

Island States Energy Initiative – UN Earth Day Focus

As part of the international outreach efforts of the Climate Institute's Global Sustainable Energy Islands Initiative (GSEII), a one-hour press event was organized on April 19th, 2001 at the UN Headquarters in New York. The Climate Institute and its partners in the GSEII joined forces with the Earth Day Network and the United Nations Environment Programme (UNEP) to organize this event as a centerpiece of the Earth Day 2001 activities during the Ninth Session of the UN Commission on Sustainable Development (CSD).

The event celebrated the leadership efforts by small island states to use clean energy and control their greenhouse gas emissions to combat global warming. The press conference highlighted the concerns of island nations about the threat to their existence from rising sea levels and global warming, and drew the attention of the world to the sustainable energy measures many island states are taking or are willing to take. The event was held in the main lobby of the UN Headquarters and was attended by senior dignitaries and officials present at the CSD session as well as the general public.

Ministers and heads of delegations to the UN CSD Session from a number of small island states in the Indian Ocean, the Caribbean and the Pacific announced their countries' commitments to sustainable energy and their work with the GSEII to execute their plan.

The keynote speakers were Mr. Klaus Toepfer, Executive Director of UNEP and Denis Hayes, Chairman of the Earth Day Network. They urged the international community to follow in the footsteps of the small island nations and take effective steps to address climate change. Mr. Svend Auken, the Environment Minister of Denmark also commended the steps taken by the island nations. Speaking on behalf of the small island states, Samoan Ambassador to the UN and Chairman of the Alliance of Small Island States (AOSIS), Ambassador Neroni Slade said, "We are least responsible for but the most vulnerable to the effects of climate



change and so we find ourselves at the forefront in the fight against global warming."

emissions from the power sector by 35% by 2010.

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Climate Care



Increasing numbers of people are now aware of climate change as a serious global challenge and are reducing their energy use as much as possible. But no matter how hard we try, we cannot cut out all our emissions. This is where Climate Care

comes in, an innovative company from the United Kingdom.

Climate Care funds projects that reduce emissions of the greenhouse gas carbon dioxide (CO2). These projects include energy efficiency and renewable energy projects, and replanting degraded forests.

Climate Care funds these projects by asking consumers to pay a little extra for the things that pollute the most, such as electricity, gasoline or air travel. The extra cost is calculated to ensure that the reductions Climate Care makes exactly match the emissions you cause – which makes sure that your purchase doesn't add to global

warming. If there is a Climate Care label on the product, the cost is already included.

The great thing about Climate Care is that it is available now, everyone can do something about their emissions without waiting for governments to take action, and it doesn't cost the earth to save the planet! In fact the cost is surprisingly low – only 7.5 cents per gallon for gasoline, or \$1 per hour for a plane *(Continued on Page 8)*

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Four Steps to Climate Protection and Energy Security

by Sam Wyly, Director, Green Mountain Energy

Both Congress and the President can act decisively to meet the challenge of air pollution, climate change and energy availability by building on promising initiatives underway in two populous states, Pennsylvania and Texas. Unlike California whose “deregulation” was a rough analogue of post-Soviet privatization where the former commissars became the oligarchs, both Pennsylvania and my home state of Texas have intelligently opened their electricity markets to genuine competition and provided benefits alike for the environment and the consumer. Since the making of electricity is the US’s number one air polluting industry, consumer choice brought about by genuine deregulation will lead to cleaner air.



Four steps at the federal level could accomplish this and help catapult the US to world leadership in emerging clean energy technologies.

1. Require grandfathered power plants to comply with the New Source Performance Standards that were provided for in the 1970 Clean Air Act. Senator Charles Schumer of New York has proposed this course of action with which I fully agree. These grandfathered coal plants account for nearly all of three major pollutants resulting from the production of electricity from coal, viz., nitrogen oxide, which contributes to smog; sulfur dioxide, which contributes to acid rain; and mercury, which is associated with numerous health problems.

This has been done in Texas and a couple other states and raises the question: why should other states keep poisoning America’s air from 30-year-old grandfathered coal plants?

2. End the state government-granted electric utility monopolies with a federal law opening electric markets to genuine competition. Given the enormous influence that incumbent utilities have had in state legislatures, federal legislation will be required to break this monopoly stranglehold. Senator Phil Gramm of Texas says, “if electricity is not interstate commerce, you tell me what is.”

