



*Promoting Clean Energy and Economic
Opportunity for All Texans*

FOR IMMEDIATE RELEASE

Contact: Julie Hillrichs
June 11, 2013
(972) 971-0117
jhillrichs@vianovo.com

Natural Gas and Renewable Energy: Friends or Foes?

New report explains how natural gas and renewable energy complement each other in Texas power system and benefit the state

AUSTIN, Texas – The path to resource adequacy and low-carbon generation in the Texas electric power market will likely require the co-development and integration of both natural gas and renewable energy resources for years to come, economists at *The Brattle Group* find in a new report prepared for the Texas Clean Energy Coalition (TCEC).

Released today, the report analyzes the short- and long-term relationship between natural gas and renewable resources in the Electric Reliability Council of Texas (ERCOT) electricity market, which covers 85 percent of the state's electric load.

“Low-priced natural gas and clean renewable resources are complementary, not competing, resources to displace other fuels over the long term. Coordinated development of both will lead to a win-win for Texas and the environment,” former state Sen. Kip Averitt and TCEC chairman said of the report sponsored by the Cynthia and George Mitchell Foundation. Mitchell, a pioneer in the Texas oil and gas industry, laid the groundwork for the shale gas revolution that is taking place across the U.S.

The first of a two-part study, “Partnering Natural Gas and Renewables in ERCOT” explains how gas and renewables can be complements, depending on the time frame of analysis as well as a number of additional factors. These factors include items such as the long-run trajectory of gas prices, renewable technology costs, electricity market rules and complementary policies affecting all power generation technologies.

The paper explains that wind and solar power are inexpensive to dispatch because they have no fuel cost, and there is no charge for the sun to shine or the wind to blow. In comparison, natural gas-fired generation is more expensive to dispatch even at very low \$4/MMBTU gas prices.

“As a consequence, once wind and solar power is built, renewable resources are always cheaper to dispatch, and will be chosen to sell all their power whenever the wind blows or the sun shines regardless of the current price of gas,” Averitt said.

However, when utility planners must build new electric plants, renewables are not necessarily the lowest cost resource because of their higher up-front capital costs.

– MORE –

Brattle principal Dr. Peter Fox-Penner, a co-author of the study, noted that cheap natural gas might also help renewable energy in a forward-looking sense because blending lower-cost gas generation with the higher costs of new renewables lowers the total rate impact on consumers.

The report also cites a number of technical reasons why gas and renewables complement each other; primarily the ability of natural gas to smooth the intermittent output of wind resources. An overwhelming 96 percent of Texas' renewable capacity comes from wind resources whose output is uncontrollable and not well-matched with the time pattern of ERCOT's load. Natural gas resources are more flexible than nuclear and coal plants and can ramp up and down to complement wind output without incurring high costs, resulting in fewer spikes and dips caused by the mismatch between wind generation and demand.

According to Averitt, increasing demand for additional electric generation capacity makes Texas an ideal test bed for the development of natural gas and renewable energy technologies. Having ramped up wind generation faster than any other state, Texas' ability to integrate this renewable resource into its existing power system has the potential to be a model for others as they see the share of wind in their electricity supply increase.

Texas leads the nation in installed wind generation capacity and has the potential to further develop wind resources equal to twice the state's total annual peak electric demand. Texas is also the leading U.S. producer of natural gas, providing 28 percent of all U.S. marketed natural gas production in 2011.

Another study co-author, Dr. Jurgen Weiss, noted that the challenges facing the Texas market and an emerging set of policy options merit further discussion and analysis.

“Over the longer term, the majority of the factors driving the expansion of all forms of generation – such as carbon policies and market-based fuel prices – are beyond the exclusive control of Texas policymakers,” he said.

Fox-Penner said the transition can be helped with a mix of complementary state policy measures, from potential emission regulation to expanding the Renewable Portfolio Standard to changing market rules for ancillary services. These policies and others warrant further study to determine if they can help create the investment incentives to develop an electricity market capable of dealing with what will almost certainly be an increasing amount of intermittent generation from renewable resources over time.

The second half of this two-part study, to be finalized later this year, will utilize *Brattle's* integrated modeling system to examine the impacts of renewable policies under a variety of future scenarios.

The complete report is available at <http://www.texascleanenergy.org/2013-research.php>.

###

About the Texas Clean Energy Coalition

The Texas Clean Energy Coalition is an alliance of business and economic development groups, faith-based organizations, the Latino and African-American communities, labor, and academia dedicated to building a clean energy economy that creates jobs and economic growth in the Lone Star State. Its goal is to educate Texans and support a state energy policy that promotes clean energy markets, job growth, energy security and Texas' energy leadership in the U.S. and around the world. For more information, visit the coalition Web site at www.texascleanenergy.org.