

## Chevron Vice-Chair Robertson Joins RFF Board

**T**he best energy you can find is energy you don't use," says Peter J. Robertson, vice-chair of the Board of Chevron Corporation and a new member of the RFF Board of Directors. Energy efficiency is one tool for meeting the world's growing demand for fuel, and Robertson believes that market-based policies permit consumers and companies alike to choose the lowest-cost approaches to reducing their energy use.

Robertson is also a strong supporter of market-based policies to reduce greenhouse gas emissions. As an example, he cites the European Union's Emissions Trading Scheme, which enabled Chevron to develop a geothermal energy project in Indonesia. "Not only was it more efficient than trying to further reduce emissions in Europe," Robertson says, "it helped a developing nation tap into a clean renewable energy source."

He sees huge opportunities in a market-based system to benefit countries such as China. "If China were as energy efficient as the United States was back in 1970," he says, "we could save 16 million barrels of oil a day," but with the right economic incen-

tives, "China could leap straight to the most modern technologies for efficiency and emissions reductions."

Robertson believes that energy producers have a responsibility to foster sustainable development and thereby contribute to economic and human progress. "At the end of the day, we



PETER J. ROBERTSON

are still investing in the fossil fuel business," he says, but because demand for energy is expected to soar, "diversity in fuel sources is a critical issue." Chevron has established research and development projects with leading universities to develop alternative and renewable energy, with emphasis on second-generation cellulosic bio-fuels. "We're learning what works and what doesn't, what can be industrial-

ized to scale up to make a difference," Robertson says.

A native of Scotland, Robertson holds a degree in mechanical engineering from the University of Edinburgh and a master's in business administration from the Wharton School. His career at Chevron has spanned 35 years. During this time he has managed European operations, strategic planning, and exploration and production in North America and overseas.

With his extensive experience in the energy field and firsthand knowledge of how public policy affects energy company operations, Robertson hopes both to contribute to RFF's mission and to learn in his time on the RFF Board. "RFF has been using economics to develop rational policies for important issues," he says, "and energy is the most important issue facing both the nation and the world." ■

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## RFF Council Meeting Report: Looking at the Barriers to Green Power's Growth

**G**reen power—electricity generated from renewable sources—is a noble idea that is getting a lot of attention these days. But coverage in the mainstream press doesn't tell the whole story; the hard numbers, in terms of installed capacity, are pretty small. Estimates vary somewhat, but roughly 2.5 percent of domestic power generation is derived from the following sources: biomass, geothermal, wind, and solar. Coal is still king throughout much of America and will be for a while to come.

Despite this seemingly grim outlook, the consensus view was optimistic at RFF's recent spring Council meeting, "Renewable Energy and Electricity: Which Way Is the Wind Blowing?" Speakers from across the policy landscape, from industry to government, described the political and geographic constraints, highlighted the patchwork of success stories from state to state, and looked to what it will take to push green power beyond business as usual.

Success depends on how you phrase the question, the speakers said. What works in the "sovereign nation of California" is highly dependent on local conditions, said Paul Clanon, the executive director of the state's Public Utilities Commission. With a highly Democratic populace, a crusading, famous Republican governor, and an economy equivalent to that of many European states, there's plenty of po-

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— Shalini Vajjhala



Speakers at the recent RFF Council meeting in Washington addressed the theme "Renewable Energy and Electricity: Which Way Is the Wind Blowing?". Clockwise from top left: David Hawkins, director, Climate Center, Natural Resources Defense Council; Paul Clanon, executive director, California Public Utilities Commission; Shalini Vajjhala, RFF fellow; Karen Palmer, RFF senior fellow.

litical will to institute sweeping changes, such as a new mandate that 30 percent of California's power come from renewable sources by 2030.

The potential for green power to grow also depends heavily on where you can put it, said RFF's Shalini Vajjhala, the conference organizer. While in California there is a push for huge solar photovoltaic installations, on the East Coast, citizen opposition has stymied the development of wind farms, like the Cape Wind project off the coast of Massachusetts. In all of these cases, high costs are also a major factor. For example, 70 percent of the total costs for utility-scale wind turbines are in the installation. Add in the costs of supporting infrastructure, like power lines, and you have a wide range of factors that weigh heavily on which technologies are funded and built, she said.

Policy discussions about renewable energy tend to be fragmented, Vajjhala said. Too often the focus is on individual technologies or industries or end uses. This is not to discount what's happening in California and elsewhere, she said. "We need to think on a much larger scale, well beyond putting a solar panel on your garage roof."

#### Need for a New Constituency

David Hawkins, director of the Climate Center at the Natural Resources Defense Council and an RFF board member, reminded the audience that business-as-usual projections regarding the fate of renewable energy should not be regarded as destiny: "They are forecasts that assume no policy changes or

carbon constraints." But real change is possible and not for the reasons one might expect, he said.