3. Remove barriers to distributed generation. With power generation closer to point of use, less investment in transmission

is needed and less energy is lost, as power is moved from point of generation to point of need. Fair net metering laws are essential to provide an incentive for the smart use and production of energy from distributed generation of renewables. They also help reduce pollution and global warming. More Americans will then buy their own solar roofs, fuel cells, and other forms of distributed technology. These new and smaller generators are more reliable, meaning fewer interruptions to mission critical tasks.

4. Provide tax credits to consumers and businesses that buy electricity from clean production – whether from installing their own equipment in their facilities or purchasing them from renewable sources. The national energy plan proposed by the President and a number of the alternatives on the Hill have some promising provisions to speed this change.

In California, freezing prices at low levels encouraged demand even long after the demand crisis was known. Investor jitters caused by uncertainties in both production and transmission have devastated supply. Utilities were not allowed to hedge price volatility by entering into long-term supply contracts. Instead, they could only buy off the state created power exchange.

New cleaner electricity competitors such as Green Mountain Energy have been forced out of the market by the state-created squeeze and compelled to move most of its California staff and capital into Texas and Ohio.

This means that several church congregations such as those advised by the Rev. Sally Bingham of Episcopal Power and Light, have had to leave their cleaner, greener power and go back to dirty electricity. Stockholder-owned utilities have been bankrupted and California taxpayers are now obligated to pay for electricity losses. Poor legislation misnamed “deregulation” has had disastrous results. Some now even say that consumer choice and deregulation of America’s electricity industry might be a bad idea. It’s time to set the record straight.

With over 36,000 new jobs created and customers saving US\$3 billion over the first two years, Pennsylvania’s deregulation has been a huge success. Of the customers who have exercised their free choice, one out of five chose a green energy provider – mostly Green Mountain. New renewable facilities have been built to meet this consumer demand, including the Green Mountain solar plant at Conshohocken, which is one of the Mid-Atlantic region’s largest solar plants.

Since the making of electricity is America’s number one air polluting industry, this is an important point. Consumer choice brought about by deregulation leads to cleaner air.

In Texas, unlike California, the deregulation bill allows for a true, free market approach, as found in other deregulated markets such as telecommunications. It does not allow utilities to use their market power to squeeze out competitors. The Texas model encourages the addition of renewables, such as wind and solar power, to the grid, ensuring that supply keeps pace with demand.

Texas, which in my opinion has the best model, provides a powerful impetus to clean energy development. This was achieved in a bipartisan manner with leadership in the Texas legislature from Steve Wolens, state representative from Dallas, a Democrat, and David Sibley, state senator from Waco, a Republican. The same bipartisanship is essential today in Washington if we are to reassert US leadership on climate change and in commercializing clean energy technologies.

The appointment of architects and implementers of the US

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FOUR STEPS TO CLIMATE PROTECTION AND ENERGY SECURITY (cont'd from page 2)

Successful models in Pennsylvania and Texas to the Federal Energy Regulatory Commission will benefit deregulation plans in several other states. The nomination of Nora Brownell of Pennsylvania Public Utilities Commission (PUC) and Pat Wood, head of Texas PUC to FERC is a step in the right direction.

Lady Thatcher's break-up of Britain's electric monopoly not only dramatically lowered electricity prices but also dropped carbon dioxide per kilowatt-hour by 39 percent in the first six years. A US initiative in breaking open its electric markets to genuine competition and fostering investment in clean energy would help bridge the international impasse on action to protect our climate.

For clean air through clean energy, we need a much more revolutionary approach than traditional regulation ... something closer to the revolution we witnessed in computers and telecommunications. Once competitive markets replaced these monopolies, we saw incredible technological innovations, increase in choices for consumers and businesses, and drops in unit prices.

My experience in the 1960's and 1970's with University Computing brought me face-to-face with the barriers to innovation of the US telephone monopoly. We needed to send digital data from our computers to mainframes and terminals. AT&T's analog lines were the only game in town, and in our view of the digital future, we saw them as obsolete (just as we view today's 100-year-old electric poles and wires as nearing obsolescence). Moreover, AT&T's sleepy monopoly didn't have the speed, flexibility and accuracy to address fast growing, rapidly changing markets and technology. The government-regulated telephone monopolies had disincentives rather than incentives to innovate and grow. American consumers were held hostage with no free choice.

