



# SYMPOSIUM OVERVIEW

## FIVE DECADES OF PROGRESS, PLENTY MORE CHALLENGES AHEAD

*Paula Tarnapol Whitacre*

*Picture the scene: Policymakers, business-people, conservationists, journalists, and others gather in Washington, DC, for “an open forum on resource issues of continuing significance for at least the next generation.”*

Sounds interesting, doesn't it? In 1953, those were the words used to describe the Mid-Century Conference, the first event held by the then-fledgling Resources for the Future.

Almost 50 years later, the description fits another conference, this one on October 15, 2002, to mark RFF's 50<sup>th</sup> anniversary of providing research and analysis on critical resource issues. The world has changed greatly in the intervening 50 years, of course, as has the scope of RFF's research, but, RFF President Paul Portney noted, “one constant has remained—our commitment to independence, objectivity, and balance.”

In keeping with this commitment, the 50<sup>th</sup> anniversary symposium was a full day of stimulating and provocative discussions. “This golden anniversary presented a golden opportunity to bring together the smartest people we could find and give them a forum

to talk a little about the past and a lot about what the future holds politically, economically, socially, technologically, and more,” said Portney. And that's what happened in presentations by a wide range of speakers (summarized below), question-and-answer sessions, and informal conversations among the more than 600 attendees.

To set the framework for the day, symposium moderator and *New York Times* columnist Thomas Friedman shared his view of how positive change comes about. “In a world of networks,” he said, “individuals, companies, communities, consumers, activist groups, and governments all have the power to be ‘shapers,’ to shape human value chains.” To do that, he said, they need facts—and that's where Resources for the Future



Thomas L. Friedman, foreign affairs columnist, *New York Times*, and symposium moderator.

comes in. “RFF's contributions help the most creative shapers make a difference by basing their efforts on real points of fact.”

Below are highlights of what several visionaries and coalition builders from academia, government, the private sector, and the environmental community said during the symposium's six sessions. Their complete presentations can be found on the RFF website, at [www.rff.org/50thannivsim/agendapre.htm](http://www.rff.org/50thannivsim/agendapre.htm).

### Past and Prologue: The United States in 1950 and 2050

The symposium began with a look back at how the United States saw itself 50 years ago in order to understand the context in which RFF developed, followed by a look ahead to what the world might be like when RFF celebrates its centennial. Historian William J. Cronon and William Emmott, editor of *The Economist*, considered America's changing role in the world after World War II as pivotal to understanding the past and predicting the future.

Cronon noted that in the early 1900s, as the conservation movement grew, Americans believed that science and technology could assist in managing natural resources in perpetuity for human use. In the late



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Maria Reff, RFF staff member, during Q & A session.

1940s and 1950s, however, this essentially optimistic view gave way to fear about the scarcity of strategic natural resources and “apocalyptic anxieties about the frightening new dangers posed by atomic weapons and other new technologies.”

The preservationist strand of the environmental movement grew out of these fears. “Modern environmentalism, in contrast to the older conservation movement at the start of the century, is almost unimaginable without the cultural context that the atomic bomb and Cold War made possible,” Cronon said. Environmental historians tend to overlook the mid-part of the 20<sup>th</sup> century, yet this period represents a critical shift in how humans defined their role in nature, from being a part of nature to being a threat to it. These views of nature, he believes, created the conservationist-preservationist split that marks environmental politics through the present.

Emmott speculated about the future by looking at America’s power and the growth of capitalism after World War II. He welcomed America’s willingness to maintain its role as the world’s main peace provider, but he warned that “an aggressive use of that power would be self-refuting.” Instead, he urged America to lead by example.

“I believe that our prospects in the next 50 years will depend crucially on whether faith in capitalism will and can be maintained and spread,” Emmott said. Here, his prognosis appears mixed. On the one hand, the economic growth in Western Europe and Japan since World War II shows the economic, political, and environmental benefits that a strong capitalist system can bring about. On the other hand, integrating the rest of the world into that system so that developing countries share in these benefits will be an increasing challenge. America’s role is one of example and facilitation, recommended Emmott, such as “displaying the ability to control fraud and the abuse of capitalism, make good, democratically mediated environmental trade-offs, and show constantly the knowledge of the benefits of trade.”

The paradox about American power, Emmott noted, is that “if America truly succeeds in exporting

its values to other countries, then the effect will be to reduce that relative preponderance in the world.... Achieving that would be a triumph for the United States.” But, not to worry, he added wryly, because even if democracy and capitalism expand worldwide, there will still be plenty of other problems for RFF to tackle at its 100<sup>th</sup> anniversary in 2052.

## Governance and Global Markets

From Cronon’s historical perspective and Emmott’s crystal-ball gazing, the symposium moved to a focus by Harvard University President Lawrence H. Summers on the market system as an underpinning of good governance. “Properly functioning markets are the best way to organize and regulate human economic activity,” he said, “a proposition that one ignores at one’s own peril.”

