

CLIMATE ALERT

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Clinton Offers U.S. Plan To Slow Global Warming

The United States announced its plan to reduce emissions of heat-trapping gases to the atmosphere on October 20, fulfilling a promise implicit in signing the Framework Convention on Climate Change at the Rio Summit in June of 1992.

The largely voluntary Climate Change Action Plan will reduce greenhouse gas emissions by 100 million metric tons a year would entail \$60 billion in private investment in energy-saving programs and \$1.9 billion in federal spending, most of it redirected from existing programs. Nearly 50 measures are suggested, many displaying a readiness for active participation with industry in trying to speed up and expand adoption of energy efficient technology. The measures include such actions as planting more trees, increased use of hydro-power, raising the efficiency standards of home appliances as well as, in the long term, speeding the adoption of alternative technologies like photovoltaic electric cells and advanced wind turbines. As in the 1991 study by the National Academies of Sciences and Engineering and the Institute of Medicine, Policy Implications of Greenhouse Warming, (known as the Evans Report), the plan's recommendations are generally based on low-cost, currently available technologies.

(Continued on page 5)

Institute honors Gore, Thatcher Turner and Watson

The Climate Institute honored a diverse quartet of outstanding environmentalists at a glittering reception and dinner in the Crystal Room of the Willard Hotel on November 4.

Vice President Albert Gore, Jr., and Baroness Thatcher were cited for their Global Environmental Leadership and Ted Turner for his contribu-



Claudine Schneider presenting award to Dr. Robert Watson

tion to communications. Dr. Robert Watson received the annual Climate Institute award for his scientific achievements.

State Department Counsellor Tim Wirth accepted the award plaque for Vice President Gore who was unable to be present.

Gore was recognized for his work while a Senator in stimulating the interest of parliamentarians across the world in cooperative action to protect the global environment. An international parliamentary conference of more than 160 officials elected him to chair a committee that organized meetings culminating in a prominent role at the UN Conference on Environment and Development. Wirth noted that President Salinas of Mexico was the first person to receive the Institute's Leadership Award and commented on the importance of the upcoming North American Free Trade Agreement, for which Gore is Administration spokesman, as another unique international collaboration on environmental issues.

Sir Crispin Tickell, Chairman of the Institute's Board of Directors, spoke on behalf of Baroness Thatcher who was away on a tour promoting her

(Continued on page 4)



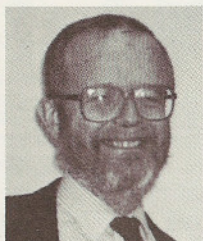
Counsellor Tim Wirth Accepting Award for Vice President Gore from Claudine Schneider and Noel Brown while Sir Crispin Tickell and John Topping look on.

GUEST COLUMN

Environmental Refugees: How Many Ahead?

By Norman Myers, Ph.D. Consultant in Environment and Development and Member of the Climate Institute's Board of Advisors

Our television screens regularly feature refugees — political and economic refugees, and increasingly, environmental refugees.



Dr. Norman Myers

Yet we give all too little attention to the emergent problem of environmental refugees, even though it could readily become a prominent phenomenon of the international landscape. Some brief preliminary analysis suggests there could soon be tens of millions of these destitutes, and within a few decades as many as 150 million.

The developed-world nation with greatest experience of this new category of refugees is the United States, and especially as concerns Haiti. Haiti is the most impoverished country in the Western hemisphere, in large measure because it is an environmental basket case. Well over one million of the country's six million people have already moved elsewhere, more than 200,000 to the United States — though the cost to Uncle Sam of taking in the Haitians has been more than the U.S. government spends on environmental aid for the entire Caribbean.