From our experience with phone monopolies was born Datran, an effort to build an all-digital, switched, nationwide network. Datran was a major catalyst for what is today called the Internet. AT&T fought us bitterly with predatory pricing, raising prices on their monopoly local and long distance phone calls, while running at a loss

their competitive data service against Datran. It was David versus Goliath. Goliath won the first battle (we had to shut down Datran). But we came back and won an anti-trust case in 1979 against AT&T. This case and actions by other entrepreneurs such as Bill McGowan of MCI and Tom Carter of Carterphone, plus efforts by the believers in markets over monopolies at the Federal Communications Commission, resulted in the breakup of AT&T's monopoly in 1980.

What followed were revolutionary new technologies like caller ID and cellular phones, and much lower prices for phone calls. This US-led revolution was followed in Europe by deregulating their telecommunications industries. This open telecommunications market has profoundly changed the way we live and work. Developing countries are skipping the "poles and wires" phase to build phone systems based around cellular phones. It is evident that the same will happen with micro-power plants for electricity.

Two billion people in emerging countries have no electricity and partly because of this, are fleeing their farms and villages and

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ISLAND STATES ENERGY INITIATION – UN EARTH DAY FOCUS (cont'd from page 1)

Hon. Tangata Vavia, the Minister of Energy from the Cook Islands, and Hon. Teaiwa Tenieu, the Minister of Works & Energy from Kiribati, also spoke at the event of their governments' commitments to renewable energy.

In addition to St. Lucia, Kiribati and the Cook Islands, the governments of Grenada, Jamaica and the Maldives have also expressed their intentions to join the GSEII and work on developing national sustainable energy plans. The Honorable Tom Roper of the Climate Institute presented the details of the Initiative and encouraged larger and developed countries to follow the examples being set by the smallest of nations. He thanked the Rockefeller Brothers Fund, which is the major funder of this initiative.

The Climate Institute and four international organizations including Winrock International, Counterpart International, the Organization of American States and the Forum for Energy and Development, launched the GSEII as a joint initiative at the Sixth Conference of the Parties at The Hague, The Netherlands in November 2000. These groups will be working closely with the governments

GEF Report Highlights Renewable Energy Markets in Developing Countries

A recently released Global Environment Facility (GEF) report states that developing nations will need as much as 5 million megawatts of new electrical generating capacity in the next 40 years and are ideally suited to renewable energy applications. Renewable energy uses locally abundant sources of energy (solar, wind, hydro, geothermal, and biomass) that reduce dependence on more distant and polluting sources.

The report cites the International Energy Agency prediction that supplies of fossil fuels will begin to decline as population growth and economic development increase energy demand and concludes that at a time when energy questions figure prominently on many national agendas, renewable energy markets are set to take off.

The report further states that the world clearly needs to diversify its sources of energy, a position increasingly recognized by companies, governments, and international agencies. It also describes the barriers that must be overcome and the public-private partnerships necessary for renewable energy markets to expand.

The report, "Renewable Energy: GEF Partners with Business for a Better World," can be downloaded from the "What's New" section of the GEF's website at www.gefweb.org.

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.

Honda's Insight

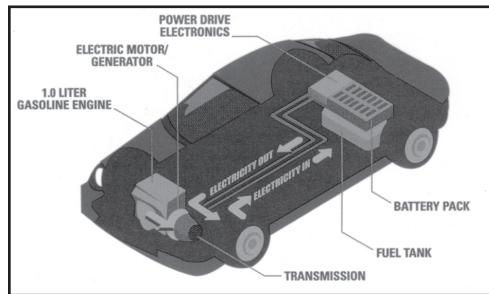
When a representative of American Honda Motor Co. offered the Honda Insight to the Climate Institute for a one-week test drive, we instantly welcomed the overture. Who would turn down an opportunity to run a revolutionary mass-produced car through its paces?

Set in the near future, the sleek looking and extremely unconventional Silverstone Metallic car delivered to the Institute's offices on Capitol Hill drew a small crowd of sidewalk café patrons. The 2-person, 3-door aluminum alloy coupe has a low-slung, raked windshield and a low stance. The rear wheels are covered more than halfway, reflecting the dominance of aerodynamic efficiency in the exterior design of the Insight.

