbon dioxide (CO₂) levels could produce significant changes in ecosystem nutrient cycling, according to James Teeri, director of the University of Michigan's Biological Station.

Teeri was one of six researchers who conducted experiments on three seedlings of bigtooth aspens grown under differing levels of atmospheric CO₂. In their report, which was published this fall in *Plant and Soil* (151:105-117, 1993), the researchers explain that increasing CO₂ could have impacts on several aspects of plant growth, as CO₂ is the substrate of photosynthesis.

Among the factors studied were plant production, soil microorganisms and the rate at which carbon and

ATMOSPHERIC UPDATE

The bands of cooler-than-usual temperatures that have covered most of the United States, Europe and Northern Asia since September persisted through November, according to scientists at both the University of Alabama at Huntsville (UAH) and the National Aeronautics and Space Administration's Marshall Space Flight Center.

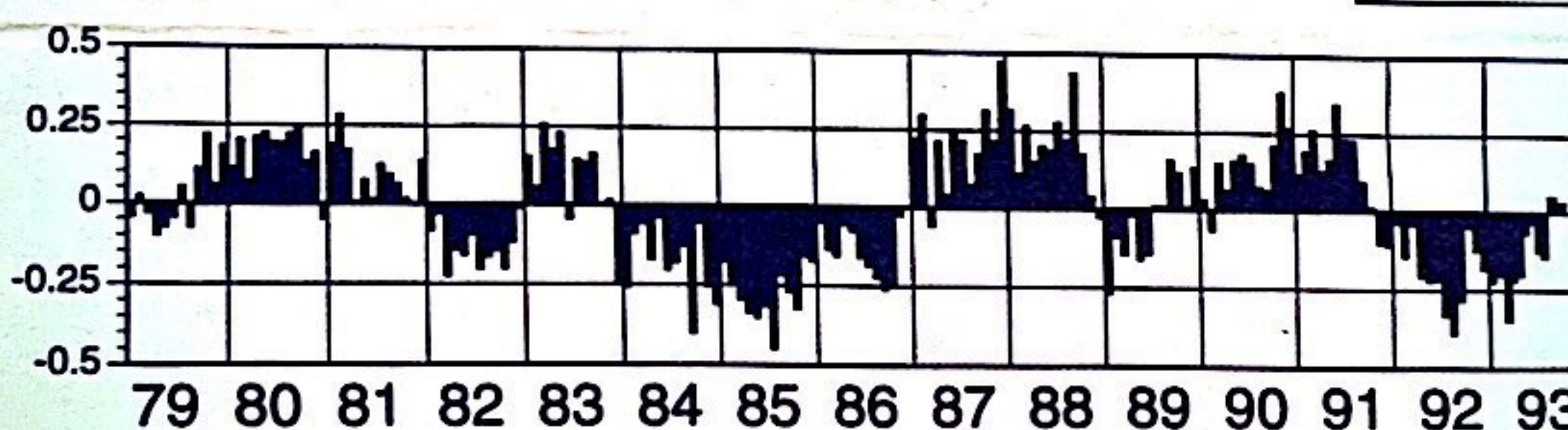
One band stretched across North America to Greenland, while a second stretched from the Azores across Europe, Russia and Siberia to an area north of Alaska. "This pattern has been persistent for several months," said UAH scientist Dr. John Christy.

While average monthly temperatures

over the continental United States were generally within 1 degree Centigrade of the monthly norm, temperatures in November dropped as much as 4 degrees (7.2 degrees Fahrenheit) below monthly norms in the Central Asian republics of the former Soviet Union. At the same time, temperatures in some regions over the Arctic Ocean were as much as 7 degrees Celsius (12.6 degrees Fahrenheit) above seasonal norms.