Existing technological and economic barriers can be crossed with support for large-scale investments that help spur necessary institutional improvements, such as streamlined permitting procedures and system upgrades like added transmission capacity. The real barrier, Hawkins said, is the lack of an organized political constituency for renewables. The coal industry has large, well-organized supporters—including the National Mining Association, Association of American Railroads, and United Mine Workers of America—that stand behind the status quo fuel mix, he said.



**Howard Gruenspecht,** deputy administrator, Energy Information Administration, also spoke at the meeting.

"We've got to build a comparable constituency that doesn't really exist at the scale that is needed," he said. Politicians need to know that "if they vote for a renewables scenario, they can get reelected."

Consumers also need to learn to think strategically, said Karen Palmer, RFF Senior Fellow. "Buying green power today will lower the cost to our children of continuing to fight global warming tomorrow."

The one-day meeting also addressed policy drivers for moving forward as well as the potential trade-offs. Other speakers included Howard Gruenspecht, deputy administrator, Energy Information Administration; RFF Fellow Carolyn Fischer; Andrew Ertel, president and CEO, Evolution Markets, Inc.; Revis James, director, Energy Technology Assessment Center, Electric Power Research Institute; and Leon Lowery, legislative aide, Senate Committee on Energy and Natural Resources. ■



RFF sponsors a summer internship program in which students from around the world work with the research staff. Pictured here are some of this year's interns, from left:

**Top row:** RFF President Phil Sharp, Daniel Miles, Rebecca Lewis, Elizabeth Skane, Ian MacKenzie, Xiang Liu, Romulo Romero, Catherine Mdoe, Alex Doyne, and Santiago Guerrero.

**Bottom row:** Dustin Tasker, Amanda VanEpps, Gabriel Feingold, Tess Stafford, Erin Myers, and Mikaela Schmitt.

# RFF Awarded \$4 Million in New Grants for Research on Public Health and Climate Policy

Grants totaling nearly \$4 million have been awarded to Resources for the Future to support new research on public health issues and climate and energy policy.

The gifts include \$1.7 million from the Robert Wood Johnson Foundation for continuing research on antibiotic resistance; approximately \$675,000 from the Bill & Melinda Gates Foundation for research on malaria; grants of \$750,000 and approximately \$150,000 from the Doris Duke Charitable Foundation to support climate policy research; and \$500,000 from the Simons Foundation to support climate-related activities.

“These grants represent continuing confidence in the value of our independent research toward resolving some of the most critical issues of our time,” says RFF President Phil Sharp. “They will allow us to build on an already substantial reservoir of impressive work.”

## Focusing on Policies to Combat Infectious Diseases

The Robert Wood Johnson funding will provide support for the next phase of the “Extending the Cure” project that seeks effective policies and incentives to counteract the growing problem of antibiotic resistance. Senior Fellow Ramanan Laxminarayan headed a team that completed a major report in March that outlines a variety of mea-

asures that could be implemented—some through legislative and regulatory actions and others through market incentives—that can tackle this public health threat.

“The second phase of this work will define in greater detail the policy measures that government, pharmaceutical companies, consumer groups and other stakeholders must consider to preserve our arsenal of antibiotics as a national resource,” says Laxminarayan. “We will be working with a wide range of collaborators and stakeholders in the field to provide a policy blueprint for consideration by Congress and regulatory agencies.”

The Gates Foundation grant will support research and an international conference to examine the scientific merits of a multiple drug regimen against malaria, explore the practicality of using policy and market mechanisms to influence antimalarial drug use, and design a rational, global antimalarial drug policy.

## Exploring America’s Post-Kyoto Climate Role

A major part of the support from the Duke Foundation will be directed to production of a report by the end of 2008 that will outline key elements of a post-2012 international architecture on global climate change that can serve as the basis for a strategic U.S. position. The report, along with sup-

porting documents, would be completed for use by an incoming administration, when the international community will be looking to the United States for new ideas and leadership.

“Our analysis will focus on the most important and vexing question: how to engage developing countries, notably China and India, in meaningful participation in a global program to reduce greenhouse gas emissions,” says Ray Kopp, RFF senior fellow and director of the Climate Technology Policy Program. “We will produce a series of policy analyses that will provide impartial advice, independent modeling results, and practical options to the governmental bodies and private sector stakeholders charged with designing emissions caps and other international regimes.”

Part of the Duke funding will support the Harvard Project on International Climate Agreements led by RFF University Fellow and Board Member Robert Stavins and RFF Fellow Joseph Aldy. The project will help identify key design elements of a scientifically sound, economically rational, and politically pragmatic post-2012 international climate policy architecture.

Support from the Simons Foundation will be directed across a broad range of climate-related RFF research, including exploration of policy initiatives in California to curb emission of greenhouse gases in the utility and transportation sectors.

Mark Heising, director of the Simons Foundation, notes that RFF’s long-standing research expertise in climate policy was a key reason for the new grant. “For the foreseeable future, global climate change will be at the top of the nation’s policy agenda,” Heising says. “We believe Resources for the Future’s objective and deep understanding of climate policy will pay real dividends for policymakers trying to deal with this complex issue.” ■