The inside is roomy with well laid out and easy to read instrumentation. It has a tachometer (rpm) on the left and a digital speedometer (mph) in the center of the instrument panel. On the right is a gauge showing the charge/assist status of the motor system. It also has an electronic display that provides updates on the fuel economy status (mpg) as you drive. The Insight has no trunk but has a pretty roomy hatch storage area.

Standard equipment on the Insight includes anti-lock brakes, electric power steering, dual air bags, AM/FM stereo cassette, power windows and mirrors, power door locks with keyless entry and an anti-theft immobilizer system. Air conditioning is available as an option.

The Insight is packed with cutting edge technology, integrating a number of inventive fuel-saving technologies – everything from advanced materials and construction to innovative engineering design such as its low-emission engine, high efficiency electric motor, regenerative

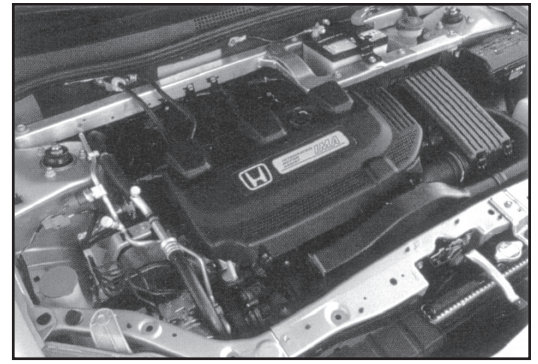


brake system and microprocessor controls. Its extraordinary fuel economy almost becomes an afterthought when you consider all the ingeniously engineered features.

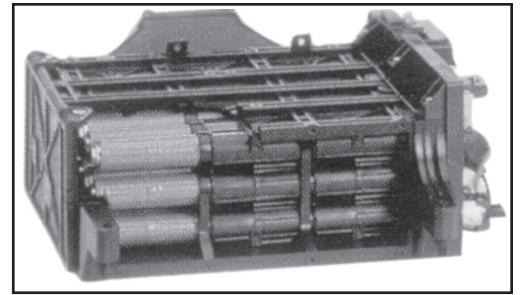
The Insight is a front-wheel drive, ultra-low emission, hybrid gasoline-electric car that gets an impressive US EPA fuel rating of 61mpg in the city and 68 mpg on the highway. That is more than three times the gas mileage of a typical sports utility vehicle. It is powered by a 73hp, 1.0 liter, 12-Valve VTEC-E (Variable-valve Timing and Electronic-lift Control and 'E' for economy) 3 cylinder gasoline engine and compact 144-volt electric motor. It also boasts an Integrated Motor Assist (IMA™) system that integrates Honda's electric vehicle technology with its internal combustion engine to achieve its high fuel economy.

The gasoline engine is always working and is the primary means of propulsion. The electric motor draws power from an advanced battery pack of 120 D-size nickel metal hydride cells to boost engine

performance and reduce fuel consumption. The motor also acts as a generator capturing mechanical energy during deceleration and braking to recharge the vehicle's batteries, unlike in conventional



cars where substantial energy is lost as heat. The battery pack is located under the cargo area, completely out of sight. A power control unit regulates its charging and conditioning and keeps it cool using fans and passive airflow. Honda guarantees the battery pack for 80,000 miles or 8 years. Since the Insight runs primarily on gasoline, it has a much longer cruising range than any electric car – 600 miles on one full tank. The Insight we tested came with a 5-speed manual transmission - the automatic version has a slightly lower mileage per gallon.



The Insight meets worldwide standards for passenger protection in frontal, side and offset collisions with an interior that meets 2003 US safety standards for side-impact and head-injury protection. It has a rigid, reinforced safety structure that manages impact forces by absorbing and deflecting them away from the passenger compartment.

Starting the Insight is a somewhat surreal experience - you don't get the typical 'RRR-RRR-RRR' of a conventional 12v starter motor; you simply hear the faint click of a contactor, and then just the silence of the IMA electric motor.

We drove the Insight around the Washington, DC metropolitan area to get a feel for city driving, and also on the highways of Maryland and Virginia at mostly supralegal highway speeds.

The 12-valve VTEC technology provides a car with a snappy takeoff. Acceleration from a stop is quicker than one expects from such a small engine – 0-60 mph in 11 seconds.