Rather than blame corruption and other abuses on the system, he noted that critics should look at whether, in fact, the market was allowed to function freely when the abuses occurred. “There can’t be a black market without price controls. A customs officer cannot be bribed without tariffs or duties to enforce,” he said. “The corruption that is often used to discredit markets is all too often a consequence of a lack of markets.”



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Summers took issue with those who accuse advocates of market-based approaches of lacking morality because they seek to achieve social, health, and environmental benefits at the lowest possible cost. “I don’t think there is anything immoral about seeking to achieve a given environmental benefit at the lowest possible cost,” he said, just as refusing to purchase goods made by people earning as little as \$1.25 per day is not a “moral” position when their alternatives for employment are even worse.

The challenge globally, Summers asserted, is to find the right balance among three forces: international integration, national sovereignty, and the pursuit of public purpose. That balance can only be reached issue by issue, and it’s “less about asserting principles and more about practical and prudent compromise.”

When asked by Friedman for recommendations on how the United States can extend democracy and free markets to more of the world, Summers observed first that “we cannot want market reform, low inflation, a capitalist system, or progress in improving health more than the people who live there and their government.” Given that prerequisite, he had three recommendations: more open trade, increased international

contact through such means as educational and professional exchanges, and a more engaged system of foreign assistance.

## Promises and Perils of Technology

John Rowe, chairman and chief executive officer of Exelon Corporation, introduced the next panel, which focused on the promises and perils of technology in finding new ways to use and conserve resources. Rita Colwell, director of the National Science Foundation; Sergey Brin, co-founder of Google Inc.; and Paul Romer, a professor at Stanford University, spoke more about potential benefits than possible risks as they discussed current cutting-edge research, current and potential applications, and ways that ideas and applications can converge.

“Eventually,” Colwell said, “we’ll be able to predict the consequences of environmental change. And that is the power of science and technology.” She identified advances in information technology, as well as what she nicknamed “nano,” “bio,” and “cogno,” which she explained as follows:

- “Nano,” or nanoscale science and technology, is measured in billionths of a meter. She predicted that “nano” will have widespread practical impact in the next 20

years, from the development of resource-conserving materials (a golf club as thin as a fishing line was one intriguing example) to new ways to generate energy.

- “Bio,” or biotechnology and genomics, is giving researchers new tools to explore biodiversity and ecosystem structure. Examining microorganisms in soil, water, and other environments will shed light on the effects of bioactive substances and other contaminants, and may serve as “our canaries in the mineshaft, warning us of subtle environmental changes from the local to the global.”
- “Cogno,” or multidisciplinary research spans cognitive, neuro, behavioral, and social sciences to understand how humans learn, make decisions, reduce risks, and otherwise adapt to the environment. “These very human activities and human systems will likely determine whether our future in our planet is sustainable,” she said, noting that the 2002 Nobel Prize in Economics went to Daniel Kahnemann and Vernon Smith who study the links between cognition and economics.

Sergey Brin highlighted several promising applications of the research that Colwell described. For example, Google is now collaborating with Stanford University



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so that the toolbars on Google users' personal computers can help in a massive project called Folding @ Home, which is simulating how proteins "fold" in humans and other organisms. It would take one computer 3,000 years to simulate a protein, noted Brin, whereas when thousands or millions of computers share in the task, it becomes manageable. He also suggested ways that nanoscale technology can create carbon nanotubes that can be used in construction, transportation, and space.

Paul Romer looked at how new advances are discovered and applied, in effect providing a bridge between the presentations by Colwell and Brin. Conserving scarce resources is important, he said, "yet in the long run, there is really only

so far we can go with that sort of approach." He urged more emphasis on "new recipes" that combine materials or look at all new ways to use resources.

How to test all these recipes? Institutions built on property rights and market exchange work well to deal with scarce objects, while public institutions encourage the production of new ideas. "But the problem lies in the 'intertidal' zone where these two atmospheres interact: where science and the market work together," Romer said, "Most of the valuable economic and environmental information comes from that mixing zone."

Mandates and subsidies as ways to encourage advances in the intertidal zone have limitations, according to Romer. The most

promising approach will be to train more scientists and engineers to create idea-based benefits in the private sector, as happened in the 19<sup>th</sup> century through the funding of land-grant universities. Romer urged the development of a constituency to support training scientists and engineers, not just in the creation of new ideas, but rather in getting these ideas into the practical arena of the marketplace.

## The Power of Ideas in the Public Policy Process

Robert M. Solow, Institute Professor of Economics Emeritus at the Massachusetts Institute of Economics and the 1987 Nobel Laureate in Economics, underscored the importance of resource economics, yet acknowledged its underrepresentation in research and policymaking. Noting the plentitude of economists who focus on monetary policy as compared to the relative few who are resource economists, he said, "in the long run, the economics of natural resources and the environment is as important to our well-being as the economics of money and banking. But on such an important topic, valiant little Resources for the Future is all that stands between you and abysmal ignorance."



(Center) Emery Castle, former RFF president, and Betty Castle greet Vernon W. Ruttan, professor, University of Minnesota.





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Henry Diamond, partner, Beveridge & Diamond, P.C., and Diana MacArthur.

