## **Panel 9 Introduction**

## **Energy and Environmental Policy**

The world of energy efficiency policy grows steadily more interesting. In the last few years, utility-focused efforts such as demand-side management (DSM) and integrated resource planning (IRP) have been dying at a staggering rate as the electric utility industry goes through wrenching structural changes. The political climate has shifted towards a belief that the "unfettered market" is the best allocator of resources, putting public-sector efforts to promote energy efficiency on the defensive. New policy approaches are springing up that respond to this changing world.

The papers presented in this panel reflect this upheaval. Several of them take a look at new or underutilized approaches such as consumer information, cool communities, green pricing, and local energy planning—to see how they fit with an increasingly competitive energy-supply market. Others examine how current policies such as appliance efficiency standards and DSM are faring under pressure for their extinction. One group of papers examines efforts in countries that have not shifted to market-based energy decision making, and another group steps back to consider global trends in energy use and their implications.

### **Consumer Information as Policy**

Providing consumer information—with labels, improved bills, or other approaches—is appealing for several reasons: it is inexpensive, it is not controversial, and economic theory suggests that it is largely to blame for "underinvestment" in energy efficiency. Harris and Casey-McCabe review energy performance labeling practices in several countries and note the importance of market research and empirical evaluation in improving labeling programs. Eide, Lord, and Kempton show how well-designed energy bills can help utilities compete in a deregulated world. Sandahl and Russell show how the E-Rated appliance program (which packages and markets energy-efficient appliances) is rapidly penetrating the manufactured housing market in the Northwest United States.

#### **Cool Communities**

As the world warms, efficiency advocates have developed ways to keep cities cool. *Cool communities* save energy by reducing cooling loads—which reduces both emissions of greenhouse gases and also the smog-creating potential of criteria pollutant emissions. While many are familiar with the benefits of increasing albedo, programs are becoming much more sophisticated. Decot presents an overview of the U.S. DOE Cool Communities program. Rosenfeld et al. report on their research into the benefits of "heat island" mitigation in two hot cities (Los Angeles and Sacramento), as well as their proposals for programs that facilitate use of cool materials. Hildebrandt et al. present the Sacramento Municipal Utility District's current program, and also their findings on the best places to plant your trees.

## **Green Pricing**

Get the prices right and everything else will take care of itself—or so it's often argued. *Green pricing* is an innovative way to get prices right—that is, to allow energy prices to better reflect environmental impacts. Farhar and Houston report on numerous polls that show public willingness to pay for renewables. Holt reviews utility green pricing programs, and extracts guidelines that can help ensure program success. These include the need for credibility, simplicity, and visibility.

## Local Energy Planning: A Forgotten Direction

As federal and state governments in many countries remove themselves from the energy efficiency business, a few local governments have stepped in to fill this void. Boman describes a grassroots program to encourage resource efficiency in a Seattle neighborhood. The program expresses the city's commitment to sustainability. Gadgil et al. examine the future of

energy use in Manaus, Brazil, and show how efficiency and renewables could substitute for up to one-fourth of conventional energy use by 2002. Papousek and Lesch describe the development of a plan in Graz, Austria, to meet the Climate Alliance goals of a 50 percent reduction in  $CO_2$  levels by 2010.

# **Appliance Standards**

Minimum efficiency standards remain one of the most effective ways to achieve energy savings—they can be relatively easy to develop and enforce, and the public doesn't have to worry about buying an "energy hog." However, recent political events have put regulatory programs (such as standards) on the defensive. Three papers report on technical analyses that have played a key part in the U.S. DOE's standards-setting process. McMahon et al. report on analyses that supported the U.S. DOE's proposed appliance and lighting efficiency standards. Turiel and Hakim describe the analyses supporting the controversial refrigerator/freezer standard. Greening et al. detail a retrospective analysis of the effects of past refrigerator standards on prices, amenities, and equity. They also provide a useful empirical basis for examination of claims by critics of appliance standards.

### **DSM** in a Restructured World

Over the last 20 years, efficiency advocates have viewed utilities as one of the principle purveyors of conservation measures and many utilities have undertaken this task willingly. However, the wave of restructuring that has hit the electric utility industry in the last two years has raised serious questions about whether utilities will continue to offer those services—and if so, how the cost of conservation programs will be paid in a newly competitive business. Two papers present very different views of the problems and solutions. Eto, Goldman, and Kito present a summary of issues, options, and unanswered questions, based on their experience with state energy programs and utilities across the nation. Schultz argues for a specific solution to replace utilities while maintaining the underlying objective of achieving energy savings.

# Government Intervention Versus Market Forces: Reports from Non-U.S. Efforts.

Most countries still believe that a strong public presence is the best way to ensure that energy efficiency happens. U.S. readers may remember fondly those rosy days in the 1980s when state regulators could lean on utilities to invest in energy efficiency. In most of the world, though, utilities still are operated by the government and therefore remain a potential lever for promoting societal goals such as energy efficiency. Berko shows how various decision makers in Ghana have quite different views of energy policy. Energy producers and consumers are looking to the government for leadership, while regulators have little confidence in the ability of policy to change consumer behavior. Bertoldi reports on the European Union's SAVE program, and shows how this program considers both regulatory and voluntary approaches to promote energy efficiency. Dunsky describes the process used in Quebec to determine that both an independent regulatory commission and a para-governmental DSM agency are needed to make best use of demand-side resources. Flanigan and Rumsey report on energy efficiency programs in Asia, which is undergoing explosive growth in electricity use. They show the importance of local funding and control as a determinant of program success.

## Planet Earth: What Buildings Can Do to Reduce Global Warming

Fortunately for the world there is a dedicated cadre of scientists who are tracking trends in greenhouse gas emissions and efforts to reduce them. Since most building efficiency professionals do not have the time to track the latest global events, there are two papers in this panel that do. Levine et al. present their snapshot of the international efforts to reduce energy use in buildings and how their work relates to the Intergovernmental Panel on Climate Change. Wiel et al. focus on the role of building efficiency in reducing global carbon dioxide emissions.

# Conclusion

When the going gets weird, the weird get going. DSM is dying, standards are under attack, research and development funding is being slashed, and utilities are getting out of the efficiency business. Those of us committed to energy efficiency as a path

to a sustainable economy and environment must act now to fine-tune existing policies, dump failures, and invent new ones. The papers in this panel enhance the knowledge base we can use to move ahead on the next generation of policies for ensuring a healthy, happy, and equitable planet.

Paul Komor E-Source, Inc. John Wilson California Energy Commission