The Bangladesh cyclone disaster in April 1991 caused several million persons to flee their homes for what can be termed environmental reasons. Appalling as was that episode, it will surely prove to be only a small portent of what lies ahead as global warming starts to take hold. Bangladesh itself will be a prime instance. The Florida-sized country features 114 million people today, projected to total 220 million by the year 2050. By that time too,

and according to a medium-case scenario for sea-level rise as a result of global warming, in conjunction with coastal subsidence, a sizeable chunk of Bangladesh could well disappear beneath the waves or be regularly overtaken by associated phenomena such as 20-foot storm surges reaching 100 miles or more inland. Taken together, these natural hazards are expected to destroy the homes and holdings of at least 15 million people. Even if the catastrophe could be partially contained through engineering works of heroic scale, there would be further problems from, e.g., knock-on effects through acute congestion in the new coastal zones. Moreover the victims could look for little help from an already poor nation that would have lost a large slice of its economic base.

For sure, this is all a long time ahead. But well before the full brunt of global warming overtakes us, we shall find that build-up processes wreak havoc aplenty. More important still, the time for us to ponder the prospect and to take measures to pre-empt the problems is now — provided we gain a sufficient scientific grip on the problem.

In the Nile delta too, sea-level rise is expected to eliminate a broad strip of Egypt's habitable land, displacing as many as 14 million people. This scenario, moreover, is cautious and conservative. There will be additional hazards such as the intrusion of saltwater up the foreshortened Nile, which will further reduce the irrigated lands that make up virtually the whole of Egypt's agriculture.

Plainly deltas are vulnerable to even a moderate degree of sea-level rise. Yet these are precisely the areas that

feature some of the densest human settlements and most intensive agriculture. Among such "severe risk" areas are the estuaries of the Rivers Hwang Ho, Yangtze, Mekong, Chao Phraya, Salween, Irrawaddy, Indus and Tigris/Euphrates in Asia, plus half a dozen others in Africa and Latin America.

In broader terms still, sea-level rise could eventually threaten a total of almost two million square miles of coastal lands. Amounting to only three percent of Earth's land surface (twice the size of Western Europe), they are home to well over one billion people already, projected to rise to well over two billion within just a few decades. They also encompass one third of global croplands. In eastern China alone, the population in lands at risk numbers 73 million today. Of course the aggregate area cited includes those sectors of Bangladesh and Egypt already listed above plus the deltas. Given present populations and their growth rates in the additional areas, let's suppose — merely for the sake of "getting a handle" on the scale of

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the human tragedy impending, nothing more and nothing less — that people finding themselves flooded out or suffering related troubles such as storm surges could well total, according to the United Nations Environment Programme, at least 70 million.

Then there is the prospect of other greenhouse effects, such as disruption of monsoon systems. A temperature rise of only one degree Celsius, entirely likely by early next century, could dislocate monsoon patterns wholesale. The most vulnerable region is the Indian subcontinent, projected to feature 1.9 billion people as early as the year 2025. India depends upon the monsoon for 70 percent of its rainfall.

Next, drought and its repercussions for agriculture. This is more of an "iffy" business, since the climatic quirks of global warming are less well predicted at regional level than is the case with monsoon patterns or sea-level rise. But according to Professor Paul Ehrlich and his colleagues at Stanford University, an entirely plausible greenhouse scenario for early next century could cause a 10-percent reduction in the global grain harvest on average three times a decade. (The 1988 droughts in just the United States, Canada and

China resulted in almost a 5-percent decline; a mere 0.5 C. increase in temperature could reduce India's wheat crop by 10 percent.) Each such grain-harvest shortfall could well result in the starvation deaths of between 50 and 400 million people. Catastrophes of this order would trigger mass migrations from famine-affected areas — surely 50 million refugees, possibly many more.

This analysis has been reinforced by a more detailed assessment by Dr. Martin Parry of Oxford University and his colleague Dr. Cynthia Rosenzweig in New York. They postulate that global warming could reduce grain production, especially in the developing tropics, by 10 to 15 percent by the year 2060. In conjunction with other factors such as population growth and increased grain prices to reflect scarcity, this could cause a projected expansion of 640 million in the number of hungry people, bringing the enfamished total to over one billion. Moreover, grain shortfalls are expected to start to occur much earlier than 2060.

