**Presented:**
2015 Renewable Energy Law

February 17-18, 2015
Austin, Texas

# Resource Adequacy in the ERCOT Market – A Continuing Challenge

**Diana M. Liebmann**

Author contact information:
Diana M. Liebmann
Haynes and Boone, LLP
San Antonio, Texas

diana.liebmann@haynesboone.com
210-978-7418

**Resource Adequacy in the ERCOT Market—A Continuing Challenge**

Resource adequacy has been an issue that has been vetted by the Public Utility Commission of Texas ("PUCT" or "Commission") in multiple proceedings over the years. Following the opening of the competitive retail market, the PUCT initiated Project 24255, *Rulemaking Concerning Planning Reserve Margin Requirements* to examine the need for planning reserve margin requirements. Resource adequacy is essentially the reserve margin, or the quantity of megawatts available to the Electric Reliability Council of Texas, Inc. ("ERCOT") as the grid's independent system operator ("ISO") that exceed the peak demand of the combined loads drawing electricity from the grid. Reserve margin is typically calculated as a percentage of the available generation capacity divided by the peak load and expressed as a percentage. When the retail market opened, the Commission opted not to set a required reserve margin or institute a capacity market, instead determining that an energy-only market would suffice to incent the proper amount of development, particularly when at the time, ERCOT enjoyed a 30% reserve margin that was well in excess of any reserve margin the Commission would consider requiring. In the ensuing 12 years the reserve margin declined by roughly 20% to levels at or below what the Commission had established as a target 13.75% reserve margin level. After the summer of 2011, an unusually hot summer, brought ERCOT to the brink of rolling outages on a daily basis during the peak summer months, resource adequacy became a significant focus for the Commission.

The key issue with any market is the ability of that market to attract investment to support demand. The ERCOT market, unlike other organized markets in the United States, is an "energy-only market," meaning that the price of power in real-time as it is consumed will establish incentives for when new generation capacity needs to be added to the system and will attract the needed investment to support the construction of the new capacity. The energy-only market has price caps that prevent the market from being raised to the point that actually values the electricity in a scarcity situation—these price caps are intended to keep prices lower and more affordable to consumers while at the same time being high enough to signal investors that an investment in the market will be rewarded. The difficulty in the energy-only market is that as soon as the needed investment is made, the higher price signal that supported that investment no longer exists, unless the scarcity situation is so dire that multiple resources would be needed to

resolve it. This has developed into a chicken and egg situation, where the prices are higher to incent new generation, but that generation does not site because investors recognize that immediately upon siting the resource, the market prices would decline and thereby decrease the investors ability to recover their investment and any reasonable return on that investment. For an energy-only market, the only signal to the market is the energy price, which means that the price signals have to be stronger than in other markets that provide other revenue streams to investors.

Other organized markets in the United States have capacity markets that pay generators an amount to be available, a capacity payment. The energy price in those markets is much less volatile and the price caps are lower since the scarcity price is not the sole signal that investment is needed. Capacity markets operate differently in different markets and if not properly devised, can incentivize older less efficient plants to continue to run and receive a capacity payment without providing adequate payments for new generation to site. These issues plagued the early development of capacity markets and have been dealt with to varying degrees in different markets. The current issues in the ERCOT market with resource adequacy are attributable to the lack of investment in new generation necessary to achieve target reserve margins and have been magnified by the very low natural gas prices to which power prices are tied given that gas-fired generators are the marginal units in the ERCOT market.

The PUCT opened Project 40000, *Commission Proceeding to Ensure Resource Adequacy in Texas* in December of 2011. In the context of that proceeding, the PUCT, through ERCOT, commissioned a study on resource adequacy in the ERCOT market and the incentives needed to attract investment in new generation that would increase reserve margin levels. The Brattle Group performed several studies and issued its report titled "*ERCOT Investment Incentives and Resource Adequacy*" (the "Brattle Report"). The Brattle Report offered several options for increasing the reserve margin. The PUCT also opened projects to examine increasing the high and low system-wide offer caps to address incentives to investment in the "energy-only" market, one of the key recommendations from the Brattle Report. The Commission concluded two Projects in 2012 to address the high and low system-wide offer caps. In Project 37897, *PUCT Proceeding Relating to Resource Adequacy and Reserve Adequacy and Shortage Pricing*, the Commission raised the high system-wide offer cap from $3000 per

# Title search: Resource Adequacy in the ERCOT Market – A Continuing Challenge



First appeared as part of the conference materials for the
2015 Renewable Energy Law session
"Resource Adequacy"