While driving in the city, the Insight didn't feel at all like an econocar. It shifts precisely and its lightweight chassis allows for nimble and responsive steering (rack-and-pinion). The low rolling resistance tires and narrow width of the wheel base limits its cornering performance but produce a comfortable though not exceptional ride. On highways with the 5th gear engaged, the car cruises nicely at 90 mph and feels like it will pull to over 100 mph. Going up hills is not a chore primarily because the gasoline engine takes care of all the power requirements with the electric motor providing only secondary power.

The Insight uses a system where both the gasoline engine and the electric motor are able to drive the car directly. The benefit of

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Rebuild America Strategic Partner Program

The Climate Institute under contract with the U.S. Department of Energy (USDOE) through one of its laboratories, Oakridge National Laboratories, provides technical assistance in the Rebuild America program (RBA). The RBA mission is to build partnerships among communities, states, and the private sector to carry out energy solutions that improve building performance and serves as a gateway to link communities with resources and services to assist them in using energy efficiency and renewable energy technologies. Currently, the Institute's Senior Associate, Jack Werner, is assisting a number of cities and counties as they prepare and implement their Rebuild America Action Plans. In addition, he is assisting with RBA's Strategic Partners program and, specifically, with the state and local government sector partners. The Strategic Partners program is designed to leverage the resources of national organizations whose membership reflects the key sector RBA partnerships (over 350) such as schools, housing, state governments, and local governments.

Following are some highlights of the Strategic Partners activities:

The Modular Building Institute is an international association representing modular building companies. Their biggest area of focus is modular classrooms and educating the public that modular

FOUR STEPS TO CLIMATE PROTECTION AND ENERGY SECURITY (cont'd from page 3)

glutting the cities. At the initiative of British Prime Minister Tony Blair, the G-8 has given priority to facilitating the delivery of renewable energy to those lacking power in the developing world. The Danes have already shown that clean energy can be an important export market. The US has to recognize that spurring a global clean energy revolution is not only vital to protecting our climate and spreading prosperity but is smart business as well.

There is no bigger or better opportunity in the world today than the market for cleaner energy. The task at hand therefore is to break the energy market monopolies to achieve the same gains received when telecommunication monopolies were abandoned. The companies of Cisco and Nortel owe their spectacular success to the replacement of the telecommunications monopoly with an "Adam Smith" free market. Twenty years ago, it was illegal for Global Crossing and Nokia to sell what they sell today and without competitive markets in computers and telephones, America Online would never have been born.

The key to having a clean energy revolution is to replicate the suc-

cesses in equally viable school environments. MBI works in collaboration with Rebuild to pilot four demo classrooms that have been built to energy-efficient specifications.

The National Association of Counties is helping RBA to implement a County Energy Efficiency Network whose goal it is to provide counties with the information they need to implement energy-efficiency measures in their buildings.

The National Association of State Energy Officials' (NASEO) current projects includes a combined effort with Rebuild, Weatherization, and the West Virginia State Energy Office to retrofit historic buildings. Also planned is a "School Decision Maker Workshop" in Des Moines, Iowa in collaboration with the Iowa Energy Office (two more are scheduled for Mississippi in July and Kentucky in August).

The National Conference of State Legislators is planning to hold

Strategic Partner Accomplishments

Upon becoming a partner two years ago, Middle Tennessee State University (MTSU) staff worked with RBA to develop an action plan addressing the potential for energy efficiency improvements to tackle the university's deferred maintenance problem. The campus at that time had little more than one utility meter, so one of the first steps was to install a number of new meters to measure energy use for individual parts of the campus. A Center for Energy Efficiency was also established to address energy issues in the context of the campus, the classroom and the community.

As additional data was developed, and with the support of the campus Chief Financial Officer, MTSU was able to convince three state agencies – the State Building Commission, the State Department of Higher Education, and the State Board of Regents - to adopt a policy that would allow MTSU to engage in building upgrades and retain the cost savings associated with the reductions in utility costs that were derived from these improvements.

The University adopted and modified model contract language utilized in the US DOE Federal Energy Management Program. MTSU issued an RFP for a task order arrangement for performance contracting to provide for \$10 million in campus improvements over the next five years, financed through a bond issue, to be retired with utility cost savings. Responses to that RFP are currently being evaluated.

