



COMPETE

Electricity Competition **IS** the Public Interest

1317 F Street NW
Suite 600
Washington, DC 20004
Phone: 202-745-6331
Fax: 202-783-0329

www.competecoalition.com

Competitive Electricity Markets Drive Renewables, Demand Reponse, Conservation, Efficiency and Innovation

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. Organized competitive markets provide high-quality information - embedded in price signals that reflect the forces of supply and demand - and place a premium on efficient resource use. When coupled with well-designed rules, organized markets provide proper incentives to traditional energy providers to use more efficient technologies that pollute less and allow renewable energy providers to innovate and grow. Taken together, this means cleaner air and more environmentally friendly choices for consumers.

Organized Regional Competitive Electricity Markets Promote Renewable Generation

- Renewables have flourished in organized regional competitive markets as compared to non-restructured markets:
 - Renewables growth rate in restructured states (2000-2005): 11.3percent
 - Renewables growth rate non-restructured states (2000-2005): 0.6 percent¹
- The growth in renewable net generation in restructured states shows that the transparent market prices, customer choice, and renewable standards that are available in restructured markets help to provide a favorable environment for renewables.²
- Wind power has grown disproportionately in organized regional competitive markets.
 - Over the past decade, there has been nearly 3 times as much wind energy produced in regional competitive markets than non-restructured markets.
 - In total, wind energy produced has increased 15.8 times over the period between 1997 – 2008. Of this increase, roughly 2/3 has occurred in RTO states.³
 - "Overall, wind generating capacity located within the 10 ISOs/RTOs has increased four-fold since 2004."⁴
 - As of 2009, nearly 80 percent of wind resources are located in the RTO markets.⁵ Yet only 44 percent of wind energy potential and only 53 percent of electric demand is found in those areas.⁶
 - The large geographic footprint of regionally administered transmission systems and markets, and their diverse portfolios of dispatchable generation, is very accommodating of the variable nature of wind generation.
 - 7,258.5 MW (85%) of the 8,545 MW of wind capacity that was constructed in 2008 came from competitive suppliers.⁷
 - 6,929.3 MW (81%) of the 8,545 MW of wind capacity installed last year was constructed in organized markets.⁸

¹ Energy Information Administration.

² "Competitive Electricity Markets: The Benefits for Customers and the Environment", National Economic Research Associates, Inc. (NERA), February, 2008.

³ Energy Information Administration, Form 906.

⁴ "2009 State of the Markets Report," ISO/RTO Council, September 2009.

⁵ *Id.*

⁶ "Facilitating Wind Development: the Importance of Electric Industry Structure," B. Kirby & M. Milligan, National Renewable Energy Laboratory (NREL), May 2008

⁷ American Wind Energy Association (AWEA) Annual Wind Industry Report, 2009; North American Electric Reliability Corporation (NERC) Accommodating High Levels of Variable Generation Report, 2009

America: Powered by Competition

- In all, nearly 130 new wind power plants were constructed in 2008, with over 100 of them constructed by competitive suppliers and nearly 100 in organized wholesale electricity markets.⁹
- The large wholesale markets enable a more effective exchange of services and compensation for all electricity generators, including wind power generators, helping them compete for larger shares of generation markets. Experience has shown that using well-functioning hour-ahead and day-ahead markets and expanding access to those markets are effective tools for dealing with wind's variability. A deep, liquid real-time market is the most economical approach to providing the balancing energy required with wind plants with variable outputs.¹⁰
- Regional competitive markets offer unique opportunities for wind and other variable, renewable generation, including spot markets for balancing supply and demand in real-time, elimination of "pancaked" rates between utilities, and regional transmission plans.¹¹
- Traditional inefficiencies and balkanization found in power grids are largely remedied by competitive electricity markets, alleviating discrimination against new and renewable energy sources.¹²