Of course these are very much a case of "best judgement" guesstimates — exploratory at most. Some of them could be off target by tens of millions. But the combined total of expected environmental refugees

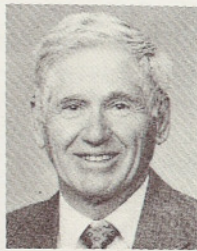
is around 150 million. This would constitute a human catastrophe at least fifteen times greater than the present total of environmental refugees.

The consequences would be profound. We could eventually witness multitudes of despair-driven migrants heading from Latin America toward North America — and from Africa toward Europe, from tropical Asia toward "empty" Australia, and from China toward Siberia. Indeed the great trek has already begun. Almost one million people make their illegal way across the United States' southern border each year. Other nations are likely to be little more able to control their borders than can Americans.

This all offers further reason to stem global warming while we still have time. Yet amid the din of international debate on climate change, we hear next to nothing about environmental refugees. Few people, let alone political leaders, have thought much about it. One notable exception is the Home Affairs Minister in Italy, who recently invited the writer to discuss the prospect — on the ground that Italy would be in the front line of a refugee influx across the Mediterranean.

Dr. Charles Keeling Wins Blue Planet Prize

Dr. Charles D. Keeling whose graph showing rising CO₂ levels at the Mauna Loa Observatory in Hawaii is a staple in climate change discussions, won the 1993 Annual Blue Planet Prize



Dr. Charles Keeling

Academic Award, presented at an Awards Ceremony in Tokyo on November 2. The Blue Planet Development and Implementation

Award was given to IUCN — the World Conservation Union. The Asahi Glass Foundation established the Blue Planet Prize in 1991 as an international award focusing on environmental issues. The supplementary prize for each recipient is 50 million yen or approximately \$450,000.

Dr. Keeling, a Professor of Oceanography at the Scripps Institution of Oceanography at the University of California, is an earth scientist who has conducted pioneering research into the carbon dioxide levels of the atmosphere and ocean as well as the global carbon dioxide

gas cycle. He began precise measurements of atmospheric carbon dioxide levels in 1958 and also started atmospheric observation at the South Pole. The data from his more than 30 years of measurement and research have been invaluable to the scientific community in discussions of global warming.

IUCN, established in 1948 and headquartered in Switzerland, was honored for its achievements in developing strategies to conserve the global environment: its role in development and operation of international treaties and legislation.

Institute

(Continued from page 1)

book, *The Downing Street Years*. He noted that Gore, Salinas and Baroness Thatcher were all individuals who played vital roles in creating circumstances in which change could take place. Baroness Thatcher while Prime Minister of the United Kingdom arranged for climate



Baroness Thatcher

experts to brief her cabinet on climate change in 1989, she was the first head of a G-7 government to speak at the UN on global environmental



H.E. Sheikh Abdulrahman bin Saud at-Tahin, Ambassador of Qatar

tal issues, and her personal leadership at the June 1990 London Conference to consider Montreal Protocol revisions helped ensure a favorable outcome.

Claudine Schneider, Mack McFarland and Rafe Pomerance described the many scientific contributions that made Bob Watson an outstanding candidate for the Institute's scientific achievement award. Formerly Acting Chief for NASA's Mission to Planet Earth, Watson has been nominated as Associate Director for the Environ-



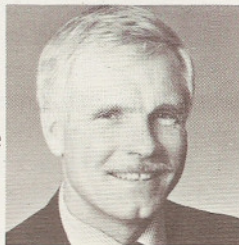
Rafe Pomerance

ment of the White House Office of Science and Technology Policy. He has assured that the industrial and scientific community moved together, said McFarland of the

duPont Company. He has kept science honest all these years and defined the relationship between science and policy, said Pomerance, Deputy Assistant Secretary of State for Environment and Development. His leadership skills have built a scientific consensus, said Schneider who presented his plaque to him. She is Chair of Renew America and a member of the Institute Board of Directors as well as Chair of the Institute's newly created Leadership Council.