Based on MTSU's efforts, other universities and colleges

The Climate Institute Board was recently bolstered with the election of three new members – William A. (Bill) Nitze, President of GEMSTAR Group and a senior environmental official in both the Reagan and Clinton administrations; Christopher (Chris) Flavin, President of Worldwatch Institute; and Jason Elliott, Managing Partner of Ranger Capital. At the Climate Institute's April 11 Board meeting Mr. Nitze was also elected as Co-Chairman of the Institute. In this capacity, he will work with the Institute's Chairman, Sir Crispin Tickell, to ensure that the Institute works to bridge the growing international chasm on climate change response policy.

Mr. Nitze is an internationally renowned expert on environmental issues, and currently serves as President of the GEMSTAR Group, a company focused on bringing energy-efficient technologies to developing economies. He has held key positions in



government, non-governmental organizations and the private sector in the United States and abroad. From 1994 to 2001, he served as Assistant Administrator for International Activities, US Environmental Protection Agency.

From September 1990 to August 1994, Nitze was President of the Alliance to Save Energy, a Washington, DC, non-profit coalition of environmental, government, industry and consumer leaders dedicated to promoting investment in energy efficiency. He was Visiting Scholar from February to August 1990 at the Environmental Law Institute, Washington, DC, where he was at the forefront in developing international environmental policy.

As Deputy Assistant Secretary of State for Environment, Health and Natural Resources, from 1987 to 1990, Bill Nitze had a lead role in international negotiations on global issues such as climate change, ozone layer protection, transboundary shipments of hazardous substances, biotechnology and the conservation of tropical forests. He received the Superior Honor Award of the Department of State in 1988.

Nitze is an alumnus of Harvard College (1964), Wadham College, Oxford (1966) and Harvard Law School (1969). A resident of

HONDA'S INSIGHT (cont'd from page 4)

this system is that you can take advantage of the electric motor and gas engine for what they do well. With the proper interaction between the two motors, they can work synergistically, to provide even more power than the sum of their parts.

An ingenious feature of the IMA system is the Idle-Stop feature. It is activated when the driver stops, shifts into neutral, and takes his or her foot off the clutch, or when the brakes are applied below a speed of 18 mph. The gasoline engine shuts down, the tachometer needle falls to zero, and the "Auto Stop" indicator lights up. The car becomes dead quiet, except for the vent fans and air conditioning, if on. The electric motor instantly restarts the engine when the clutch is depressed and first gear is engaged. This is slightly disconcerting when you first experience it at a red light or a stop sign, however because the transition is so seamless, you eventually get used to it. This feature will not function if battery levels are low or if the engine is cold; nor will it function in stop-and-go traffic, i.e., if the transmission has not been shifted out of first gear between stops.



This car drives just like the car sitting in your driveway or parking space right now - there is no plugging in an external source of power, no

recharging, and no altering your driving style. It is also a perfect commuter car and is great for city driving.

The Institute test drive team had a lot of fun with the Insight during the week it was on loan and had a hard time returning it. It was a huge attention grabber – wherever we drove curious on-lookers invariably gathered to ask questions and take a look under the hood.

American Honda and the new Insight, have been recognized as a leader in alternative-fuel technology with awards from The Sierra Club, the Clean Car Coalition, the American Council for an Energy-Efficient Economy (ACEEE), *Popular Mechanics*, *Automobile Magazine*, and the *American Woman Motorscene Magazine*.

The Insight is just the beginning of what we're bound to see in the coming decade, as the gasoline-electric hybrid comes of age. Some of the excellent technologies Honda has employed in the Insight will be adopted in conventional cars over the next several years.

The question of whether hybrids will be popular in the immediate future or not hinges on three important factors: price; the response of automakers in the US (the world's largest automotive producer and consumer) to the introduction of innovative engine technologies; and US federal and state legislation on auto emissions.