Competition Promotes Demand Response, Conservation and Improved Efficiency

- Competitive market price signals allow regional system operators and consumers to measure the value of demand response (the voluntary reduction of electricity use) and thereby provide a solid foundation for demand response growth.
 - During 2007, 8 percent of energy consumers in the United States participated in some kind of demand response program and the potential demand response contribution from all such programs reached close to 41,000 megawatts, or 5.8 percent, of U.S. peak demand. This represents an increase of about 3,400 MW from the 2006 estimate.¹³
 - PJM's October, 2007 Reliability Pricing Model (RPM) capacity auction cleared 893 megawatts (MW) of demand response, which is about the amount of capacity provided by a large power plant. In PJM's auction, demand response competes with, and is paid the same, as generation.¹⁴
 - NYISO has over 1,800 MW of demand response and almost 400 MW from customers registered to offer their load reductions into the wholesale market on a day-ahead basis. Demand-response resources represent 5.4percent of NYISO's 2007 forecast summer peak load.¹⁵
 - As of September 2007, more than 1,200 MW of demand response are being used to protect power system reliability in New England.¹⁶
 - During the 2006 heat wave, a total of 2,700 MW from emergency demand-response programs and voluntary conservation helped keep California's electricity running.¹⁷
 - Every day, ERCOT utilizes 1,150 MW of "Loads acting as Resources" to help ensure system reliability.¹⁸
- Competition has improved the operating efficiency of power plants, resulting in cost savings, fewer refueling outages, and enhanced reliability.¹⁹

⁸ Id.

⁹ Id.

¹⁰ *20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply*, U.S. Department of Energy, May 2008

¹¹ Letter from AWEA, NRDC, et. al. dated February 26, 2007 to FERC Chairman Kelliher, et al.

¹² Id.

¹³ "2008 Assessment of Demand Response and Advanced Metering Staff Report," Federal Energy Regulatory Commission, December, 2008.

¹⁴ "PJM Reliability Pricing Model Attracts More Generation, Demand Response," PJM Press Release, October 12, 2007.

¹⁵ "Increasing Demand Response and Renewable Energy Resources: How ISOs and RTOs are Helping Meet Important Public Policy Objectives." ISO/RTO Council, October 2007.

¹⁶ Id.

¹⁷ Id.

¹⁸ ERCOT protocols Section 6.5.4 (8)

¹⁹ "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).

- Competition has promoted “substantive” efficiency improvements in U.S. electricity generating plants, with generating plants owned by municipalities and cooperatives (insulated from market reforms) experiencing the smallest gains in operating efficiencies.²⁰
- Investment in new, efficient generation spurred by competition has resulted in a reduction in the use of older, less efficient and higher emission power plants, delivering both economic and environmental benefits to consumers. “Competition has fostered construction of efficient power plants with lower heat rates and lower operations and maintenance costs than older existing units ... Operation of these more fuel-efficient generation resources has not only put downward pressure on power prices, it has also helped reduce CO2 and other emissions.”²¹
 - Renewable generators account for 142,711 MW of the 326,429 MW of generation in the ISO and RTO interconnection queues.²²
 - Most of the new construction within the NYISO has been high efficiency, natural gas-fueled, combined cycle combustion turbine units which will offset less efficient and less environmentally friendly units.²³
 - 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 percent, and sulfur oxide emissions by 48 percent.²⁴

Competition Promotes Technological Innovation

- Organized regional competitive markets have become an incubator for technologically innovative energy products and services that respond directly to customer preferences.
- Regional electricity market operators have installed the most advanced systems in the industry for network analysis, monitoring, operations planning, scheduling, and forecasting, and are on the cutting edge of technological innovations involving grid management and delivery of energy services.²⁵
- Wider use of price-responsive demand is expected to boost the competitiveness of wholesale electricity markets, enhance grid reliability and improve efficiency of resource use. Technology and regulatory options that enable customer energy management are gaining momentum because of increasing support from electricity regulators, regional transmission operators (RTOs) and retail electricity providers. Several consumer-driven energy trends could have a significant impact on wind development.²⁶

²⁰ “Do Markets Reduce Costs? Assessing the Impact of Regulatory Restructuring on US Electric Generation Efficiency,” Kira R. Fabrizio et. al., September, 2007.

²¹ “2009 State of the Markets Report,” ISO/RTO Council, September 2009.

²² “Increasing Renewable Resources: How ISOs and RTOs are Helping Meet This Public Policy Objective.” IRO/RTO Council, October 16, 2007.

²³ “ISO Power Trends: 2005”, the New York Independent System Operator, April 2005.

²⁴ “Progress of New England’s Restructured Electric Industry and Competitive Markets: The Benefits of ISOs and RTOs”, ISO New England, April, 2005.

²⁵ 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).

²⁶ 20% Wind Energy by 2030: Increasing Wind Energy’s Contribution to U.S. Electricity Supply, U.S. Department of Energy, May 2008