"I want to put together a true national environmental strategy," said Watson in accepting the award which he said he received on behalf of the scientific community.

Through large scientific assessments, he said he hopes to build a consensus of what we know, what we don't know and from there move on to policy. There is no contradiction between a clean environment and sustained economic growth, he maintained, and through partnership among various communities, it will be possible to attain both.



Ted Turner

The final award, for promoting public understanding of global environmental issues, was received by Barbara Pyle for R. E. (Ted) Turner of CNN who was returning from Moscow that day. Pyle is Vice President of Environmental Affairs for CNN and the Turner Broadcasting System. Turner is very committed to environmental issues, and



Barbara Pyle and Noel Brown



Tom Grumbly, Ass't Secretary-Environment, DOE and Dick Morgenstern, Office of Policy Analysis, EPA

CNN is attempting to interpret climate issues to a closed circuit world in which it is always prime time, said Pyle. The network is very proud of its Captain Planet series, a children's program which is trying to create an environmental ethic. It has had 10 episodes on climate change, "The Greenhouse Planet."

In two decades, China will be the largest economy in the world, declared Noel Brown, Regional Director for the United Nations Environment in North America, in remarks about the status of climate



Founding Member Paul Pritchard greeting Sir Crispin Tickell

change policy around the world. Asia is a critical region, and climate is such an overriding issue, we must move very carefully and effectively. We need to generate a national consensus at home for each country to address climate change. A third party initiative can bring opposing parties together, as the Institute did in its ministerial briefings.



All Sarwar Naqvi Charge d'Affaires, Embassy of Pakistan

Climate Plan

(Continued from page 1)

The plan also includes a section on joint implementation in which Federal agencies will assist other countries in developing technologies to combat greenhouse gas emissions. Private companies are encouraged to invest in efforts to reduce greenhouse gases abroad, especially in the Third World.

As acknowledged by the plan, the transportation sector, which produces more than 32 percent of US CO₂ emissions, will be the fastest growing source through the year 2000. Nevertheless, the plan which does include dampening the demand for vehicle travel and enhancing the market for more efficient technology and cleaner fuels only draws on the transportation sector for 7.5 percent of overall emission reductions.

One of the plan's initiatives which is expected to generate revenue for the federal government is a cash-out option on employer-provided parking. The Administration is preparing legislation to change tax laws so employers could give employees the cash equivalent of their subsidized parking (which would then be taxable as income) to encourage public transportation. (U.S. corporations now provide more than \$50 billion in employer-subsidized parking, a fringe benefit not now subject to taxation.)

Overall, the transportation initiatives, which include a transportation system efficiency strategy and promotion of greater use of telecommuting, would cut the release of carbons from cars, trucks, buses and other forms of transportation, presently at a level of 432.6 million metric tons (MT), by more than 6 million MT.

To the disappointment of many environmentalists, the Administration rejected a proposal to impose

higher fuel efficiency standards for autos. (The Evans Report had recommended, "improving the efficiency of the U.S. automotive fleet through the use of an appropriate combination of regulation and tax incentives," and Vice President Gore's book, Earth in the Balance, favored similar measures.) However, a task force will be set up to study the issue, and increasing standards at a later date have not been ruled out.

