



Mexico Slated To Be First Nation To Have Urban Air Quality And UV Data On Line

Due to the efforts of a remarkable Mexico City based NGO, Mexico within a few months seems likely to be the first nation to have air quality and UV data from each of its monitors in urban areas available on line. Sistema de Informacion Ambiental (SIMA) has been providing such data on line for the past seven years for the Mexico City metropolitan area. Its user friendly form has generated a large volume of site visitors and won the organization's Director, Luis Roberto Acosta, widespread recognition. In September 2000 he won Mexico's most prestigious environmental award, The Aleman Prize, and in an October 15, 2001 special issue of Time Latin America was featured as one of 27 young Mexican Leaders of the New Millennium.

Acosta and his colleague, Luis Manuel

Guerra, President of Instituto Autonomo de Investigaciones Ecologicas from which SIMA was born, have made remarkable progress on very little external funding and often with resistance from governmental authorities who have until recently shied away from acknowledging Mexico's air pollution crisis. Guerra, a Board member of the Climate Institute for the past decade, spearheaded public awareness efforts in Mexico City which caused this city to adopt the most stringent air pollution control measures of any city in the developing world. In the late 1980s Guerra persuaded two of Mexico City's leading radio stations to finance the cost of a van which went about neighborhoods of Mexico City taking air and water pollution samples. Guerra announced these results in calls to the stations which ran them as many as ten times

daily. Although some sweeping measures such as Hoy No Circula - a day each week when each car could not be driven - resulted and made a dent in emissions, the NGO efforts were hardly welcome from governmental authorities at the national or the Mexico City level until the accession of the Fox administration. Having won the Presidency in coalition with the Greens, Fox, whose core support came from his center-right PAN party, committed himself both to strong environmental enforcement by appointing an aggressive environmental secretary, Victor Lichtinger, and to overall governmental transparency. Fox's greatest political success in the face of an opposition dominated Congress has been the passage of a strong Freedom of Information Act. In this environ

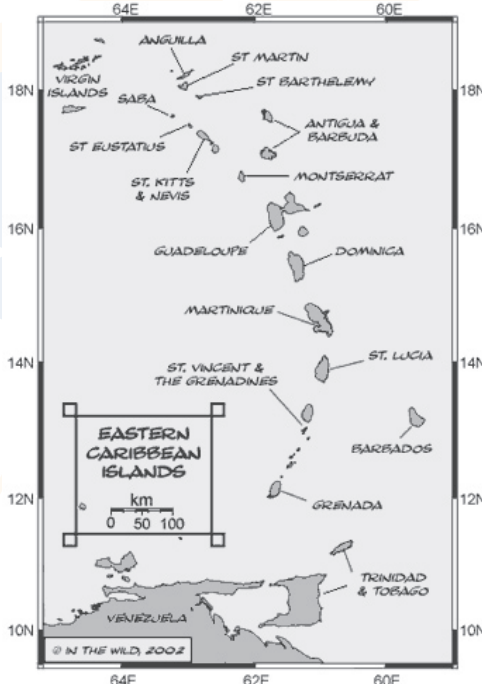
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Caribbean Nations Vie To Be First Renewable Economies

Three Caribbean island nations known mostly for their stunning beauty seem to be mounting a serious bid to become the world's first non-carbon fuel based economies. Until now to the outside world St. Lucia, Dominica and Grenada have been known as prime tourist destinations or in Grenada's case the site of military intervention by the Reagan Administration after a bloody coup. If their leaders achieve their ambitions, the Caribbean may eventually be known as a harbinger of a global clean energy revolution.

Opportunities and Barriers in St. Lucia

At the forefront of this effort is the nation of St. Lucia, whose natural beauty has earned it the moniker of "the Helen of the West Indies." Its twin Pitons, two nearby volcanic peaks, are a magnet for tourists and a marvelous backdrop for movies such as Superman II. Under the leadership of its dynamic Prime Minister, Dr. Kenny Anthony, who handily won reelection in Dec, 2001, St. Lucia is seeking another distinction as the world's first Sustainable Energy Demonstration Country - this means moving from fossil



fuels toward renewables and aggressive use of energy efficiency technologies and measures. From the outset the St. Lucian effort has been substantive rather than rhetorical.

In November 2000 during the contentious climate conference at The Hague one of the few high notes was a speech in which Prime Minister Anthony described his country's commitment to achieving this ambitious goal and urged other countries to emulate St. Lucia's lead. Prime Minister Anthony's speech resonated well with

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G-8 Renewable Energy Report: Potential To Spur Historic Shift

Commentary by John C. Topping, Jr., President, Climate Institute

As world leaders gather in Johannesburg for the World Summit on Sustainable Development there is a danger that too diffuse an agenda will result in little concrete action aside from that which comes from the networking of tens of thousands of capable NGO attendees. At the Rio Earth Summit in June 1992 world leaders had, aside from the semantic ambiguities of Agenda 21, two overarching significant documents to consider signing - historic treaties on climate change and biological diversity. It is unlikely that WSSD will have such concrete products.

