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Meeting The Challenges Ahead: Regional Electricity Markets Foster America's Energy Independence And Security

Promoting Renewable Energy, Demand Response, Conservation, Efficiency, and Technological Innovation

Everyone agrees that the United States must reduce its dependence on foreign energy sources. The Energy Policy Act of 2005 reflects this basic sentiment, providing new or enhanced programs for alternative fuels, renewable energy, conservation, and efficiency. Furthermore, the policy signals emanating from both Congress, the White House, and at the state level since the November 2006 election have only served to reinforce these national priorities. Yet, policymakers have only just begun to recognize the key role that vibrant regional competitive markets can play in fostering energy independence and security.

As detailed in this issue brief, well-structured markets for electricity promote renewable generation, environmental improvement, energy efficiency, demand response, enhanced operational efficiency, and technological innovation. They enhance our ability to deliver more innovative energy services without increasing our dependence on foreign sources of energy and without doing further damage to our environment. Because competitive markets provide high-quality information -- embedded in price signals that reflect the forces of supply and demand -- and because they place a premium on the efficient utilization of resources, they incentivize key stakeholders to find new and better ways to meet the challenging energy demands of a dynamic and growing economy.

As we enter an era of rising energy prices, stemming from a global scramble for fossil hydrocarbons and increasing environmental constraints on fossil-based generation, we must recognize the value of markets in providing the proper signals that can shift resource allocation decisions toward a leaner, and less carbon-intensive energy system. Today, more than two-thirds of the nation's electricity consumers live or do business in states that are part of regional competitive electricity markets. Simply put, markets provide the only viable approach to eliminating the barriers, spurring the innovation, and creating the necessary information flows that will allow electricity suppliers, transmission system operators, and millions of customers to collectively navigate the inevitable transition to a new energy era.

I. Competition Is the Bedrock of Our Economy, Electricity Is a Crucial Commodity, and Electricity Competition Provides Benefits to Customers.

As Daniel Yergin, Chairman of Cambridge Energy Research Associates, has explained, while America cannot isolate itself from the world, we can, and must, ensure our "energy independence and energy security." We must ensure our

"resilience, robustness, [and] reduced vulnerability" to sudden plunges and spikes in worldwide energy supply and demand. The keys to this independence and security are "a new push for energy conservation," "diversification" of energy sources by developing "alternative . . . energy sources," "higher energy efficiency," and "new technologies."[1]

Over the past decade, regional wholesale competitive markets have markedly increased demand response, electricity conservation, use of renewable resources, grid reliability, and technological progress. In a June 2006 Open Letter to Policymakers, eight distinguished economists, including Alfred E. Kahn, Vernon L. Smith (Nobel Laureate in Economics), and Paul Joskow made just these points. They observed that competition has engendered "multiple new entrants and large gains in generator performance," and they reminded policymakers of the demand response improvements, efficiencies, technological innovation, renewable generation, and environmental benefits brought about by competitive electricity markets.[2]

Eight large commercial electricity customers echoed these views in a recent letter to FERC Chairman Joseph T. Kelliher. They stated that regional competitive markets provide the greatest flexibility in responding to consumers' needs by "promoting transparency and reliability . . . and providing price signals that promote sound investment decisions regarding generation, transmission, demand response, and energy efficiency."[3]

Preserving and expanding competitive electricity markets will yield greater gains in the future. Federal Reserve Board Chairman Ben S. Bernanke, and former Chairman Alan Greenspan, have both spoken eloquently about the benefits of robust energy markets, including the increased flexibility and the resilience to economic shocks that they foster. Chairman Bernanke has commented that in the short-run, prices for natural gas and crude oil are likely to remain high given strong world economic growth and limited ability to increase energy supplies. He has expressed great confidence, however, in the power of market forces stating that "in the long run, market forces will respond" with new "energy-saving technologies," alternative fuels and "growth in energy supplies."[4]

The challenge of continuing to deliver high-quality energy services at affordable prices while enhancing America's energy security will not go away. America's electricity needs are projected to grow to 5.478 billion kilowatt-hours by 2030 -- a 43% increase from 2005.[5] Meeting the growing needs of electricity consumers in the most efficient and environmentally sound way must be a national priority.

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[1] Daniel Yergin, *Energy Independence*, Wall St. J. (Jan. 23, 2007) at A-19.

[2] Paul L. Joskow, et al., Open Letter to Policymakers (June 26, 2006).