Industries, with CO₂ emissions of 580 million MT from factories, production of lime and aluminum, and oil refining, are responsible for the largest proportion of greenhouse gas output of any sector. The Climate Action Plan offers several initiatives in this area:

- Through a "Motor Challenge," a contest will select 25 companies that will install energy efficient motors in pumps, fans and compressors
- Establish "Golden Carrot" programs for industrial air compressors, pumps, fans and drives
- Create one-stop shops for information on clean technologies
- Accelerate pollution prevention and recycling
- Reduce pesticide use and improve fertilizer use

Residential emission sources (182.9 million MT) from home heating and electrical appliances will be reduced through:

- "Golden Carrot" partnerships in which utilities pool rebates and underwrite contests to provide the most efficient appliance at the lowest cost have already resulted in the design of a super efficient refrigerator.
- Revision of energy efficiency standards for central air conditioners, furnaces, refrigerators and eight other appliances
- Promotion of home energy rating systems and energy efficient mortgages
- Expansion of the Cool Communities program which includes tree planting and use of lighter building surfaces to reduce urban heat island effect
- DOE would set up housing technology centers to advise home builders on reducing CO₂ in home energy systems, through promoting advanced efficiency and solar technologies

The Energy Department and the Environmental Protection Agency will work together in the commercial sector (which has emission sources of 143 million MT of CO₂) to act as both a clearinghouse and expeditor of emission-reducing measures. These would include upgrading building ventilation and air conditioning, expanding the "Green Lights" program which promotes energy-efficient lighting, and establishing state revolving funds for energy efficiency in state and local government buildings.

As forests are greenhouse gas sinks absorbing 114 million MTs of CO₂, the Department of Agriculture will encourage owners of timberlands to leave trees in place instead of cutting. It will assist with tree planting in private forests to maintain the sinks. (Some environmentalists have objected that this may be a wrong signal, telling other countries they can deal with emissions from energy production by adopting offsetting sinks.)

EPA will narrow the use of chemicals that add to global warming, working to cut the use of hydrofluorocarbons which are CFC substitutes and perfluorocarbons which are byproducts of the aluminum production process.

Methane emissions from landfills, natural gas production, coal mining, and livestock (amounting to a total of nearly 30 million MT in CO₂ equivalent) are singled out for reduction under the plan through more stringent landfill rules, expanding the "Natural Gas Star" program which introduces and promotes cost-effective technologies, targeting 50 of the "gassiest" mines, and identifying 10-15 coal mines which can create a significant number of jobs in coalbed methane production and supporting industries.

(Continued next page)

Joint Implementation

Cooperative efforts between countries to reduce greenhouse gas emissions, known as joint implementation and recognized under the UN Framework Convention on Climate Change, are potentially significant in reducing the threat of global warming and promoting sustainable development. Greater reductions could be made than under strictly domestic initiatives, and they could be more cost effective. Technology cooperation could also increase access to energy efficiency and renewable energy technologies in developing countries. A number of U.S. firms, especially electric utilities considering voluntary emission reduction commitments, have indicated an interest in international projects, and U.S. firms are encouraged to invest in greenhouse gas reduction efforts abroad. A U.S. pilot program on joint implementation has been announced to help establish an empirical basis for considering approaches to joint implementation internationally. The Department of State will publish guidelines in the

Federal Register providing for a mechanism to evaluate net greenhouse gas emissions and reductions through investments by U.S. firms and potential government assistance. Under the Climate Action Plan an accounting will be made of the measuring, tracking and scoring of the results of the program.

Foreign governments are watching to see how Washington lives up to the UN Framework Convention and looking to the U.S. for leadership. The Climate Action Plan indicates to the international community that voluntary measures are a good starting point. The UN treaty will go into effect 90 days after ratification by 50 nations. According to a recent count, ratifiers now amount to a total of 36.

Signers will eventually be required to stabilize greenhouse gas emissions at "safe" levels, but the first step is to return to 1990 levels by the year 2000. The U.S. Administration has not announced plans for reducing emissions after 2000.

interests." This is important, says Geller, "from the standpoint that energy efficiency is an important energy resource, just like fossil fuels." In an effort to carry out its mission, the Council has produced 12 books, 40-50 reports, five consumer guides to home and office energy savings and seven proceedings from its annual summer conferences on *Energy Efficiency in Buildings*. Much of this material has been useful in the Climate Institute's North American Cities program. (See *Climate Alert*, Vol. 6, #1, January-February 1993.)

