



**Advancing Energy Innovation Dialogue in the Midwest Region
October 15-16, 2013 • Dearborn, Michigan**

Summary

The Advancing Energy Innovation Regional Dialogue, held on October 15-16, 2013, in Dearborn, Michigan, addressed state and regional business and institutional barriers and opportunities for improved innovation, productivity, and competitiveness in the Midwest region. The dialogue provided an opportunity to learn about and discuss these initiatives, to discuss how they might be utilized in the Midwest states, and to discuss potential collaborative approaches to considering or adopting them among some of the states in the region. The focus was on pilot projects, financing programs, institutional and policy initiatives, and creative business strategies that could support the deployment of innovative energy products and services while ensuring that customer and supplier benefits and risks are appropriately balanced and shared.

The process followed for the meeting included:

- Plenary presentations and cross-sector dialogue discussions on successful business and financing models, and products, programs, and services that are supporting energy innovation in the Midwest with the goal of sharing best practices from programs already in place in the states and identifying additional efforts;
- Discussions on barriers that stand in the way and potential collaborative approaches to developing and deploying these policies, business and financing approaches, and products, programs and services that support energy innovation
- Breakout groups to add detail to the collaborative solutions and potential action strategies
- Report outs on breakout group discussions and possible collaborative efforts going forward
- Presentation of an on-line collaborative platform for continuing the conversation after the dialogue concludes

The Midwest region selected for this dialogue provided a valuable case study for advancing innovation in the electric power sector. Despite the low cost of energy in the region, many investor owned and public/municipally owned utilities are offering efficiency and demand response programs, as well as investing in grid modernization on their systems. Electricity demand is lower than it has been in many years, not only as a result of the general economy but due to the growing number of customers investing in renewable energy.

A proliferation of technology, market, and institutional innovations are having an impact on the utility business model in the Midwest. These innovations are challenging the way that

customers and utilities relate to each other as well as impacting the growth and development of energy supply and demand in the region.

Technology innovations include, but are not limited to:

- Explosion in the growth of digital monitoring devices
- Two-way communication devices installed through grid modernization programs at utility companies across the nation
- Miniaturization of equipment that supports information sharing
- Transmission upgrades across the Midwest
- Energy efficiency improvements in appliances, equipment, housing, and industrial plants
- Battery storage research and development advancements

Market innovations include:

- Development of the shale gas industry, which has caused a rapid and steep decline in the price of natural gas
- Greater deployment of distributed and renewable energy throughout the region, particularly wind and rooftop solar, that is having an impact on electricity growth from traditional sources
- Growth in third party vendor products and services, sold to utilities or directly to customers (e.g., OPower)
- Growth in large customer deployment of both energy efficiency technologies, products, and services, as well as purchase of renewable energy to support sustainability goals

Institutional and policy innovations include:

- Development of grid-related inter-operability standards at the Federal level that are allowing customers, utilities, vendors, and others to communicate, share data, and be harmonized more effectively
- Growth in state portfolio standards, for both energy efficiency and renewables
- Growth in energy efficiency programs sponsored by utilities, government agencies, private organizations, and non-governmental groups
- Where deregulated markets exist in the region, growth in numbers of customers with access to new products and services, such as financing for energy efficient improvements or tax incentives for renewables
- Increasing use of demand response programs to address load growth, as well as more responsive time-of-use rates that incentivize customers to use their electricity more carefully
- Pending requirements on coal-burning plants in the Midwest that have the potential to shut them down, or to require major investments in retrofitting

These and other innovations are transitioning the electricity marketplace, challenging such long-held cost of service standards as the proper measurement of the value of central station generation as opposed to the value of distributed or renewable generation. Utilities have made

progress in implementing energy efficiency programs with their customers. They still have work to do to integrate efficiency into the resource mix. In the short run, utilities are obligated to secure cost recovery for their investments. In regulated markets, when the market fails, utilities still need to maintain their network, to meet their obligation to serve. Utilities are correct in questioning the reliability of third-party companies who seek to interact with their (utilities') customers.

As support grows for cleaner generation, and federal and state environmental requirements impact the generation mix, policy-makers will likely require utilities to meet those requirements in a variety of ways. And as energy efficiency, renewables and distributed generation, and the impacts of demand response and customer involvement in reducing or evening out energy use reduces overall energy sales, utilities will need to address business models other than decoupling to encourage innovation. Until these challenges are met, the full panoply of innovations will not be felt in the region.