[3] Customer Letter to Chairman Joseph Kelliher (December 4, 2006). Also see Assessment of Demand Response & Advanced Metering, FERC Staff Report, August 2006, Docket Number: AD-06-2-000, at 11, citing NYPSC Order, April 24, 2006, 1-2: "The New York Public Service Commission suggests that demand response can also reduce a state's dependence on natural gas-fueled generation.")

[4] Chairman Benjamin Bernanke, Remarks before the Economic Club of Chicago, Chicago, Ill. (June 15, 2006).

[5] Energy Information Administration, Annual Energy Outlook 2007 with Projections to 2030, at 7 (Feb. 2007), available at http://www.eia.doe.gov/oiaf/aeo/index.html.

II. Regional Electricity Markets and Competition Promote Renewable Generation, Thereby Enhancing Energy Independence and Security.

Independent regional transmission operators such as RTOs and ISOs not only promote electric system reliability and wholesale competition, they facilitate renewable energy development. RTOs, such as PJM and NYISO, have rules and protocols in place that can accommodate the intermittent characteristics of renewable generation sources such as wind energy. The American Wind Energy Association (AWEA) has pointed to spot markets for balancing supply and demand in real time financial transmission rights, elimination of "pancaked" rates between utilities, credit for capacity, and regional transmission plans as examples of the advantages offered by RTOs for wind and other intermittent, renewable generation.

According to AWEA, as of 2006, about 73% of the 11,603 MW of installed wind capacity is located in RTOs, even though only 44% of wind energy potential is in those areas.[6] Wind developers are attracted to RTO markets because of the advantages for intermittent resources that such markets provide.

In addition, well-functioning regional electricity markets successfully eliminate barriers to renewable energy development that arise from outdated industry rules. By eliminating balkanized and inefficient grids -- which create opportunities for discrimination with respect to grid access and market foreclosure and which maintain highly inefficient and expensive approaches to transmission pricing (e.g. the anachronistic contract path of pricing with "pancaked" rates) -- organized regional markets remove obstacles that have traditionally stood in the way of efforts to develop and deploy renewable generation.

These points are forcefully and persuasively made in a recent letter to FERC Chairman Kelliher and other policymakers from AWEA, Natural Resources Defense Council and other significant groups that support the growth of renewable energy.[7] Seeking "to highlight the benefits of regional wholesale electricity market structures . . . in bringing more renewable energy . . . into the nation's resource portfolio," the letter states that the groups are

> convinced that properly structured regional wholesale electricity markets with independent regional transmission operators can provide net benefits to customers and promote critical national goals related to fuel diversity, energy security, and environmental protection. Well-structured regional wholesale electricity markets operated independently allow far greater amounts of renewable energy and demand response resources to be integrated into the nation's electric grid.[8]

Large, regional electricity markets provide for cost-effective balancing of generation and load with significant penetrations of variable, non-dispatchable power sources. Furthermore, organized regional markets facilitate delivery of resources remotely located from load centers. As stated in organized regional markets "*Utility Wind Integration State of the Art*" by the Utility Wind Integration

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[6] http://www.awea.org/projects/

[7] Letter from AWEA, et al. dated February 26, 2007 to Chairman Kelliher, et al.

[8] Id.

Group, in cooperation with the utility associations EEI, APPA, and NRECA, "Well-functioning hour-ahead and day-ahead markets provide the best means of addressing the variability in wind plant output. . . . Consolidation of balancing areas or the use of dynamic scheduling can improve system reliability and reduce the cost of integrating additional wind generation into electric system operation."[9]

Further, independent regional grid operations accommodate renewable energy by eliminating "pancaked" transmission rates that are assessed across every utility area; providing electricity markets in which variable or intermittent resources can sell excess energy or purchase shortages at a transparent, fair market price; [10] minimizing operational impacts of variable resources by netting out aggregate load and generation over a wide region; facilitating regional transmission planning to access generating resources as well as address reliability, congestion, and load growth in the most efficient overall manner; providing a mechanism to pursue regional cost allocation policies; and providing for flexible transmission tariffs that allow rates to be paid on an as-used basis as opposed to a capacity reservation basis.