The Johannesburg Summit could, however, provide a real impetus to further a clean energy revolution that is already gathering momentum. The Summit host, South Africa, has distinguished itself as a leader in installing solar energy in rural communities. Other national leaders such as St. Lucia's Prime Minister, Dr. Kenny Anthony, have started to move their countries toward a renewable energy future. The future they envision - one in which renewable energy is delivered to consumers at less than what they now pay for diesel oil or other fossil fuel - could serve multiple objectives of WSSD. Such a transformation would greatly improve rural sustainability, slow too rapid migration to urban areas, improve balance of payments of poor countries, and improve health and educational opportunities in rural areas. At the same time the scaling up of investment in clean energy technologies might produce much more tangible results in greenhouse emission reductions than the Kyoto Protocol can, even if it comes into force by 2003. Fortunately this is no Utopian vision - there already is a detailed blueprint for this transformation, one prepared by some of the world's most distinguished experts on energy.

News reports from the July 2001 Genoa Summit of the G-8 heads of government focused largely on violent street demonstrations by anarchist and anti-globalization groups, but the most enduring achievement may have been the tacit endorsement of the remarkable report of the G-8 Renewable Energy Task Force. Co-chaired by Sir Mark Moody-Stuart, Chairman, Royal Dutch/Shell Group, and Dr. Corrado Clini, Director General of Italy's Department of Environment, this task force included many top energy experts from North and South including Prof. Jose Goldemberg of Brazil, Zhou Dadi of China and Robert Priddle, Executive Director of the International Energy Agency.

Due to some maneuvering by Canada and the US the Genoa communiqué provided only a lukewarm embrace of the report with actions deferred over to a G-8 energy ministers Conference held May 3, 2002 in Detroit. Not surprisingly, this meeting Co-Chaired by the energy

ministers of the US and Canada produced a pabulum-like statement. The 2002 G-8 Summit held June 26 and 27 in Kananaskis, Alberta focused on three issues - global economic growth, African development and counter terrorism - and avoided issuance of any communiqué. The combination of concerns over terrorism, Middle East instability and a shaky world economy has served to move the G-8 report to the back burner. Nevertheless this remains an historic document that could provide governments, NGOs and innovative businesses participating in WSSD a blueprint for achieving a sea change in global energy use.

The renewable energy task force was created at the July 2000 G-8 Summit in Nago, Okinawa, Japan at the instance of British Prime Minister Tony Blair who was instrumental in recruiting such strong leadership to the effort. Prime Minister Blair was building on an idea advanced by a senior scientific advisor, and Climate Institute Chairman, Sir Crispin Tickell, to place high on the G-8 agenda delivery of electricity to many of the two billion people who now lack access to it. Sir Crispin had chaired the advisory group to the 1995 Climate Institute study, *Environmental Exodus* by Dr. Norman Myers, concerning the rapid swelling of environmental refugees. For the past six years the Institute has emphasized the importance of delivering electricity to rural areas if we are to slow the unsustainable rates of rural-urban migration documented by Dr. Myers. Although lip service had been paid to this problem in climate and related negotiations, Prime Minister Blair was the first leader of a major power to accord prominence to this challenge.

Providing rural people with lighting, power equipment and telecommunications powered by electricity can dramatically improve productivity and enable the creation of cottage industries, service businesses, and more efficient farming and animal husbandry practices. With easy access to electricity, children and adults can study at night, and schools can access educational media, bringing prospects for a better future. Electricity can provide improved healthcare facilities via lighting, vaccine refrigeration, and monitoring and communication equipment. Improving the quality of life in remote rural areas and facilitating communication with family and friends in urban areas reduces the pressure to migrate from rural to urban areas. (from report)

In its communiqué the G-8 at the Genoa Summit recognized the work of its renewable energy task force and endorsed continuing efforts to promote renewable energy. Although there had been some initial indications of US reluctance to embrace prescriptions of the task force report, President Bush joined in the Genoa communiqué.

The G-8 task force report calls for concerted action by G-8 member countries, the private sector and international financial institutions to produce over the next decade "a significant improvement in the efficiency of traditional biomass use for cooking purposes by up to 200 million people in developing countries, provision of access to electricity from renewable sources to up to 300 million people in rural areas of developing countries, and service of (renewable energy) to up to 500 million people connected to electric grids worldwide, 300 million of whom might be in developing countries. Although reaching hundreds of millions in non-electrified areas of developing countries is crucial to the scaling up of markets needed to make renewables competitive, the report also indicates that the cost of such extensions should drop dramatically if a strong parallel effort is made to develop renewable technology markets in on grid areas of developed nations.

To achieve the scaling up of markets needed to drive prices down the G-8 task force asks G-8 countries to work together to expand their domestic energy markets through various mechanisms such as renewable portfolio standards and incentive systems. As an example it cites the system initiated in Texas during George W. Bush's governorship under

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CARIBBEAN NATIONS VIE TO BE FIRST RENEWABLE ECONOMIES

other island state governments and helped spark a Global Sustainable Energy Islands Initiative (GSEII) to which the Climate Institute recruited four partner groups: Counterpart International, the Organization of American States (OAS), Counterpart International, and the Forum for Energy and Development.