Despite interest in innovative technologies, products, and services, there are a number of barriers to innovation, in the marketplace, in the institutional and policy arena, and internally within private sector companies, commercial businesses, government agencies, and other organizations across the region. These barriers and potential collaborative solutions are listed below.

Barriers to Innovation

Market and financial barriers center on the need for better alignment of risk and reward, e.g., the risk of losing revenue offset by reduced need for new capacity; lack of proper and effective incentives for utilities to encourage innovation; the lack of consumer interest in and incentives to participate in the new electricity marketplace; and unclear signals to consumers regarding the true cost of electricity. In addition, as more and more data is collected and made available to consumers regarding their electricity usage, the barrier of managing that data and making sense of it in an actionable way, is a challenge.

Institutional and policy barriers include aversion to risk, both on the part of utilities, financiers, and consumers; retail rate structures that discourage innovation; the complexity of the regulatory environment; and the lack of consumer engagement in the program opportunities presented to them by their utilities which are participating in grid modernization efforts, despite utility outreach.

Internal barriers are those constraints on innovation presented within (internally) companies or organizations, public or private. The culture of most organizations is risk averse, a barrier to innovation. Organization leaders are generally biased in favor of what is already known, and tend to err on the side of certainty rather than risk/innovation.

Collaborative Solutions

To address the problem of “regulatory silo and stove piping,” **RTOs and state regulators need to capture the benefits of regional electricity** planning by holding joint planning meetings with their counterparts and work to develop more uniform state laws and integrated resource plans.

State regulators need flexibility to deviate from rate-making based only on lowest cost. The emphasis on lowest cost reduces utility motivation to adopt innovative programs or to propose innovative rates.

Consumers need both the ability and the incentives to participate in the new electricity marketplace. Through better messaging, public relations, and consumer engagement strategies, consumers need attractive and engaging “apps” that are easy to use and that involve them in innovative energy efficiency and clean energy programs.

Regulators need to set the correct price signals and consider fundamental rate design improvements that compensate innovative utility performance. Doing so will address pricing distortions that obfuscate the true economic signals that drive innovation.

Regulators, utilities, research institutions, contractors, and many other institutions and organizations need to address the huge amount of data that is being collected during grid modernization initiatives. Sharing, access, and privacy concerns need to be defined and policies better crafted to assure safety and security.

All stakeholder groups need to review the benefits as well as the unintended consequences of new, more innovative policies, products, and programs that are being encouraged in utility service territories throughout the Midwest. Better understanding of data collection and metrics will avoid mistakes and poor policy decisions.

Regulators and national organizations, including consumer advocates and trade associations, need to design performance standards to help define prudence and that motivate energy efficiency. Incentives for innovative energy efficiency are still lacking, despite many years of attention to this problem.

Utilities need to assume more risk, coupled with rewards, for research and development on innovative rate making, distributed generation, and energy efficiency.

Utilities and regulators need to consider innovative rate-making policies, programs, and customer services based on a long-term perspective, rather than based on the next quarterly earnings call. Doing so will encourage more transparency and creative planning, which will in turn, encourage more innovation.

Next Steps

The *Advancing Energy Innovation Dialogue* encouraged discussion on a number of issues related to the future of the electric power business in the Midwest. Collaborative solutions discussed at the Dialogue addressed market, policy, and institutional approaches to encouraging innovative energy efficiency, demand response, distributed generation, and renewable energy development in states across the region. The following next steps for continuing the discussion and collaborative strategies included:

- Participation in the on-line collaboration space provided by www.ourenergypolicy.org to begin posting articles and potential ideas related to innovation in the Midwest;
- A regional forum, perhaps sponsored by MISO in collaboration with regulatory and state agencies in the region, on the value of integrated resource planning, alternative rate-making (“best” cost, not “lowest” cost) strategies, and performance based rate-making (PBR) that have the potential to support more innovation in the new electricity marketplace;
- Collaborative messaging, media, public relations, and social media programming to craft clear and easy to understand information for customers as they begin using their smart meters;
- A regional summit, perhaps sponsored by MISO in collaboration with regulators, consumer advocates, vendors, and data management entities, on data privacy, security (including cyber-security), and management, building on work underway at the Federal level.