Texas provides a successful example of electric restructuring and renewable generation where competitive markets have met state renewable requirements. As part of its restructuring legislation passed in 1999, Texas established a renewable mandate of 2,000 MWs by 2009. Currently there are 2,923 MWs of renewable generation in service, with over 1,662 MWs of additional wind generation likely to be in service by the end of 2007.[11] These resources were not procured through any regulated procurement programs or state cost recovery guarantees. Rules were established to comply with the renewable statutory requirements, but did not institute terms and conditions for contractual arrangements. The success of the Texas market is clear evidence that renewable contracting and development can occur without regulated procurement and may be left to the competitive marketplace. Other than the rules to comply with the statutory requirement and the means to account for compliance, regulating the terms and conditions of such contractual arrangements in the competitive marketplace has been unnecessary.

Roughly two-dozen states have implemented market-based programs to encourage companies to switch to alternative, renewable resources. Indeed, at the state level, these "are the favored way to spur investment in renewables."[12] The results can be dramatic. The city of Evanston, Illinois has eliminated 7.4 million pounds of carbon dioxide from the atmosphere each year by adopting a market-based system. The city has instituted a system that rewards electricity producers for using cleaner, renewable resources in place of fossil fuels. As a result, Evanston, a city of roughly 79,000 people, conserves enough electricity each year to power more than

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[9] Utility Wind Integration Group, Utility Wind Integration State of the Art, at 4 (May 2006).

[10] A recent study in Minnesota to assess the reliability and cost of providing more than 20 percent of the state's electricity from wind stated: "The MISO energy market also played a large role in reducing wind generation integration costs. Since all generating resources over the market footprint are committed and dispatched in an optimal fashion, the size of the effective system into which the wind generation for the study is integrated grows to almost 1200 individual generating units. The aggregate flexibility of the units on line during any hour is adequate for compensating most of the changes in wind generation." www.puc.state.mn.us/docs/windrpt_vol%201.pdf.

[11] www.ercot.com

[12] Leila Abboud, Regulations: *Alternative Approaches*, Wall St. J. (Feb. 12, 2007) at R13.

500 average American homes.[13] New York State has instituted a market-based policy that is slated to increase renewable energy use to 25% by the year 2013.[14] The policy rewards electricity producers for substituting renewable resources for fossil fuels.[15] In Pennsylvania, there are now eight operating wind farms; before electric restructuring there were none. More than 3,000 MWs of wind, or enough to power about one million homes, is in various stages of development.[16] In addition, renewable portfolio standards (RPS) programs in many states, such as the Pennsylvania AEPS program, recognize that RTO regions and the availability of tradable certificates (RECs) are a way to increase participation and meet the goal of reducing emissions. (See Section IV. regarding technological innovation). Because the electricity producers, and not the regulators, determine how to implement the changes, they are carried out more efficiently and with fewer administrative costs.

Finally, on a more global note, it is important to recognize that in the European Union (EU), there is a continued movement toward liberalization, or restructuring, of electricity markets. One of the drivers of this trend is a desire to make a substantial contribution to the reduction of greenhouse gases. The EU acknowledges that reduction in carbon emissions and its proposed energy policies go hand in hand.[17] Indeed, the EU states that two of its "dual aims" are "to ensure global average temperatures do not rise more than 2° above pre-industrial levels and to build a more energy-competitive, cleaner, low-carbon European economy."[18] The EU appears to understand the relationship between competitive electricity markets and meeting its environmental, renewable and energy efficiency goals. As the EU advocates climate change, it does so in the context of a commitment to competitive markets that welcomes technological innovation and provides both transparency and reliability.

III. Competition Promotes Conservation and Improved Energy Efficiency

A. Demand Response

Demand response programs that promote conservation and energy efficiency contribute to greater energy independence. The goals set forth by the Department of Energy for demand response programs include: fostering price-based demand response; improving incentive-based programs; strengthening analysis and valuation; integrating demand response into resource planning; and adopting enabling

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[13] PR Newswire-First Call, Twenty Percent Renewable Wind Power to Help Lower City's Carbon Footprint (Feb. 8, 2007).

[14] New York State Dep't of Public Service, Staff Report on the State of Competitive Energy Markets: Progress To Date and Future Opportunities at 54-55 (March 2, 2006).

[15] Id.

[16] PennFuture Newsletter at 2 (February 15, 2007).