In March 2001 the St. Lucian government approved a comprehensive 10 year national Sustainable Energy Plan to move toward its ambitious goal. Developed by the Sustainable Energy Office in its Ministry of Planning, Development, Environment and Housing with help from the Climate Institute and the OAS, the plan was also shaped by extensive stakeholder input from such crucial interests as the hotel industry, a major user of energy, environmental NGOs, LUCELEC, the electric utility, and other businesses. Although this plan doesn't phase out CO₂ emissions, it takes impressive strides in that direction, aiming for a 35 % cut in greenhouse emissions from business as usual projections by 2010. This would be achieved through a blend of energy efficiency measures and movement from diesel generation for electric power to greater use of renewable energy such as wind, geothermal and solar, especially for water heating.

The retail cost of electricity in St. Lucia is quite high, generally over \$ 0.20 US per kWh. All power on the grid comes from diesel generation and nearly all of St. Lucia's 150,000 inhabitants get their power from the grid. Although a Toronto-based wind developer, Stephen Probyn, who has successfully built about 500 megawatts of renewable power in North America, has offered to build a 13.5 megawatt wind facility in St. Lucia and sell power to LUCELEC for less than it now pays for diesel generation, the utility has been slow to act despite the fact that the government seems eager to see Probyn's plan carried out and LUCELEC technical staff have deemed his plans are solid.

Under its current arrangements LUCELEC enjoys a monopoly on grid generated electricity under an arrangement negotiated with an earlier government. The utility earns its profits based on a guaranteed rate of return on its capital investments so it has little economic incentive to encourage efficiency or reduce costs. Many businesses, including the hotel sector, are chafing under the high electricity rates but now they face an all or nothing choice if they opt for use of alternative energy - they must cut their ties to the grid and can not sell excess power to LUCELEC.

Dominica's Effort to Expand its Strong Renewables Base

As St. Lucia gropes with implementation issues attributable in part to the persistence of an electric monopoly, Dominica seeks to move in St. Lucia's direction but trails a couple years in the planning process.

This country with a population of just over 70,000 is renowned for its natural beauty as "the nature island of the Caribbean" and possesses the Central Caribbean's only Natural World Heritage Site - Morne Trois Pitons National Park. It has one advantage over its Caribbean neighbors such as St. Lucia. Over a third of its electricity comes from renewable sources and in some years of hydro abundance this power source has exceeded fossil generation.

Dominica's electric costs are even higher than St. Lucia's averaging at the retail level about \$ 0.24 to \$ 0.26 US per kWh. Again Dominica faces the hurdle of dealing with a utility, Dominica Energy Services, Ltd. (DOMLEC) which enjoys a legal monopoly. DOMLEC is owned entirely by the Commonwealth Development Corporation (CDC) an entity of the Government of the United Kingdom. Dominica has even less control over its electric monopoly than the Government of St. Lucia which holds some stock in LUCELEC although the bulk is held by the CDC.

Despite these hurdles and an economy hurt by the removal of preferential trade terms for bananas, a major export here as in St. Lucia, The Government of Dominica's Prime Minister Pierre Charles is moving his country aggressively toward a clean energy path. He has the good fortune of being able to consider a range of clean energy options, one with considerable export potential. There is potential for expansion of hydro through micro-hydro projects Dominica has large wind resources and might install wind turbines to provide a significant portion of its power. As part of its Sustainable Energy Plan site-specific assessments are being made to identify places where commercially viable wind facilities might be located.

An impediment generally to the exploitation of Dominica's considerable renewable resources is the dearth of technicians and engineers trained in these technologies. Working closely with CARILEC, the regional electric association, Dominica plans to launch a comprehensive renewable energy training to train its engineers and technicians in the use and maintenance of various renewable energy systems. One of the earliest initiatives planned is the launching of a national solar water initiative. Currently there is one company in Dominica manufacturing and selling solar water heaters but there has been no formal public awareness campaign to promote use of the technology.

Coupled with efforts to shift toward much broader use of renewables, Dominica's Government is preparing to foster strong increases in energy efficiency. In collaboration with DOMLEC the Government is undertaking a survey of energy use in all sectors. It also plans to enhance capacity of utility and energy sector personnel to integrate energy efficiency considerations into their planning.

The transport sector is a particularly challenging one for Dominica.

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Climate Resources on the Web

<http://www.epa.gov/globalwarming>

This site has a wealth of information on the climate system; greenhouse gas emissions; impacts of climate change; and actions that can be taken at the national, state, local, business, and individual levels.

<http://www.ipcc.ch>

Intergovernmental Panel on Climate Change

This website offers reports, papers, and archived newsletters that address changes in the global atmosphere. This site also includes information on the recently released IPCC's Third Assessment Report.