Many components of the President's Action Plan bear striking resemblance to prior ACEEE recommendations. In a 1991 report entitled, *Getting America Back on the Energy-Efficiency Track: No-Regrets Policies for Slowing Climate Change*, the authors spell out "fourteen major energy-efficiency initiatives" which taken together would help America reduce its dependence on foreign oil and dramatically curb its greenhouse emissions. Many of these are identical to actions now included in the Clinton plan.

ACEEE Joins Others in Stressing Energy Efficiency and Conservation

At a news conference held on November 16 in the Rayburn House Office Building, a coalition of over 75 environmental, business, government, and consumer groups unveiled a 76-page "Sustainable Energy Budget for the U.S. Department of Energy." The coalition's budget calls for shifting one billion dollars in fiscal year '95 from nuclear and fossil fuel programs to more cost-effective and environmentally sound energy efficiency and renewable energy programs.

Leading the coalition has been the American Council for an Energy Efficient Economy (ACEEE), a Washington, DC/Berkeley, CA based group working for the last 13 years to make the general public and U.S. lawmakers more aware of

the need for energy efficiency and of the link between energy use and environmental quality.

ACEEE Director, Howard Geller gave a strong endorsement of the coalition budget and was optimistic about the possibility of shifts in America's energy consumption. When asked if the U.S. would see noticeable changes in efficiency and fossil fuel use in the next decade, Geller replied, "Oh yes, it's already happening."

The ACEEE was founded in 1980 on the principle that, "there was a need for a national organization to represent energy efficiency in the same way that electric power, natural gas and other energy industries have trade groups representing their

Not all of ACEEE's books and reports are for the policy-minded. One recent publication (June 1993), the *Consumer Guide to Home Energy Savings*, addresses the every-day decision making of the home owner. The guide offers promising options for real energy savings in practical areas, and it also points to breakthroughs which may soon revolutionize many products in the home. "In ten years," Geller says, "we can expect to see the super-efficient refrigerator as standard in the marketplace." Within twenty years, "the super-efficient refrigerator will be typical of all refrigerators in peoples' homes."

For publications orders contact ACEEE's Berkeley, CA office @ (510) 549-9984; for general information contact ACEEE's Washington, DC headquarters @ (202) 429-8873.

Water in Crisis: A Guide to the World's Fresh Water Resources,

Peter H. Gleick, Editor

Book Review by John C. Topping, Jr.

Water in Crisis provides a comprehensive profile of what may be the flashpoint issue of 21st century geopolitics, the availability of water resources under pressures of growing population, expanded per capita demand and changing climate. A compendium of information on water vulnerability, use and trends, this book should be high on the reading list of global strategists and natural resource planners. The product of a several year collaboration involving the Pacific Institute for Studies in Development, Environment and Security and the Stockholm Environment Institute, this volume is skillfully edited by Peter Gleick. For almost a decade he has shaped a growing international awareness of the possibility that water could supplant oil as a trigger for international disputes or economic upheaval.

The information provided by Gleick and his collaborators —

Shiklomanov, Nash, Covich, Postel, Falkenmark, Lindh and McCoffrey — is quite riveting. Since 1940, as world population has doubled, global water use has quadrupled. Even without climate change, these trends do not appear sustainable. If increased average global surface temperatures produce sharper swings in the hydrological cycle, as Australian CSIRO scientists project, the risks of both flood and drought may rise.

Gleick also supplied background water data for a very readable volume entitled, Sustaining Water: Population and the Future of Renewable Water Supplies, produced by Population Action International and available from them. In this work, Robert Engleman and Pamela LeRoy show how varying rates of population growth may affect the potential severity of future water shortages. Engelman and LeRoy project an

eightfold increase between 1990 and 2025 in the numbers of people living in water-stressed countries, from 335 million to between 2.8 and 3.3 billion depending on the rate of global population growth. Both Water in Crisis and Sustaining Water provide valuable grounding to delegates to the September 1994 Cairo International Conference on Population and Development.

