

A Successful Future Forecast for Competitive Power Markets

How would increased competition affect the electric power system in the United States?

ICF Consulting examined this question in a new study for the U.S. Federal Energy Regulatory Commission (FERC). Billions of dollars and sweeping changes in regional power markets are at stake, as detailed in this report.

Charged with overseeing wholesale electric power markets throughout the nation, FERC turned to ICF Consulting to provide a rigorous and comprehensive analysis of the current policy of promoting more competitive energy markets. A central element of this policy establishes large power markets, known as Regional Transmission Organizations (RTOs), that are to be the building blocks of the competitive electricity markets of the future.

The policy scenarios developed for the FERC examine three main types of economic benefits that the Commission expects RTOs to deliver: transmission improvements, generator improvements, and improved demand response to electric price signals. Each policy scenario was crafted to show the importance of these three types of economic benefit, and to highlight the aspects of the FERC policy that might make the greatest contribution to overall policy goals.

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ICF Consulting employed its powerful computer simulation framework, the Integrated Planning Model® (IPM®), to quantify the magnitude of each of these three benefits. Designed for detailed, long-term dynamic forecasting, IPM can simulate every power plant and transmission link in the electric power system, and incorporates a fully integrated treatment of fuel and environmental linkages. Capturing such linkages is increasingly important because the electric, fuel, and environmental markets are converging. In the analysis, open access to the transmission system allows power to flow more freely, increasing the level of inter-regional trade in electricity. Improved access to distant power markets leads to wide-scale shifts in how electricity moves around the country. Higher-price export markets in Florida, for example, attract more Midwestern power, which is currently shipped to the Northeast. This forces the Northeast to rely more on local resources for electric supply. This dynamic demonstrates that electric power markets are truly large in scope. Events separated by thousands of miles—Florida's import of power and Illinois' shifting of power to the Southeast—can directly affect an area such as New York City.

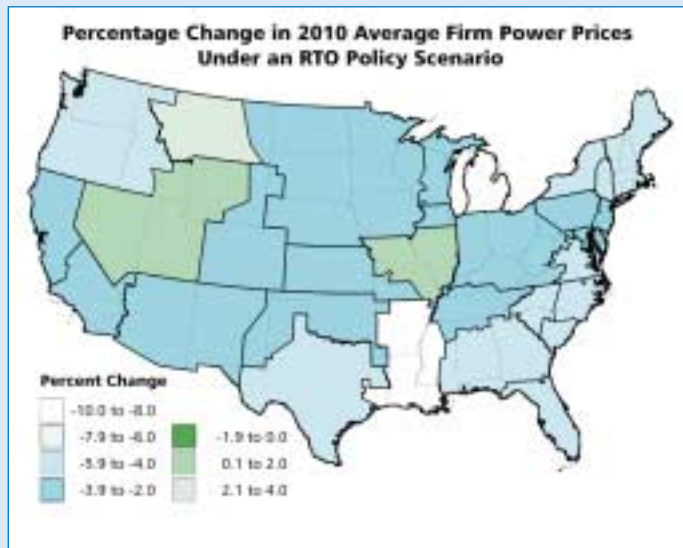
Over the 20-year time frame of the study, the results show that RTO policy as envisioned by the FERC could deliver economic benefits ranging from \$7 billion to \$60 billion. On an annual basis economic benefits could be as high as \$10 billion. ICF Consulting also forecasted electric prices, using the IPM, and the results show substantial regional variations. Although most regions likely will experience declining prices under the policy scenarios, some regions may have price increases instead. These price increases typically are due to increased exports of power to regions such as Southern California and Florida.



Changes in Energy Prices Projected in 2010

Average Firm Power Prices

Under an RTO Policy Scenario



The map above shows changes in energy prices in 2010 under one of the main policy scenarios. In this scenario, regional price increases in more competitive power markets have implications for policy makers. The tradeoffs and possible policy solutions could affect everyone in the country and one of the most critical sectors of the national economy. Electric power has a unique role in society because it affects our security, safety, economy, and environment. Few industries have such a profound and far-reaching influence.

For more information about ICF Consulting's energy practice, visit www.icfconsulting.com/energy.