John Noel spearheads southern clean energy breakthroughs

Climate Institute Board Member John Noel has been the driving force behind two major breakthroughs in clean energy in the southeastern US. These have both been accomplished through the Southern Alliance for Clean Energy (SACE) of which Noel is president. Beginning in April 2000 the Tennessee Valley Authority (TVA), reportedly the biggest source of CO2 emissions in North America, initiated a Green Power Switch. SACE, an advocacy group focused on reducing global warming and air pollution from old coal plants, got TVA to enable its customers to buy blocks of electric power fueled by solar panels, wind turbines and methane landfill gas. Customers pay a small premium on top of their monthly bill to ensure that all or part of their energy use is from renewables. Each block of energy costs a \$ 4 monthly premium. A purchase of two blocks a month (300 KW hours) at an \$ 8 monthly cost would over a year have about the same benefit to the environment as recycling 15,000 cans or 1,766 pounds of newspapers. Since Green Power Switch's inception over 5,000 TVA customers have participated and bought 15,000 blocks of clean energy . This spring Tennessee Governor Don Sundquist announced the purchase of Green Power for all the State Offices in Nashville, Tennessee's capital. Noel notes that Tennessee has the dubious honor of having the highest per capita electricity use in the US. Green Power Switch may, he contends, both reduce pollution and educate people on the cost and use of power. Besides pressing for cleaner energy in the US South, Noel has



Melinda and John Noel

traveled widely with his wife, Melinda, a bird biologist. Last year both traveled by canoe on the Northern most navigable river in the world, the Thompson River, deep in the Arctic Circle. On the way they passed through a remote Eskimo Village where climate warming is melting the tundra ice and forcing Eskimos to support their home foundations with an integrated aluminum support system. In the Arctic Circle on Banks Island one village reported hearing thunder for the first time ever... many ran inside their homes and would not come out, Noel said.

MEXICO SLATED TO BE FIRST NATION TO HAVE URBAN AIR QUALITY AND UV DATA ON LINE

(cont'd from page 1)

ment Acosta and Guerra were able to win the support of the Fox Administration for the expansion of the on line coverage of SIMA's site www.sima.com.mx past Mexico City to encompass urban monitors throughout Mexico.

With funds from the Mexican environment agency, SEMARNAT, and from Daimler Chrysler which has been at the forefront of fuel cell and alternative vehicle applications in Mexico City, SIMA expects soon to add air quality data from Toluca, Puebla and Guadalajara to the site. It is seeking to complete a national urban air quality and UV on line system by raising funds to place data for Monterrey on line together with that for three Border metropolitan areas - Ciudad Juarez and El Paso, Tijuana and metropolitan San Diego, and Callexico and Mexicali. When this is complete Mexico will be the first nation to have its urban air quality data available, almost in real time, on line. Individual Mexicans will be able to go on line to find carbon monoxide, sulfur dioxide, particulate and ground level ozone air quality measurements from monitors in their neighborhoods together with explanations of how these compare with health standards. This data is now available in both Spanish and English. SIMA plans to broaden the language coverage to Portuguese and French as well as it seeks to extend this system throughout the Western Hemisphere.

In this effort SIMA is partnering with the Washington, DC - based Climate Institute. The Climate Institute is preparing summaries of studies of climate change impacts in Mexico for placement on the SIMA site and its own site www.climate.org . Ultimately visitors to either site will be able to access data on air quality and, where available, UV radiation and climate change impacts, together with information on steps they can take to lighten their personal footprint on the environment. SIMA's Director , Luis Roberto Acosta, is serving also as Director of Latin American Regional Affairs for the Climate Institute and is championing the idea

of coordinated strategies for climate and air quality protection in other Latin American megacities. Among the cities SIMA and the Climate Institute are seeking to involve in both the Hemispheric Environmental Information System and in implementing coordinated strategies are Sao Paulo and Rio de Janeiro, Brazil, Santiago, Chile, Buenos Aires, Argentina, Lima, Peru, Quito, Ecuador and San Jose, Costa Rica as well as many cities in the US and Canada.

Ultimately the Mexican experiment could be one of the best examples of South to North environmental transfer. By using the Internet to provide citizens of Mexico hour by hour feedback on air quality levels where they live and work, SIMA may coalesce a force much stronger than commanded by any polluters, no matter what their lobbying prowess. There is already an interesting New Hampshire - Mexico link at work. In September, 1999 Ken Colburn, New Hampshire's air quality director, spoke on harmonized strategies for climate and air quality at a conference on the topic convened in Mexico City by the Climate Institute, Guerra's group, the World Bank, Government of Mexico City and the US EPA. Colburn's blueprint tailored for New Hampshire was incorporated in part in the long term Mexico City air quality plan even before New Hampshire in May 2002 enacted a state statute embodying both carbon dioxide and air pollution limits. Erica Duque, a student at Dartmouth College in Hanover, New Hampshire and a resident of Quito, Ecuador, has been assisting in the development of climate change impact summaries for both sites and other Dartmouth students and graduates are working both to extend the New Hampshire strategy to other US states and to assist SIMA and the Climate Institute in extending the Mexican Environmental Information System throughout the Western Hemisphere. By the end of 2004 SIMA and the Climate Institute are seeking to have air quality data from all Western Hemisphere megacities on line. If that is achieved, Acosta, Guerra and Fox will have dramatically changed the arena in which environmental policies are shaped not only in Mexico but throughout the world.