[17] Questions and Answers on the Commission Communication *Limiting Global Climate Change to 2°C*, (Jan. 10, 2007), at http://europa.ec/rapid/pressReleasesAction.do?reference=MEMO/07/17

[18] Id. See also Commission of the European Communities, Communication from the Commission to the European Council and the European Parliament - An Energy Policy for Europe (Jan. 10, 2007) (emphasizing goals of enhancing competitiveness and decreasing reliance on carbon energy), at http://ec.europe.eu/energy/energy_policy/index_en.htm.

technologies.[19] Competitive markets are significantly better equipped to meet these goals than traditional cost-of-service regulation.

A robust demand response is a necessary element of any viable energy efficiency and conservation program, and efficiency and conservation are, in turn, essential to achieving greater energy independence. Competitive electricity markets are a solid foundation for installing demand resources and achieving a robust demand response. "Demand response may provide conservation effects, both directly from load reductions (that are not made up at another time) and indirectly from increased customer awareness of their energy usage and costs." [20]

In an RTO, generators and customers obtain a clear signal on the value of demand response resources and the regional system operator can integrate the product into the least cost dispatch. PJM's demand response program has grown from 359 MW in 2002 to over 2,200 MW in 2005 -- a six fold increase. During August of 2006, PJM found that during a week with high peak prices, demand response programs saved customers in its 13-state region over $650 million ($230 million in a single day).[21] Such a response not only conserves valuable resources and reduces emissions, but benefits consumers in substantial dollar savings. In addition, a study by the five Mid-Atlantic public utility commissions and PJM as part of the Mid-Atlantic Distributed Resources Initiatives (MADRI) found that a modest reduction in electricity use during peak hours would reduce energy prices by at least $57 million to as much as $182 million annually in the Mid-Atlantic region.[22] Clearly, even greater efforts to facilitate demand response must be made, and the organized regional electricity markets will lead the way.

There are other similar examples of how markets have facilitated demand response and conservation. In communities across the nation, these programs have increased energy security by reducing the strain on electrical grids and have saved purchasers millions of dollars. New York State had over 1,165 MW of demand response that received capacity payments during the summer of 2006. Nearly 700 MW of these resources responded to emergency calls in New York City and on Long Island during peak summer hours in July and August, thus helping to preserve reliability in this critical region.[23]

Several communities have promoted conservation through programs that use price signals to reduce electricity consumption during peak hours of the day or peak seasons of the year. Companies such as Community Energy Cooperative of Chicago set varying prices throughout the day, giving purchasers the option to save money by

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[19] Dep't of Energy, Benefits of Demand Response in Electricity Markets and Recommendations for Achieving Them, Report to Congress (required by EPAct 2005) at xviii (2006).

[20] See FERC Staff Report, An Assessment of Demand Response & Advanced Metering - Docket Number: AD-06-2-000, at 12 (August 2006) (FERC Staff Report), citing Chris King and Dan Delurey, "Efficiency and Demand Response: Twins, Siblings, or Cousins?" *Public Utilities Fortnightly*, 143 # 3, March 2005.

[21] PJM Interconnection, Early August Demand Response Saves PJM $650 Million (Aug. 23, 2006).

[22] Mid-Atlantic Distributed Resources Initiative, News Release Jan. 30,2007. The study by the Brattle Group "examined the effects of reducing electricity use by three percent during the highest use hours for five utility areas."

[23] NYISO Summary of Historical EDRP/SCR event performance (August 14, 2006), available at http://www.nyiso.com/public/webdocs/products/demand_response/general_info/H.

using less electricity during peak hours which are more expensive.[24] Not only does this benefit consumers who can save as much as 60% during peak days,[25] it benefits the environment as well. Reducing peak demand allows electricity plants to function at more efficient levels and to consume fewer natural resources**.** These market-based programs save market participants from having to build additional structures for generating, transmitting, and distributing electricity, and thus conserve the natural resources that would have been expended building these structures.[26]

DOE has identified other efficiency benefits that are unique to competitive retail markets: "In competitive retail markets, default-service real time pricing (RTP) can stimulate innovation by retail suppliers, and ISO/RTO-administered demand response programs can provide value-added opportunities for marketers. Demand response can provide expanded choices for customers in varying retail market structures (e.g., states with or without retail competition) through additional options to manage their electricity costs."[27]

