

Turning the Corner

At the end of this month, I conclude 15 years of serving as an *Environment* executive editor and move into the ranks of active contributing editors. So I puzzled over the topic of this final editorial for some weeks, until the Norwegian Nobel Committee resolved it for me. I received many eloquent notes from the authors, review editors, and coordinators of the Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC) that shared the Nobel Peace Prize with Al Gore.¹ They expressed gratitude for the opportunity to participate, appreciation for leadership and fellowship, and the importance of the award.

Both the IPCC and Al Gore are remarkable social innovations. Al Gore is the most successful connector of environmental science to public understanding since Rachel Carson, who also told an “inconvenient truth” about the poorly recognized danger of pesticides. Much less well known, the IPCC has

The IPCC has advanced science and policy by bringing science authors and government representatives together.

advanced science and policy by expanding the international capacity for climate science and bringing science authors and government representatives together. Created almost 20 years ago by the United Nations to provide balanced, objective policy advice on climate change, it has just completed its Fourth Assessment Report through the independent volunteer efforts of approximately 2,000 scientist-authors and reviewers (now all .025 percent Nobel laureates?) from 100 countries—engaged in an open, intensely peer-reviewed process of synthesizing current scientific knowledge.

In 2005, Anthony Leiserowitz, Thomas Parris, and I wrote of the process of accelerating collective action, of the long period of slow diffusion of ideas and intermittent action, and of the seemingly sudden acceleration of such action captured in phrases such as “turning the corner” or “tipping points.” These accelerations, we wrote, “often derive from at least four conditions: public values and attitudes, vivid imagery (focusing events), ready institutions and organizations, and available solutions.”² In the 18 months since the release of *An Inconve-*

nient Truth and the first reports of the Fourth Assessment, major changes are becoming evident in these four conditions.

As far as public attitudes are concerned, a U.S. study led by Anthony Leiserowitz found that 62 percent of Americans now believe that global warming is an urgent threat requiring immediate and drastic action and that 48 percent now believe that global warming is already or soon will be dangerous.³ This was a 20 percentage-point increase since the question was last asked in 2004.

There has been an enormous increase in vivid imagery to capture the public’s attention. These include intense summer heat, drought, and wildfires; heavy rainfall, floods, category 5 hurricanes; and, dramatically, accelerated glacier-melting, loss of Arctic ice, and endangered polar bears. What distinguishes these events, many of which occurred in previous years, is that they are now being linked to global warming after appearing in *An Inconvenient Truth*. And just as Rachel Carson caught the world’s attention with her stark portrayal of the dangers of pesticides encapsulated in a metaphorical *Silent Spring*, who can forget Gore’s clip of Florida disappearing into the Atlantic?

In the United States, a popular movement is emerging for whom global warming is a central issue. It ranges from Gore’s top-down media-oriented Alliance for Climate Protection to Bill McKibben’s grassroots Web-based movement that organized 1,400 local demonstrations in all 50 states last April (no fuel-burning buses to Washington). There is also an emerging three-point platform for the United States: emissions cuts of 30 percent by 2020 and 80 percent by 2050, a moratorium on new coal-fired plants, and extensive job creation in new energy-efficient and renewable industry.

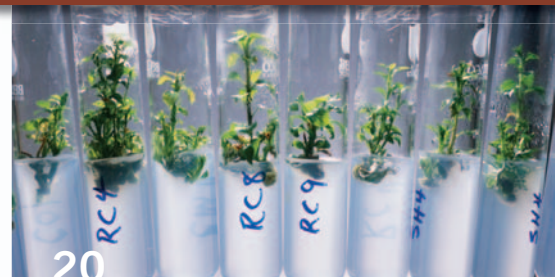
All these organizations offer solutions. But as we turn the corner on accelerated action, we, the United States and the world, have not even begun the initial Kyoto-mandated decline in greenhouse gas emissions—which remains a truly grand challenge of sustainable development.

—Robert W. Kates

1. Disclosure: Kates served as a review editor of the Fourth Assessment Report and has participated in each of the assessments to date, as have other *Environment* editors.

2. R. W. Kates, A. Leiserowitz, and T. M. Parris, “Accelerating Sustainable Development,” *Environment*, 47 no. 5 (June 2005), editorial.

3. A. Leiserowitz, *American Opinion on Global Warming: Summary*, <http://environment.yale.edu/news/5310/american-opinions-on-global-warming-summary>.



ARTICLES

20 Years

Into Our Common Future

6 ENERGY CHOICES TOWARD A SUSTAINABLE FUTURE

by José Goldemberg

Twenty years ago, the Brundtland report took account of the state of the world's energy—its supply and demand, safety and sustainability, and availability to poor and rich countries alike. The report foresaw many of the energy challenges we face today and missed a few crucial ones, but one theme remains consistent: there are no simple solutions.

20 BIOPROSPECTING: TRACKING THE POLICY DEBATE

by Rachel Wynberg and Sarah Laird

Bioprospecting—the exploration of biological material for commercially valuable genetic and biochemical properties—holds great promise for those providing and using the resources. But the frameworks proposed to regulate bioprospecting so far have created an environment characterized by mistrust, misunderstanding, and regulatory confusion.

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Compiled by Sarah Beam, David E. Heath, Melanie Papasian Miller, and Megan E. Petty

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JOSÉ GOLDEMBERG (“Energy Choices toward a Sustainable Future,” page 6) was secretary of the environment of the state of São Paulo from 2002 to 2006. A member of the Brazilian Academy of Sciences, he has served as the president of the Brazilian Association for the Advancement of Sciences and president of the Energy Company of São Paulo. He has also held positions as full professor in the Physics Department at the University of São Paulo Engineering School, rector of the university (1986–1990), Brazil’s secretary of state for science and technology and minister of state for education (1990–1992), and chairman of the World Energy Assessment (1998–2000). Earlier this year, *Time* honored him as one of its “Heroes of the Environment.”

RACHEL WYNBERG, coauthor of “Bioprospecting: Tracking the Policy Debate” (page 20), is a senior researcher at the Environmental Evaluation Unit, University of Cape Town, South Africa. Her research is focused on issues relating to the commercialization and trade of biodiversity, intellectual property rights and traditional knowledge, and the integration of social justice into natural product value chains. She has written extensively on these topics and has participated in many related policy formulation initiatives. **SARAH LAIRD** is the director of People and Plants International. In part her work has focused on building equity into the genetic resources trade and developing policies to guide access and benefit sharing under the Convention on Biological Diversity. Her most recent book in this field is *Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice* (Earthscan, 2002).

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