CARIBBEAN NATIONS VIE TO BE FIRST RENEWABLE ECONOMIES

Unlike St. Lucia which has a well run and inexpensive private minivan system throughout most of the country, Dominica lacks many effective alternatives to private cars. It has about 13,000 cars, most cast off vehicles from foreign markets, and the number of vehicles grows yearly. To combat the growing pollution problem Dominica is considering introduction of vehicle emission testing for existing cars and adoption of limitations by age or pollution characteristics for imported, used vehicles. It also hopes to complement such measures with the building of a stronger public transportation system.

Grenada's Sustainable Energy Plan Seeks Cleaner Energy and Improved Payments Balance

In putting forth Grenada's Sustainable Energy Plan Prime Minister Keith Mitchell seems acutely conscious of the sizable drain on Grenada's economy of fossil fuel imports needed both for its transport sector and nearly all of its electricity generation. These imports consume about half of the earnings from domestic exports. Not only will movement toward renewables reduce pollution, it may also bolster the economy of this nation of just under 100,000 inhabitants.

The most southerly of the Windward Islands located between Trinidad and Tobago to the south and St. Vincent and The Grenadines to the north, the nation of Grenada consists of three islands - Grenada with 120 square miles (311 sq. km) and about 90,000 inhabitants, Carriacou with 13 square miles (34 sq.km) and a population of about 5,000 and Petite Martinique with about 486 acres (1.9 sq.km). Nicknamed the Isle of Spice, Grenada is a major producer of nutmeg, cinnamon, mace and other spices and cocoa.

Although it believes its proximity to oil and gas rich Trinidad and Tobago makes it a likely source of as yet undiscovered gas and oil, Grenada also seeks to capitalize on its wealth of renewable resources. Perhaps the most promising of these is wind energy. The island of Carriacou is a prime site for wind energy. Grenada has decided to launch a comprehensive assessment of potential renewable resources including wind, biomass, geothermal, hydro and solar energy. Its Plan includes a smorgasbord of potential renewable options including aggressive promotion of solar water heaters through a public awareness campaign and tax rebates to purchasers, Grenada also eyes the possibility of converting agricultural waste to generate biomass energy.

Grenada Electricity Services Limited (GRENLEC) enjoys a monopoly on all grid-based electricity in this nation. GRENLEC is a private company with the bulk of shares held by a Florida-based firm. Although both GRENLEC and the Government are interested in much greater use of renewables, relations between GRENLEC and the counterpart government ministries have been choppy in recent years. Prime Minister Mitchell's administration wants to end GRENLEC's monopoly status and open Grenada to independent power producers.

The Government hopes to stem a burgeoning pollution problem from the rapid growth in private cars, mostly used cars from abroad. The Government estimates that there are just under 17,000 vehicles on the road. At the current annual growth rate of about 10 % this could soon produce large congestion and pollution problems. To stem this tide the Plan envisions a combination of strategies - improvement of public transportation options and regulations or tax incentives to encourage purchase of higher efficiency vehicles.

Translating These Goals to Reality

Over the years US and European governments and international agencies have engendered a lot of cynicism in the Caribbean by de-

claiming about cleaner energy, holding conferences and commissioning consultant reports mostly by non-Caribbean groups, but fostering few commercially viable projects. The current clean energy thrust seems a sharp departure from this pattern. It enjoys strong head of government support by leaders who see a dual benefit - showing the world that small island states that may be the most threatened by climate change are willing to be at the forefront of an energy revolution that may slash emissions and at the same time greatly improving their own balance of payments. Such high level support may be crucial to lasting change. Next to Israel, Barbados has the highest penetration rate of solar water heaters and this was due in large part to a past Prime Minister becoming enraptured with a solar heater which an astute solar heater marketer had placed in his home.

The outside world has a real stake in the ambitious efforts of these three nations and there are things it can do to bring them more within reach. The United Kingdom has perhaps the greatest opportunity. At the initiative of its Prime Minister, Tony Blair, the UK was the driving force behind the remarkable report of the G-8 Renewable Energy Task Force. Through its Commonwealth Development Corporation (CDC) the UK in effect owns Dominica's utility monopoly and the largest share of St.Lucia's.

Any energy transformation will require real realignments in arrangements with those utilities. These may include allowing users the option of remaining on the grid and generating some power independently, changing utility compensation agreements that penalize efficiency and opening markets to independent power producers. By ensuring that the CDC recognizes the development objective for which it was established outweighs a focus on maximizing its stock profits from the currently perverse arrangements, the UK Government could break the biggest logjam slowing energy change in the Caribbean.