B. Operational Efficiency

Maximum operational efficiency is an essential element in achieving overall energy efficiency and environmental benefits. Competitive wholesale electricity markets encourage continuous efficiency improvements in the generation used to meet electric demand over time. Potential new market entrants have the highest possible incentive to develop more efficient technologies and to enter the market under a competitive market structure. This is because a generation facility that uses less fuel to generate one megawatt of energy has a lower variable cost of production than a less efficient generator and, as such, has assurance that it will gain market share if it enters the market. An owner of such a facility knows that it will be able to sell its output at a lower price than less efficient competitors. As new technologies with lower heat rates and increased efficiency become available, suppliers will continue to enter the market and sell electricity at lower prices than existing sellers. This provides them with assurance of a market opportunity, and encourages investments in more efficient generation facilities, thus providing consumers with an assurance of continuing efficiency improvements over time. As more efficient generation continues to enter the market, the amount of input fuel required to generate a megawatt of electricity on average will decline. Consequently, this will increase energy security and reduce emissions associated with electricity generation.

A study by Global Energy Decisions found strong evidence that the electric utility industry has improved its operations and efficiencies primarily because of competitive forces. The study concluded that competition has dramatically improved the operating efficiency of power plants, resulting in cost savings, fewer refueling outages, and enhanced reliability.[28] Improved operating efficiencies and higher

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[24] GAO Rep. No. 04-844, Electricity Markets - Consumers Could Benefit from Demand Programs, but Challenges Remain at 22 (2004) (GAO Rep.).

[25] Id.

[26] FERC Staff Report at 11; GAO Rep. at 23.

[27] U.S. Dept. of Energy, Benefits of Demand at 29, citing Barbose et al. (2005) and Neenan et al. (2003).

[28] Putting Competition Power Markets to the Test - The Benefits of Competition in America's Electric Grid: Cost-Savings and Operating Efficiencies, Global Energy Decisions Study at ES-1, (2005); Howard J. Axelrod, The Fallacy of High Prices, 144 Public Utilities Fortnightly at 55 (Nov. 2006).

capacity factors mean that fewer new generation facilities (which may rely on foreign fuel sources) will need to be built. Moreover, there have been significant environmental improvements in New York and New England as a result of the move to competitive markets. Generating capacity increased in the New England area and power plants in New York produced less emissions.[29]

Investment in new and efficient generation has resulted in a reduction in the use of older, less efficient and higher emission power plants, thereby delivering both economic and environmental benefits to consumers. For example, the move to more efficient gas-fired generators has decreased the use of New England's oil and older gas power plants, and from 2001-2004 is estimated to have reduced annual carbon dioxide emissions by 6%, nitrogen oxide emissions by 32%, and sulfur oxide emissions by 48%.[30]

IV. Competition Promotes Technological Innovation.

Regional competitive markets have become an incubator for technologically innovative energy products and services that respond directly to consumer preferences. The substantial investments in the communications infrastructure required for these sophisticated markets to operate efficiently and reliably have created enormous opportunities for integrating real-time price signals into dispatch determinations, and for providing the information flows necessary for the efficient use of demand resources and renewable generation. The RTOs and ISOs have installed the most advanced systems for network analysis, monitoring and visualization, real-time enablers, operations planning, transaction scheduling, grid history and forecasting in the industry. Furthermore, they are on the cutting edge of technological innovations involving grid management and delivery of energy services that will redefine the way Americans use electricity.[31]

As we move more aggressively into the digital age, it will be increasingly difficult to capture the benefits from such innovation in the electricity industry without price signals and well-functioning markets. The organized regional markets will lead the way in providing the incentives and price signals that will drive innovation. In addition, the technological innovation that wholesale and retail markets will spur will radically change the usage of electricity in the future.

With the ability to respond directly to price signals in real time via smart meters installed at the point of end-use, consumers will be empowered to schedule their electricity usage according to their own individual preferences. In the power network

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[29] For example, over the past seven years, generating capacity in New England has increased 11,000 MW -- of which 9,480 MW is fired by natural gas and was installed over the last five years. This is after the region lost a total of approximately 600 MW of generation over the same period of time before restructuring. In 2003 alone, natural gas generating capacity as a portion of all fuel sources increased dramatically to 21% from 13% the year before. Cleaner burning generation translated into reduced emissions. Massachusetts power plants emitted 33% less SO_2 and 30% less NO_x over the same period. Transmission: The Critical Link, Delivering the Promise of Industry Restructuring to Customers at 5 (2006). (citations omitted).

[30] Progress of New England's Restructured Electric Industry and Competitive Markets: The Benefits of ISOs and RTOs (April 2005).

