

New Academy Study – The Alternative Energy Future: A Social Science Agenda



Robert Fri

The Academy's project on the Alternative Energy Future is working to identify societal barriers to the widespread adoption of new energy technologies and to assess how these barriers might be better understood and managed. Under the leadership of Robert Fri (Resources for the Future), the project will review the current social science support for energy policy; recommend specific steps that the Department of Energy and other federal agencies can take to incorporate social science into their programs; and define a social science research agenda for energy policy.

The Academy convened a workshop on May 11 – 12, 2010, to identify key issues that serve to connect the social sciences with the needs of energy and climate policy-makers and that have not been adequately examined by other studies. By bringing together scientists, engineers, economists, political scientists, legal scholars, business leaders, and government officials, the Alternative Energy Future project will address the following six questions:

What are the barriers to achieving social consensus on climate and energy policies, and how can these barriers be overcome? One barrier may be that the benefits of acting to limit climate change are global and

intergenerational, while the costs of acting are local and immediate. A second could be the intense and often effective effort of a small group to deny that the benefits are worth the cost, and to confuse the public about the science of climate change.

How do the rules we live by have to change? For example, regulating carbon capture and storage will require a regulatory regime that does not yet exist. In addition, a variety of existing tax policies must be modified so as not to discourage investments to mitigate climate change.

What governance framework will best sustain climate policy over the long run? All levels of government will need to be engaged in the development and implementation of climate policy. However, because diffusion of responsibilities can create costs, balancing federal, state, and local roles will be an important issue in crafting climate policy. A second issue is ensuring the durability and adaptability of federal regulatory structures to new information about science, technology, and policy success.

What will be the impact of climate policy and the energy system transformation on individuals and communities? Technological change could affect household budgets directly, and changes may be required in behavior at the personal, household, or community level. In some cases, these changes may be resisted, and concerns regarding privacy and distributional equity are likely to emerge. Policy-makers must thus consider how best to smooth the transition to a new energy system in order to minimize adverse outcomes.

How will America's response to climate change impact our relationship with other nations? How will America's actions on climate change influence the actions of other countries? What issues surround international regulatory structures, and how can we reconcile different cultural values?

What will be the effect of changing the energy system on other physical systems,

including ecosystems, land use, and water supply? What will be the public's response to these changes? Can adverse effects best be mitigated by energy policy, or through changes in management regimes for the affected resource (water policy, for example)?

By focusing on pragmatic recommendations and rigorous assessments of the societal risks and benefits of low-carbon energy technologies, the Academy study will provide constructive guidance to shape the public policies that will govern the large-scale application of these technologies. It will meet the needs of policy-makers by developing recommendations for a social science research agenda designed to fill major gaps in the understanding of the economic, legal, and social implications of proposed changes to the energy system.

Members of the study committee include Robert Fri, Resources for the Future (*Project Chair*); Stephen Ansolabehere, Harvard University; Doug Arent, National Renewable Energy Laboratory; Jan Beyea, Consulting in the Public Interest; Stephen Brown, Resources for the Future; Ann Carlson, University of California, Los Angeles; Thomas Dietz, Michigan State University; Kelly Sims Gallagher, Tufts University; William Hogan, Harvard University; Robert B. Jackson, Duke University; Daniel Kammen, University of California, Berkeley; John List, University of Chicago; Granger Morgan, Carnegie Mellon University; Daniel Nocera, Massachusetts Institute of Technology; Richard L. Revesz, New York University School of Law; Maxine Savitz, Honeywell, Inc. (ret.); William H. Schlesinger, Cary Institute of Ecosystem Studies; Adele Simmons, Chicago Metropolitan 2020; John Steinbruner, University of Maryland; Paul Stern, National Research Council; Michael Vandenbergh, Vanderbilt Law School; David Victor, University of California, San Diego; and Leslie Berlowitz, American Academy of Arts and Sciences. ■