Other industrial country governments could also step to the plate financially. To date the Global Sustainable Energy Islands Initiative which St. Lucia, Dominica and Grenada have joined has been supported by three foundations - Rockefeller Brothers Fund, Turner Foundation and United Nations Foundation. Industrial country governments and international agencies, except for OAS, are still on the sidelines and their financial resources could do a lot to help. Ultimately success of the Initiative will depend most of all on effective engagement of the private sector. Probyn & Co. could already have installed substantial wind capacity in St. Lucia had the utility been more cooperative. A number of US and European firms seem already to be eyeing investment possibilities in St. Lucia's clean energy experiment but this investment environment has been made possible only because of the detailed planning by the St. Lucian Government and its GSEII partners.

Ambassador T. Neroni Slade of Samoa, who chairs the Alliance of Small Island States (AOSIS) in 1998 helped catalyze the islands initiative by asking the Climate Institute and partners to help build capacity of island states to respond to climate change. With increased capacity island states will have the knowhow to leverage mechanisms such as the Clean Development Fund and the World Bank's Prototype Carbon Fund. St. Lucia was the first country to seize the opportunities of such a change. At The Hague in Nov. 2000 St. Lucian Prime Minister Kenny Anthony stated: "this is not an exclusive club. There are opportunities for others to demonstrate their vision for a safer world by participating in this initiative. I challenge them to do so."

If the outside world heeds the eloquent plea of Prime Minister Anthony, the Caribbean may be known not only as a place of great natural beauty but also as the seedbed of a global energy revolution.

Mexican environmental pioneer, Luis Roberto Acosta, to head Climate Institute's Latin American regional activities.

Selected by Time Latin America in its October 15, 2001 special issue as one of 27 Mexican Leaders of the New Millennium, Senor Acosta has been chosen by the Climate Institute to direct its activities in Latin America and oversee efforts to encourage major cities throughout the Western Hemisphere to make air quality data available online. Director of the Mexico City based environmental group, Sistema Internacional de Monitoreo Ambiental (SIMA) since its inception, Acosta succeeded in 1995 in making air quality and UV monitoring data for metropolitan Mexico City available online. Provided on an hourly basis during the day on its web site, this data is presented in a most comprehensive and user-friendly way. Data is available not only on a metropolitan area wide basis but also for four quadrants and the central district. This pioneering work won Acosta, the Aleman Prize, Mexico's most prestigious environmental award, in Sept. 2000 and designation, early the same year, by CNN En Espanol as a Leader of the Internet. Luis Roberto Acosta earned a graduate degree at Trent University in Ontario, Canada where he worked on measurements of ultraviolet radiation. SIMA which he founded jointly with Climate Institute Board member, Luis Manuel Guerra, is now embarked on an effort to extend its online coverage of air quality data to include five other metropolitan areas - Guadalajara, Monterrey, Toluca, Puebla, and Ciudad Juarez. Commenting on Acosta's appointment, Climate Institute President John Topping stated, "One of the world's pioneering young environmental leaders, Luis Roberto Acosta will soon succeed in providing Mexico the world's first nationwide online coverage of urban air quality data. The Climate Institute looks forward

to working with him and SIMA to extend this to the major cities of the Western Hemisphere."



MacDonald Death Great Loss to Climate Science

One of the leading atmospheric scientists of the last half-century, Gordon MacDonald, who died May 14, 2002, was a pioneer in many aspects of global environmental protection. He served for seven years at Dartmouth College from 1972 to 1979 as its first Professor of Environmental Studies and as Chair of its nascent Environmental Studies Program. Before that, from 1970 to 1972, he was one of the first members of the President's Council on Environmental Quality. He has chaired numerous scientific committees for Presidents of both parties, various federal agencies and the US National Academy of Sciences. His public service also included a lead role in the early 1990s as the Cold War ended in declassifying satellite data to enable environmental researchers to track global changes of the past few decades. In addition, he has led numerous interdisciplinary efforts for the US government, the private sector and academia on issues of the environment, global change and US national security policy.



Gordon MacDonald was widely regarded as one of the leading authorities on the potential of methane clathrates to amplify global

G-8 RENEWABLE ENERGY REPORT: POTENTIAL TO SPUR HISTORIC SHIFT (cont'd from page 2)

which the US's second most populous state has set targets increasing to 2880 MW of renewables by 2009. The report indicates that Texas now appears likely to exceed by a substantial margin its first year target of 400 MW with wind energy at about 3 cents /kWh providing most of the renewable energy.

Some lower level US representatives during the G-8 process seemed hostile toward the renewable task force recommendations but ultimately the President joined Blair and the other G-8 leaders in the communique welcoming the report. The events since September 11, 2001 have understandably diverted the G-8 from a serious focus on global environmental challenges. Still, domestic political concerns or alliance politics are likely to cause the G-8 to move global environmental issues front and center again. Implementation of the G-8 task force report by all industrialized countries might be a realistic means of closing the strong divide that existed after the conclusion of the Bonn climate negotiations. At Bonn the European Community nations by acceding to various concessions on forestry and trading credits sought especially by Japan, Australia and Canada managed to win tentative approval of virtually all the industrialized nations of the world other than the US to a Kyoto Protocol with implementing rules watering down its requirements. The Bush administration in pronouncing Kyoto dead as far as the US was concerned provoked enough ire to unite disparate parties to cobble together a Bonn compromise that many would have rejected out of hand six months before.

