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CONFERENCE PROCEEDINGS

Integrating U.S. Climate, Energy, and Transportation Policies

Proceedings of Three Workshops

Lisa Ecola • Scott Hassell • Michael Toman • Martin Wachs

Sponsored by the McCormick Foundation



INFRASTRUCTURE, SAFETY, AND ENVIRONMENT

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Summary

Climate change and the greenhouse gases that contribute to it are becoming a focus of growing concern among policymakers and the broader public. The interconnection of climate change mitigation policy with the key sectors of energy and transportation will be major challenges facing the new president and his administration in the coming years. Although there are many stakeholders who hold a wide range of perspectives on potential strategies to address climate change, it is important that major policy players seek some level of general agreement on an approach that encompasses both energy and transportation policy solutions. Otherwise, proposed climate change mitigation policies will engender dissent and risk failure.

In an effort to share different perspectives and identify common points of view that could lead to new climate policy solutions, RAND convened three workshops—one each on climate-change policy, energy, and transportation—that brought together participants representing multiple government agencies, industries, and advocacy and research organizations. The workshops, held at RAND's Arlington, Virginia, offices in June 2008, featured discussion of various issues related to climate change mitigation policy, including technological innovation; federal, state, and local roles; potential legislative and regulatory solutions; international cooperation; and public engagement.

Context for Making Climate Policy

The workshop participants generally agreed that the context for making policy on climate issues can be summarized in four broad themes, described here.

Climate Change Is a Significant Problem Requiring Action on Many Fronts

The core scientific findings that support the occurrence of human-induced climate change are no longer in doubt. The business and environmental communities agree that climate change is a real and growing concern and that significant emissions reductions in greenhouse gases will be needed to prevent harmful environmental change. Broad-based policies are needed soon, and all major sectors of the economy should be involved because climate change cannot be mitigated by responses in only a few sectors or industries.

Climate-Change Mitigation Is Inherently Linked to Other Important Public-Policy Issues

Because taking on climate-change mitigation will affect other policy areas, policymakers must understand these interconnections and consequences. For example, it is very likely that some transportation policies could help reduce traffic in addition to mitigating greenhouse-gas emis-

sions. However, in other cases, climate policy goals may conflict with other national goals, such as greater energy security.

Policymakers and the Public Differ in Their Recognition of the Problem

Awareness of climate change and the need for urgency varies among actors. Some states are more aggressive than the federal government, while other states are doing little. The general public understands that climate change is a problem, but additional education may be necessary to generate public support for potential solutions.

Executive Leadership Is Needed to Make Progress on Climate Change

Top executive-branch officials at all levels of government—from the president to governors and mayors—must take the lead on developing, building public support for, and implementing climate-change policies. Such leadership will be necessary to help guide constructive policy debates with legislative bodies at all levels.

Policies to Confront Climate Change

Workshop participants identified and debated the advantages and drawbacks of specific approaches to confronting climate change.

Market-Based Approaches

Market-based approaches are seen as a necessary component for a climate policy to gain acceptance and succeed in reducing emissions. Two types of market-based approaches were discussed: (1) a cap-and-trade system, in which the government sets an emissions limit and issues tradable permits for the amount of emissions that can be produced by an emitter, and (2) a carbon tax, which sets a price for emissions but imposes no limit on the amount of emissions an emitter can produce. While many economists and some industry leaders believe that a carbon tax would be more economically efficient, most experts view cap and trade as more politically feasible and still effective.

At the climate workshop, participants debated a range of issues relating to cap-and-trade policy, including how to distribute the permits and what to do with the substantial revenues collected if the government sold some permits. While participants in the energy workshop agreed that market-based approaches would be a key strategy for reducing energy emissions in general, participants in the transportation workshop generally felt that a market-based approach was necessary but not sufficient to reduce emissions from transportation.

Direct Regulations

Regulations require individuals and businesses to reduce certain types of emissions in certain ways, with costs borne by the regulated entities. Current regulations with implications for greenhouse gases include the following:

- Corporate Average Fuel Economy (CAFE) standards, which require manufacturers to produce vehicles that use fuel more efficiently
- energy-efficiency standards for both residential- and commercial-use appliances

- building codes that regulate types and efficiencies of heating and cooling systems, lighting, windows, and so forth
- renewable portfolio standards, which require electricity companies to use a minimum percentage of renewable energy sources to produce electricity.

Not surprisingly, there was a great deal of debate about the most effective types of regulation as well as which level of government—federal or state—should set regulatory standards. For example, industry tends to favor nationwide standards, while some states would like to continue enacting state-specific regulations.

Technology Policies

Although all participants agreed that many technology innovations will be needed to reduce emissions, they expressed a range of views about the impact of new technology as well as policies designed to promote research, development, demonstration, and deployment of innovations designed to reduce emissions. While some believed that new technology would ultimately be the principal way to achieve greenhouse-gas reductions, others thought the promise of technology had been overhyped because significant behavioral and infrastructure changes would also be needed to make new technology widely available and affordable. However, there was wide agreement that work should continue on promising technologies, such as wind and solar power, carbon capture and storage, biofuels, and alternative vehicle technologies, such as plug-in hybrids.

In addition, some discussed an appropriate federal role in identifying and funding promising climate-change innovations and technologies. While participants thought that the government should not be choosing winners and losers, they also agreed that, if the public sector provides financial incentives for private-sector innovation, the incentives need to be available consistently in order to prevent boom-and-bust cycles for certain technologies.

Behavioral Change

Behavioral change can take many forms, including driving less, purchasing more energy-efficient appliances and vehicles, using less electricity, and switching to alternative sources of electricity. Small changes in individual and business behavior can add up to large decreases in collective greenhouse-gas emissions. Although some behavior change may occur voluntarily through increased public awareness of climate change, government policy incentives seek to encourage such change. Market-based approaches are one form of incentive; direct financial benefits, such as tax credits, represent another category. Participants generally agreed that there are significant obstacles to achieving major emissions reductions, especially in the nearer term. Energy-saving investments often require high up-front costs, while the energy savings can be small and spread over many years, and, for many businesses, energy costs are not a major determinant of their overall costs.

Another key obstacle is that existing land-use patterns make it difficult for Americans to reduce their driving. Changing this may require a variety of approaches, including regulatory reform of land-use patterns and congestion pricing, to reduce vehicle miles traveled. Although emissions have been reduced in the past through technological innovations, efforts to address climate change by reducing emissions will also require Americans to drive less.