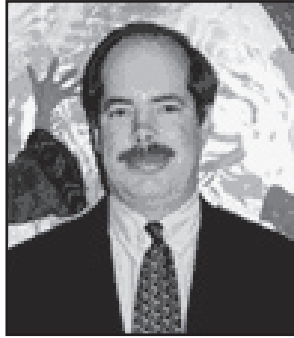
With gasoline prices rising in the first half of the year, Honda Insight US sales reached record-breaking levels. Honda sold 903 units in May, up 138 percent compared to May 2000 and up from the previous record of 573, set in April 2001. Satisfied customers of the Honda Insight include the Climate Institute's Treasurer and Board Member, John Noel of Tennessee, University of Virginia professor and climate change skeptic, Patrick Michaels, and Senator Robert F. Bennett of Utah. Senator Bennett, a towering six feet five inches says, "leg room isn't the problem one might suspect in the gasoline-electric hybrid vehicle."

Honda expects to bring a gasoline-electric Civic to the US market by the end of this year. Another gas-electric hybrid, Toyota's Prius, has been on the market for four years and has proven itself in Japan and the US. The Prius sold 872 units in April 2001 and 1,126 in May. A variant of DaimlerChrysler's PowerBox concept car, which is a 300 horsepower, 25mpg sports utility vehicle is expected to reach the market by 2003. BMW expects to have a full line of hydrogen-powered cars by 2010. Its 750hL model car with a large compressed hydrogen V-12 motor reputed to be the lowest-emission internal combustion engine in the world is on its way. According to a recent Merrill Lynch analyst report, by 2010 automakers will introduce as many as 30 hybrid cars that run on combination electric/internal-combustion engines.

Both state and federal regulators are requiring that car producers

Washington, DC he is a member of the State of New York and the US Supreme Court Bars.

Christopher Flavin is President of the Worldwatch Institute, where he is responsible for overall management and fundraising, leads Worldwatch's management team, and represents the organization before a broad range of audiences around the world. He is an ex officio member of Worldwatch's Board of Directors and its Executive Committee.



Chris Flavin has been at Worldwatch for 22 years, serving as Senior Vice President before assuming the Presidency and directing research programs. He co-authors the Institute's annual STATE OF THE WORLD book and is a frequent contributor to all of its publications, including its research paper and book series. Outside the Institute, Chris has published articles in over 50 popular and scholarly periodicals, including *Challenge*, *Environment*, *The Harvard International Review*, *The New York Times*, *Technology Review*, and *Time* magazine.

Chris heads the Worldwatch climate and energy team, which analyzes energy resource, technology, and policy trends. He is co-author of *Power Surge: Guide to The Coming Energy Revolution*, published by W.W. Norton in 1994. In the book, Chris writes that just as the economic miracles of the 20th century were powered by fossil fuels, the next century may be marked by an equally dramatic move away from those fuels - and toward a new generation of decentralized, low-emission technologies. Chris is active in international policy circles on climate change, new energy strategies, and sustainable economics. He has participated in several historic international conferences, including the United Nations Conference on New and Renewable Sources of Energy in Nairobi in 1981, the Earth Summit in Rio de Janeiro in 1992, and the Third Conference of the Parties to the Climate Change Convention in Kyoto in 1997.

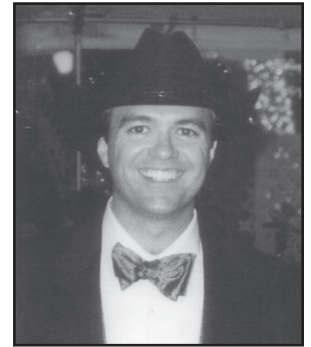
Chris lectures frequently to business, university, and policy groups on how to achieve less polluting, more efficient, and more sustainable energy and industrial systems. He has testified before legislative committees in several countries, and had advised governments, international agencies and corporations around the world. Chris has also served as consultant on sustainable energy to the United Nations Development Program, the Government of Japan, and various non-governmental organizations.

Chris Flavin is a cum laude and highest honors graduate of Williams College in Massachusetts, where he studied economics and biology. In 1992, he helped found and now serves on the Board of the Business Council for Sustainable Energy. He is also on the Board of the American Wind Energy Association and is a member of the Cosmos Club, the Climate Action Network, the National Academy of Sciences' Board on Energy and Environmental Systems, the Hydrogen Technical Advisory Panel, and other organizations.

Jason C. Elliott is an entrepreneur and investor. He is currently a managing partner of Ranger Capital. Jason was born and raised in Tarpon Springs, Florida. He is a graduate of Lewis and Clark College, where he received a BS in International Affairs in 1993.