Despite the initial glee of many in the environmental and diplomatic communities that the US had suffered a comeuppance for its unilateralism, it seems clear that any effective climate protection effort will need to engage the US in strong measures both to help developing countries in a clean energy transition and to diversify its own energy system and increase end use efficiency. Although in some ways more ambitious than Kyoto, the G-8 task force report has elements which may be more attractive to both the Bush administration and the US Senate than Kyoto. Its paradigm of energy change through a dramatic scaling up of markets, draws on the parallels of the computer and telecommunications industries - a model advanced both by Chris Flavin, President of Worldwatch Institute, and Sam Wyly, a clean energy entrepreneur who is one of President Bush's most ardent backers. Implementation of the G-8 report recommendations would meet the US Senate's concerns that developing countries act to limit their own emissions. At the same time, its appeal to developing countries is that its focus is on pressing needs-rural electrification and slowing of unsustainable rates of migration to cities rather than limiting development to hold down emissions. Yet the scaling up of clean energy systems implicit in this strategy would not only raise living standards in large areas of the world, it would produce the rapid drop in prices needed to make this energy competitive in North and South alike.

warming and his book, *Rotation of the Earth*, is still the standard work in the field. From 1996-2000 he served as director of the International Institute for Applied Systems Analysis (IIASA) in Austria and made that institution a leader in studies of global energy transformation. Prior to joining IIASA, Gordon MacDonald was Professor of International Relations at the University of California at San Diego. He also worked as Chief Scientist and Vice President of the MITRE Corporation (USA), an independent, non-profit systems engineering and research organization, and as Executive Vice President at the Institute for Defense Analyses in Washington, D.C.

One of the first scientists to alert the US and international policy makers to the challenge posed by climate change, he was a speaker at Climate Institute conferences since the group's inception and served on the Board of Directors of the Climate Institute from 1992 until his death. He led an Institute team that conducted ministerial level briefings in Honduras in 1991.

Gordon MacDonald received his A.B. (summa cum laude), A.M. and Ph.D. in geophysics from Harvard University.

In recognition of this pioneering work in environmental science and policy the Climate Institute has established the Gordon MacDonald Environmental Leadership Program in cooperation with Gordon's friends and family. This program will seek to advance two causes dear to Gordon's heart - promotion of leadership and innovation in global environmental protection and catalyzing of interest by young people in careers in environmental science and policy.

For more information see http://www.climate.org/programs/mac_elp.shtml

Devra Davis book, *When Smoke Ran like Water*, expected to be environmental best seller.

Dr. Devra Davis, a Climate Institute Board member, has already made a large imprint on US and international environmental policy, spurring the phaseout of lead from gasoline, the banning of smoking on US domestic flights and establishing a link between air pollution and children's health in megacities of the world.

Devra grew up in Donora, Pennsylvania, an industrial town which in 1948 was the site of the most disastrous air pollution event in the United States. In a month's time about 70 residents of this town of about 12,000 died from the pollution related to an air inversion that trapped deadly smoke from nearby mills. This event and the London smog of late 1952-1953, both of which laid the groundwork for air pollution control efforts in the US and the UK, are described grippingly in *When Smoke Ran Like Water*. This book also focuses on the risk to the male and female reproductive systems of various chemicals released in the environment from industrial and agricultural activity. *When Smoke Ran Like Water* will be published by Basic Books in November 2002, just before likely extensive scientific and media focus on the 50th anniversary of the London fog/smog which killed thousands over several months.

Climate Institute Award winner, Mario Molina, and wife, Luisa, edit book on air quality in metropolitan Mexico City.

Over a quarter century ago a precocious Mexican postdoctoral associate combined with Dr F. Sherwood Rowland to make the key scientific discoveries that alerted the world to the possibility that humanly produced chlorofluorocarbons and other compounds could cause a dramatic thinning of the stratospheric ozone layer. This work earned Molina, Rowland

and Dutch scientist Paul Crutzen The Nobel Prize for Chemistry in 1995. It also established Molina as a national hero in Mexico. Although he is based now at Massachusetts Institute of Technology (MIT) where he serves as an Institute Professor, Mario Molina has been at the forefront of efforts to enhance air quality in metropolitan Mexico City. A team which he and his wife and MIT colleague, Dr. Luisa Molina, jointly lead, has been involved for over three years in marshalling the intellectual resources of MIT, the Harvard School of Public Health and over a dozen Mexican institutions to design an integrated approach to air quality challenges, one which will address local pollution, transboundary air pollution and greenhouse emissions in a comprehensive manner. Honored by the Climate Institute in 1999 in Mexico City along with environmental activist, Luis Manuel Guerra, Mario Molina appeared at a press conference arranged by the Climate Institute to release the study on children's health and air pollution in megacities of which Dr. Devra Davis was a Lead Author. His participation helped ensure wide-scale positive media coverage for this report and also coalesce strong governmental followup. Kluwer Academic Publishers has just published *Air Quality in the Mexico City Megacity: An Integrated Assessment* edited jointly by Luisa and Mario Molina. This book is perhaps the most comprehensive study ever undertaken of an integrated approach to enhance air quality in a major megacity.