(Oxford University Press, New York, 1993, 473 pp. \$55.00 hardbound, \$29.95 paperback.)

SUN DAY

SUN DAY 1994, a national celebration of renewable energy — solar, wind, geothermal, biofuels, hydroelectric, solar-hydrogen — will be celebrated on April 24, 1994. More than 60 national environmental, business, utility, student, and government organizations have announced plans to sponsor the event and feature activities around the country and over 120 local and state organizations have agreed to participate.

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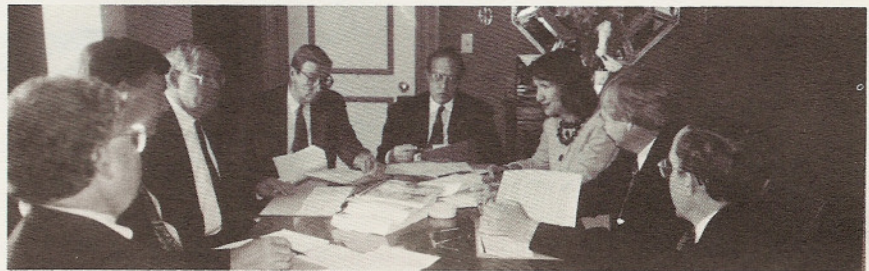
Claudine Schneider, a national environmental leader who served for five terms as U.S. Representative from Rhode Island, is Chair of the Climate Institute's newly announced Leadership Council. This group of senior corporate executives and professionals is seeking to mobilize resources and provide pro bono talent for global environmental initiatives of the Climate Institute. In addition to its Chair, a longtime leader in global warming, energy efficiency and biodiversity issues, the Council's membership includes:

- Michael F. Brewer, Senior Vice President, The Dun & Bradstreet Corporation, Washington, D.C.,
- Joseph Cannon, Chairman, of Provo, Utah based Geneva Steel,
- David Crockett, City Councilman, Chattanooga, Tennessee,
- Lynne Edgerton, Vice President, Legal and Environmental Affairs, CALSTART, and author of The Rising Tide,
- Philip Fleming, Partner in the Washington, D.C. law firm of Crowell & Moring and President of the Lawyers

- Alliance for World Security,
- Thomas Gale, Ph. D., of Centreville, Maryland, a trustee of the William Bingham Foundation,
 - Addison Gooding, President of DuraLux, Inc., an Austin, Texas based manufacturer of fluorescent lights,
 - Nelson Hay, Staff Vice President for Policy, American Gas Association, Rosslyn, Virginia,
 - Richard Hellman, a Washington D.C. attorney and President, US/UNEP,
 - William F. Pedersen, Partner in the Washington, D.C. office of the law firm, Perkins Coie,
 - Harold Rabner, Partner in the Upper Montclair, N.J. law firm of Rabner, Allcorn & Meislik,
 - Dr. Herbert Schulman, a physician from Nashville, Tennessee,

- James M. Seif, Counsel at the Philadelphia law firm of Dechert Price & Rhoads and Chair of the Institute for Cooperation in Environmental Management, and
- Roger Strelow, Vice President, Bechtel Corporation, San Francisco, California.

At its organizing meeting November 4 at the Willard Hotel in Washington, D.C. the Council established two national priorities, strengthening the financial base of the Institute and helping to implement the North American Cities Program which seeks to limit emissions of metropolitan areas collectively producing six percent of global greenhouse emissions.



Richard Hellman, Dan Power, John Topping, Philip Fleming, Harold Rabner, Claudine Schneider, David Crockett, Thomas Gale

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Inside:

Norman Myers on Environmental Refugees
Review of Peter Gleick's
Water in Crisis

The Climate Institute is a private nonprofit organization formed to advance public understanding of climate change including the greenhouse effect and of strategies to avert stratospheric ozone depletion.