His recent ventures include Green Mountain Energy, Casa Flora Inc.,

Edinburgh Fund and the most current, Ranger Capital. In 1997, he was project leader for a family venture investment in Green Mountain Energy, an Austin-based clean energy reseller. He served on the Board of Directors during its venture phase from 1997 to 1999. From 1998 to 2001, Mr. Elliott was an owner and director of Casa Flora Inc., a Dallas-based agriculture business. In the three years under Mr. Elliott's direction, Casa Flora Inc. expanded to become the largest wholesaler of fern liners in the United States.



In 1999, Mr. Elliott co-founded and was the portfolio manager of the Edinburgh Fund, a Dallas-based hedge fund. He was a portfolio manager of the Edinburgh Fund from February 1999 to January of 2000. In January 2001, the Edinburgh Fund was folded into Ranger Capital. Ranger Capital is a Dallas-based research-driven investment management company, investing with a diversified group of hedge fund managers.

In addition to these ventures, Jason has also been involved in charitable causes by working and funding projects for the American Cancer Society (ACS). He was elected to the Executive Board of the Dallas Metro Market in 1996 and was named the first Vice President of Finance in 1997. He and his wife, Kelly, funded the ACS' South Dallas Resource/ Outreach Center located near Fair Park, Dallas. It is the largest effort in minority outreach ever by the North Texas unit of the ACS.

Mr. Elliott currently serves on several boards in Colorado where he resides with his family. These boards include Aspen Grassroots Experience, the Financial Advisory Board of Pitkin County and the Hypercar Inc. Hypercar Inc. develops products allowing its cars to achieve breakthrough fuel economy and low emissions with a commitment to minimize humankind's impact on the natural environment. Jason is also overseeing an effort on the family ranch in Pitkin County, Colorado to build a zero net energy use group of homes with state of the art clean energy features.



From L to R, H. E. Sonia Johnny, St. Lucia's Ambassador to the US and the OAS, Gillian Bristol, OAS John Topping, Climate Institute President. They spoke at a Special Session on the Security Concerns of Small Island States about St. Lucia's pioneering effort in sustainable energy. This forum was organized by the Organization of American States and was held in Washington, DC on March 30, 2001.

Cut your emissions
Offset the rest
Tell **2** friends about Climate Care

journey. You can calculate your emissions and pay for the offsets over the Internet. To find out just how little it costs, go the Climate Care web site at www.co2.org.

Climate Care's website is very clear – the first priority for all of us should be to reduce our emissions – this not only saves the planet but also saves money too. Once you have cut all you can, the website helps you offset the rest of your emissions, using a carbon calculator to work out the sums and, importantly, encouraging you to ask two friends to visit the site in the hope that they might do the same.

In the UK the government sees carbon offsets as having a role to play in the UK reaching its carbon targets. Mike Mason, director of Climate Care says, "There are a large number of people who would like

to contribute to clean-technology projects but don't know how to – we need the government to recognize this." He has been calling for tax incentives for companies to add carbon offsets to their goods. "I want to see every gas station in the land with a Climate Care pump that channels money towards renewable energy. We have taken the lead out of gas and the sulfur out of diesel, there is no reason why we shouldn't remove the CO2 through carbon offsets."

The market for Climate Care products in Britain is already growing – tour operators sell holidays with the flights offset, a bank sells a mortgage which offsets a proportion of household emissions and you can have your natural gas supplied on a Climate Care tariff. However, the majority of people offset their emissions by contacting Climate Care directly. "We calculate their emissions and send them a certificate which is our guarantee to reduce emissions on their behalf," says Mason.

So where does the money go? The company's first major renewables project is getting underway which will replace fossil fuel boilers in schools and public buildings with renewable energy ones. They will burn wood chips, grown for the purpose locally, and the average boiler will save about 500 tons of CO2 a year. On energy efficiency, Climate Care is working with a lighting manufacturer to provide people with energy saving light bulbs – these use considerably less electricity than conventional ones and therefore emit less CO2 over their lifetime.

Climate Care also provides money for a reforestation program in Uganda. The project is restoring a rainforest that was home to wildlife (including chimpanzees and 12 other species of monkey) but was largely cut down in the 1980s. As the forest grows it will take CO2 out of the atmosphere and store it over the long term.

If you want to find out more visit their website at www.co2.org or email tom.morton@co2.org



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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.