[31] For example, new generation scheduling software, which allows PJM to schedule more accurately the hours that generating units must be ready to run, was projected to save customers about $56 million annually. PJM News Release (June 24, 2004).

of the future, digital technology and two-way communication will transform energy efficiency into a resource. Efficient distributed generation will be enabled. Appliances will not only use power efficiently, but will become demand resources that may be utilized instantaneously. Myriad devices will be interconnected and able to utilize real-time information to facilitate the delivery of electricity and efficiency products seamlessly. Smart end-use appliances will manage their own operation and energy requirements, and will respond to real-time and day-ahead price signals delivered from the electricity provider via two-way communications links that run through advanced meters. This is the basic thrust of the "prices-to-devices" concept advanced by EPRI and others, which promises a quantum leap in system-wide optimization based upon more efficient dispatch and more efficient end-use of electricity. These technological advances will usher in a whole new era for electricity consumers, allowing them to transmit their preferences directly through their end-use devices to their service providers. Competitive markets are fundamental to making this a reality. Facilitating the development of the necessary communications infrastructure, providing reliable price signals, and stimulating innovation in the development and deployment of smart devices will foster this reality.[32]

At the state level, regulation can provide a barrier to the free entry of alternative energy providers to serve the needs of end use customers. Such providers would have the incentive to introduce demand response technologies and metering, and switching and monitoring technologies designed to fit the preferences and budgets of customers. "The increasingly advanced functionality of enabling technologies has the potential to provide wider power systems and societal benefits beyond those solely within the scope of demand response programs. Automated customer responses are now possible in more situations, allowing both greater customer receptivity and higher utility confidence that customers can and will respond to price-based demand response. These advances have contributed to the rekindling of interest in demand-side policies."[33]

One example of technological innovation that could not be envisioned a decade ago is the role of RTOs in the monitoring and verification of renewable portfolio standards (RPS). Organized wholesale markets greatly assist in the success of existing state RPS programs, and can do so for any future federal RPS or any energy efficiency portfolio standards, because the regional grid operator understands both the environmental attributes of the generation that it dispatches and the load profile characteristics of its entire market footprint. PJM, for example, operates a program called the Generation Attribute Tracking System (GATS). GATS is a centralized registry and accounting system that enables renewable electricity markets and information disclosure of generation attributes across the PJM region. GATS creates a certificate for each megawatt hour (MWh) of electricity production. It provides a verifiable method for complying both with renewable portfolio standard requirements of the various states, and with environmental disclosure policies which require electricity suppliers to provide information about fuel mix and environmental emissions. The system can be used by suppliers that are marketing "green" electricity products. The certificate approach and central database of relevant information

[32] See EPRI, Advancing the Efficiency of Electricity Utilization: "Prices to Devices[SM]" (2006).

[33] R.N. Boisvert et al., Benefits of Customer Participation in Wholesale Electricity Markets, 15 Electricity Journal at 43, and more generally at 41-51 (2002).

provide the tools to monitor, verify and document compliance.[34] The same system could be transformed to verify energy efficiency requirements for load serving entities.

We have all observed and taken advantage of the explosive technological innovation that was spurred by the deregulation of the telecommunications industry. There is no reason not to expect the same explosive innovation in a highly competitive electricity industry. Competition opens that door, providing opportunities for technological innovations that we can only imagine now. We must embrace this bright future.

V. Conclusion

The need for innovative solutions with respect to achieving greater energy independence and security, and promoting our environmental values, is an issue of critical national importance. While no one doubts that the United States has become overly dependent on foreign energy, much of it coming from unstable parts of the world, it will not be easy to effect a transition to a sustainable energy system that provides the same level of energy services that Americans now enjoy. Competitive electricity markets provide a critical, but often neglected, tool in this respect. By facilitating the infrastructure, and providing the price signals necessary to spur a sharp increase in renewable generation, reward conservation and demand response, enhance energy efficiency, and incentivize innovative approaches to the delivery of services, these markets enhance our energy independence and security and help our nation achieve its environmental goals.

The traditional, cost-of-service supply-side approach to electricity is simply not up to the task of promoting the scale and scope of investments, and innovation, needed to usher in a new electric power system that is responsive to the priorities of the 21st century. Well-functioning markets have always been key drivers of innovation and problem solving in the American economy. With the support of policymakers, electricity markets will spur the innovation necessary to achieve our national priorities.

[34] PJM Interconnection, PJM EIS Launches Environmental Tracking System for Electric Generation (April 15, 2005).