“An organization like RFF is built on the idea that there is such a thing as scholarship on policy issues that is neither neutered out of policy relevance nor predetermined by political commitment,” Solow said. To carry out this work, in addition to financial support, RFF “needs a constituency that will insist that policy be based on research and evidence and not on ideology pure and simple.”

Solow described what he identifies as the supply and demand of policy-relevant research. The supply, he said, comes from RFF, other independent research organizations, universities, and government agencies. “We know, more or less, how to nurture the supply of useful ideas.” But, he warned, “it’s the demand side that I have been worrying about.”

“The useful demand for policy-relevant research has to come from

those who make policy or influence policy,” said Solow. “A few respected senators or congressmen can do wonders if they understand the nature of research and have an educated hankering after evidence-based policy.”

But it takes more than this influential but small cadre to effect change. “The cause of evidence and logic needs a constituency of well-connected citizens who care about rational policy and will speak up for it,” Solow urged.

## 21<sup>st</sup> Century Environmentalism

Bill McKibben, author of *The End of Nature*, and Utah Governor Michael O. Leavitt presented their views about how environmental issues should be handled in this new century. McKibben expressed concern that economics is overshadowing science in environmental decisionmaking, and advocated less emphasis on economic considerations. Leavitt proposed a new doctrine for environmental policy that he feels can accomplish his goal for the 21<sup>st</sup> century of “twice the progress at half the cost.”

While McKibben recognized the role of RFF and others who “serve as a reminder that the human animal and its needs must always be part of the equation,” he cautioned

against the dangers of over-reliance on economics, using global climate change as an example. By 1995, McKibben noted, researchers concluded that human activity has indeed caused the planet to heat up. Yet rather than act on the scientific evidence, “the next seven years, especially in this country, have provided a clear demonstration of how broken our political methods are,” he said.

Congress did not pass legislation to lower auto emissions when it had the opportunity, citing concern about profits and jobs, nor did the Clinton or Bush administration take steps to curb global warming. “It seems to me that for our leaders, and perhaps for many of the rest of us, the economy is now more real than the physical world,” said McKibben.

“One can try to understand the cost to the natural world and the cost to the economy of any policy,” McKibben said. “But at a certain point, if you don’t take the bottom line of the real world with utter seriousness, this exercise dissolves and you begin to make very bad decisions.”

Governor Leavitt said that events over the last 30 years will further the goal of twice the progress at half the cost because “as a nation, we matured from a society that may



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have required compulsion to act on environmental progress to a culture where we have a societal expectation that we will make progress.” Despite that majority-held belief, however, Leavitt feels that extremists on both sides of the ideological spectrum have hindered progress.

As an alternative, he described a doctrine called *enlibre* (toward balance), developed by a group of governors from both political parties who are hoping for its widespread adoption. “Enlibre is eight principles that make up a shared doctrine of balance in the 21<sup>st</sup> century. It’s a new word, but Aristotle expressed the root of the philosophy. Aristotle called it the golden mean,” said Leavitt. He went on to list and illustrate the eight principles, which include “national standards, neighborhood solutions,” “collaboration, not polarization,” and “markets before mandates,” among others.

## Environment and Development in Emerging Economies

The day ended with a presentation by Teodoro Maus, who stood in for Mexico’s Minister of Environment and Natural Resources Victor Lichtinger and gave Lichtinger’s speech. RFF has had a global impact, Lichtinger said; RFF publications have given Latin American resource economists “a common language to

understand the trade-offs between conservation and production objectives that helped us rescind regulations and propose bold changes.”

According to Lichtinger, one of the basic reforms that have allowed emerging economies like Mexico’s to rise from recurrent economic crises and low income levels has been a greater reliance on prices and scarcity signals. As natural resource scarcity problems increase, there are different ways in which government intervention can amplify the weaker signals complementing or acting on behalf of the market. For example, when land is taken from potential agricultural areas and transformed into protected areas for recreation, or when water is allocated from agricultural to urban uses, the government is reacting to new scarcity signals.

Regarding technology options, emerging economies have one advantage, Lichtinger said, in that “high-income countries have already crossed the thresholds that we are now facing regarding pollution and waste problems.” The environmental crises in Japan and the United States in the 1960s and 1970s generated the first wave of research and development on environmental problems. “The 21<sup>st</sup> century finds us with a large set of technological options for the basic environmental problems embodied both in capital

goods and human capital. [Integrating them into] emerging economies is more a matter of adoption than uphill innovation.”

The task, Lichtinger said, will be to make it attractive and profitable for firms and governments to incur the costs of acquiring and putting this problem-solving capital to work. “The warning that ‘those who do not learn from history are doomed to repeat it’ is our mantra.”

## On to the Centennial

Throughout the symposium, it was rewarding to RFF supporters and staff to hear from the presenters about the value they place on RFF’s contributions to resource policymaking over the past 50 years.

What comes next? “RFF has a fervent desire to put the highest caliber of research to the service of enlightened public policy,” said Portney. “I stand before you to tell you that will be the case for RFF for its next 50 years and the 50 years after that.”

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