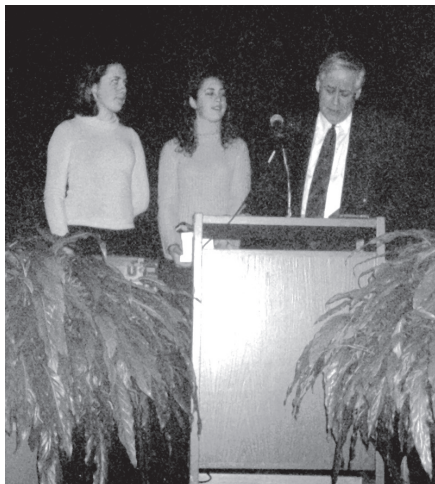
Hon. Tom Roper generates wide interest in climate protection and clean energy in speeches at diverse locations.

Following his retirement in 1994 from the Parliament of Victoria in which he held a half dozen Cabinet portfolios including Minister for Planning and Environment and State Treasurer, Tom Roper joined the Board of the Climate Institute. He has long been interested in climate change; in 1989 Roper spearheaded efforts to get the government of Victoria, Australia's second most populous state and a major coal user and exporter, to become the first state in the world to subscribe to CO2 emission limits and the next year served as Co-Chair of an international meeting of NGOs and government officials that produced the first draft of a possible Framework Convention on Climate Change 28 months before such a document was signed at the Rio de Janeiro World Summit. Since 1998 Roper has led an innovative effort to enable small island states to transform their energy systems from a heavy fossil fuel base toward a largely renewable energy base.

This effort seeks to cut overall energy costs, reduce hard currency outflows and enable island states to take a leadership role in encouraging a global clean energy transformation. Now based in London, he has traveled widely to promote climate protection. In June 2001 he spoke at World Environment Day events in Male, Maldives and met with President Gaucyoom Maumoon about the possibility of that Indian Ocean nation transforming its diesel powered energy system toward renewables. After speaking on Capitol Hill to a group of US interns, he met in Fiji with Pacific region small island state utility officials who agreed to make renewable energy the focus of their next year's meeting. He completed this swing with a speech to the Fabian Society in Australia in which he warned that Australia's failure to ratify the Kyoto Protocol despite the favorable terms it had negotiated could result in boycotts, particularly in Europe. The former Victorian minister told the Fabian Society at its meeting in Melbourne, Victoria's capital, "Only time will tell if our products are boycotted in Europe as we boycotted French wine and cheese over nuclear testing."

Institute President John Topping awarded Dartmouth College Martin Luther King, Jr. Social Justice Award.

At an awards dinner in Hanover, New Hampshire January 24, 2002, Topping who has served as the Climate Institute's President since its founding in 1986 was recognized for Lifetime Achievement in advancing social justice. This was the first year for the King awards, which will now be given annually to members of the Dartmouth community.



John Topping who graduated from Dartmouth in 1964 and Yale Law School in 1967 was cited for work in the civil rights, minority business development and environmental areas. During his senior year at Dartmouth, Topping, an International Relations major, gathered petitions in Lebanon, NH from neighbors of US Sen. Norris Cotton asking the Senator to vote for cloture to enable the Civil Rights Act of 1964 to come to a vote. While at Yale Law School he worked for passage of the Voting Rights Act of 1965 and the next year co-authored a book analyzing the implications of this legislation for the growing Southern Republican parties as well as a policy

proposal for a negative income tax to replace the welfare system. Following service as an Air Force JAG officer, he was involved in the launching of the national minority business program serving for three years as Chief Counsel of the Commerce Department's Office of Minority Business Enterprise. In 1974 he was appointed to the DC Advisory Committee to the US Commission on Civil Rights on which he still serves today. In Aug. 1976 Mr. Topping was given the President's Award of the National Bar Association for "service to the minority legal profession."

For the past two decades John Topping has worked in the environmental protection area serving as Staff Director of US EPA's Office of Air and Radiation from 1983-1986 and then as President of the Climate Institute. While at EPA he was involved in efforts to remove lead from gasoline, fund the studies that led to the banning of smoking on US domestic air flights and begin the risk assessment of CFCs that helped lay the groundwork for the Montreal Protocol.

His daughters, Elizabeth, a Dartmouth senior, and Alexandra, a Dartmouth sophomore, presented Mr. Topping's award. In accepting the award expressed pride that his daughters and their brother John III had been involved in environmental and social causes even earlier than he had been. He noted that this same commitment was evident in the over a hundred young people who had served over the past dozen years as interns at the Climate Institute. Stating that Dr. King's dream was still alive, he urged those present at the dinner to work with another attendee, NH air quality director Ken Colburn, to ensure that the Granite State became the first US state to include carbon dioxide among the air pollutants it regulates.



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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.