Meanwhile, temperatures in the lower stratosphere (about 10 miles above sea level) continued their 27-month plummet, reaching record lows for that part of the atmosphere. The November global composite temperature for the lower stratosphere was 0.9 Celsius below the monthly average — the lowest monthly reading since measurements of stratospheric temperatures began in the 1950s. ●

GLOBAL TEMPERATURE REPORT



GLOBAL TEMPERATURE VARIATION, IN CELSIUS, SINCE 1979; 10-YEAR TREND = -0.023°C

UAH Earth System Science Laboratory, Huntsville, Ala. 35899 • Phone (205) 895-6257 • Fax [(205) 895-6970]

nitrogen are cycled within the plant-soil system. Researchers found that rates of photosynthesis were significantly greater under elevated conditions. Similarly, the number of roots and root length substantially increased with more CO₂. Another consequence of an increase in atmospheric CO₂ could be a greater availability of carbon and nitrogen for plant growth and maintenance.

More important, according to the report, is the potential benefit of elevated CO₂ levels for forest trees in poor growing conditions: "...the production of coarse and fine roots often increases with the largest gains occurring in

resource-limited soil. Forest trees growing under nutrient-limited conditions may therefore allocate a substantially larger proportion of their net production to root growth as the atmospheric CO₂ concentration rises."

Although confident that most of these responses would occur for at least one growing season, the researchers cautioned against using their results to make long-term predictions, as "the time steps in our experiments were weeks to months." Thus, they urged experiments over longer periods of time to assess "the potential for negative feedback due to altered leaf litter chemistry." ●

MANAGING METHANE

Government and industry are researching methods for capturing, cleaning and compressing methane emitted from coal mines, according to the Associated Press. If some of the problems associated with methane recovery are resolved, such measures not only would protect miners and benefit the environment, but also could create many jobs and provide the United States with a tremendous supply of natural gas.

Every day, coal mines emit roughly 300 million cubic feet of methane into the atmosphere. According to Dina Kruger of the Environmental Protection Agency, capturing and using these emissions could be good for the economy as well as the environment, creating 20,000 jobs by the year 2010.

The Department of Energy's Charles Byrer, manager of the coal bed methane project at the Morgantown Technology Center, agrees that methane recovery has many benefits. Currently, an abundant supply of methane exists in the mines to help meet the country's demand for gas, which now is about 18 trillion cubic feet per year. Byrer believes that of the 400 trillion cubic feet of methane found in 25 U.S. coal basins, 98 trillion cubic feet could be recovered. ●

INDUSTRY INITIATIVES: NEW REFRIGERATORS YIELD MANY BENEFITS

The new generation of energy-efficient refrigerators now available can yield big savings for consumers and reduce carbon dioxide emissions.

"Replacing a 20-year-old refrigerator with a new model reduces emissions of carbon dioxide by over a ton per year," said John Morrill of the American Council for an Energy-Efficient Economy (ACEEE).

The newer models also carry a financial reward for consumers, reducing by as much as two-thirds the refrigerator portion of electricity bills. In addition to lower energy costs, the new units offer more features and conveniences.

To encourage use of the new products, some utilities offer rebates or "bounties" for recycling older, second refrigerators operating in garages or basements.

ACEEE lists the most efficient refrigerators, as well as other appliances and products, in the third edition of its Consumer Guide to Home

Energy Savings. The illustrated, 243-page guide also provides practical tips on how to conserve energy and save money at home.

The guide is available for \$8.95 from ACEEE Publications, 2140 Shattuck Avenue, #202, Berkeley, CA 94704. ●

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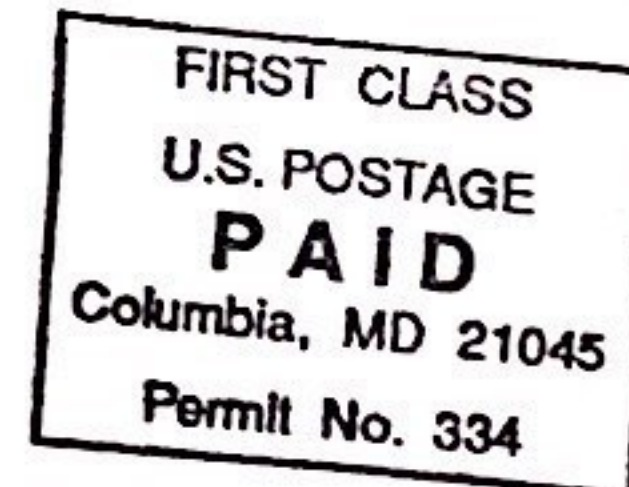
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