POTOMAC ECONOMICS

2008 STATE OF THE MARKET REPORT FOR THE ERCOT WHOLESALE ELECTRICITY MARKETS

POTOMAC ECONOMICS, LTD.

Independent Market Monitor for the
ERCOT Wholesale Market

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EXECUTIVE SUMMARY

This report reviews and evaluates the outcomes of the ERCOT wholesale electricity markets in 2008. It includes assessments of the incentives provided by the current market rules and procedures, and analyses of the conduct of market participants. This report also assesses the effectiveness of the scarcity pricing mechanism pursuant to the provisions of Public Utility Commission of Texas ("PUCT") Substantive Rule 25.505(g).

Our analysis indicates that the market performed competitively in 2008. However, the report generally confirms prior findings that the current market rules and procedures are resulting in systemic inefficiencies. Many of these findings can be found in six previous reports we have issued regarding the ERCOT electricity markets.[1] These reports included a number of recommendations designed to improve the performance of the current ERCOT markets. Many of these recommendations were considered by ERCOT working groups and some were embodied in protocol revision requests ("PRRs"). Most of the remaining recommendations will be addressed by the introduction of the nodal market design in late 2010.

One of the most important functions of any electricity market is to manage the flows of power over the transmission network, limiting additional power flows over transmission facilities when they reach their operating limits. As discussed in previous reports, this is also one of the most significant shortcomings of the current ERCOT zonal market design. The zonal market structure is an inherently inefficient model for managing transmission congestion. The zonal market model also suffers from the need to predict and define ahead of time those constraints that can be reasonably managed by using zonal congestion management techniques. Given the dynamic nature of supply, demand and the topology of the transmission system, such predictions can often be incorrect. This was the case in 2008, resulting in significant price excursions in the South and

[1] "ERCOT State of the Market Report 2003", Potomac Economics, August 2004 ("2003 SOM Report"); "2004 Assessment of the Operation of the ERCOT Wholesale Electricity Markets", Potomac Economics, November 2004; "ERCOT State of the Market Report 2004", Potomac Economics, July 2005 ("2004 SOM Report"); "ERCOT State of the Market Report 2005", Potomac Economics, July 2006 ("2005 SOM Report"); "ERCOT State of the Market Report 2006", Potomac Economics, August 2007 ("2006 SOM Report"); and "ERCOT State of the Market Report 2007", Potomac Economics, August 2008 ("2007 SOM Report").

Houston Zones during the months of April, May and early June until an expedited PRR that modified ERCOT congestion management procedures was implemented.

The wholesale market should function more efficiently under the nodal market design by providing better incentives to market participants, facilitating more efficient commitment and dispatch of generation, and improving ERCOT's operational control of the system. The congestion on all transmission paths and facilities will be managed through market-based mechanisms in the nodal market. In contrast, under the current zonal market design, transmission congestion is most frequently resolved through non-transparent, non-market-based procedures.

Under the nodal market, unit-specific dispatch will allow ERCOT to more fully utilize generating resources than the current market, which frequently exhibits price spikes even when generating capacity is not fully utilized. The nodal market will also allow ERCOT to increase the economic and reliable utilization of scarce transmission resources well beyond that attainable in the zonal market. Finally, the nodal market will produce price signals that better indicate where new generation is most needed for managing congestion and maintaining reliability. In the long-term, these enhancements to overall market efficiency should translate into substantial savings for consumers.

A. Review of Market Outcomes

1. Balancing Energy Prices

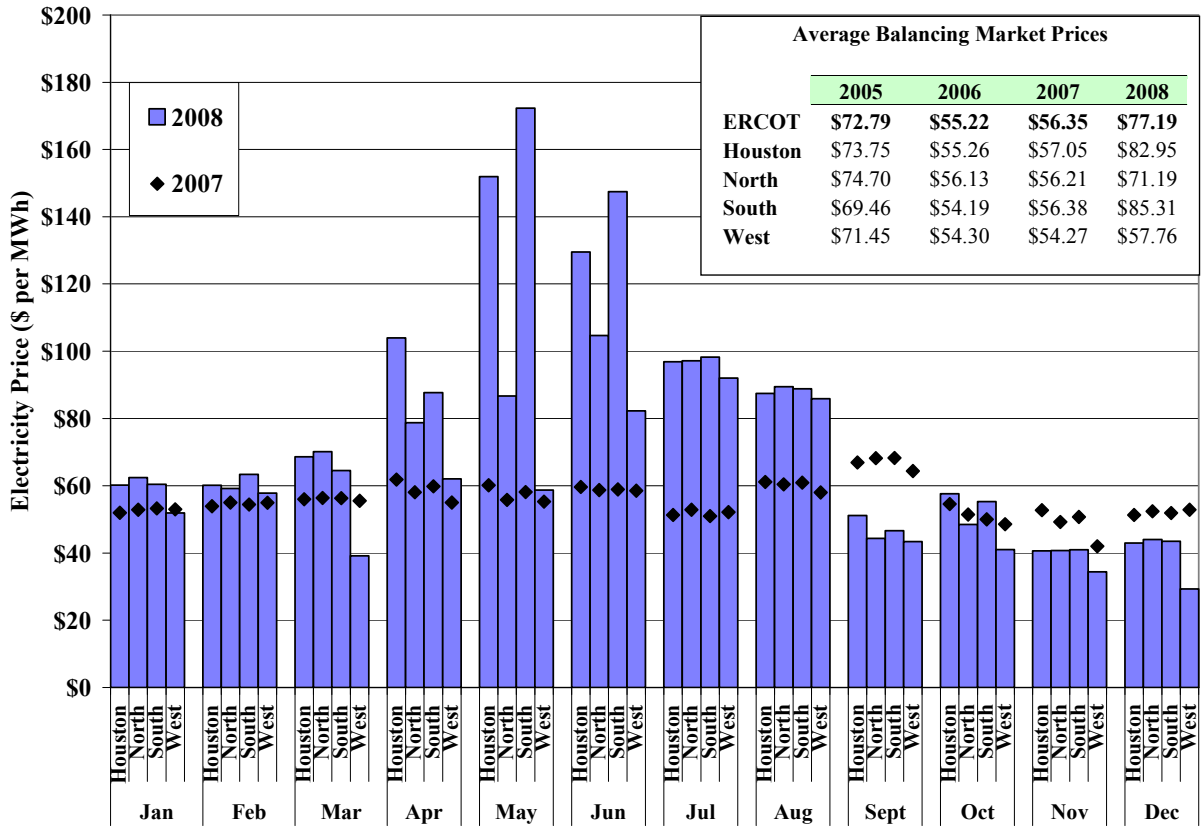
The balancing energy market allows participants to make real-time purchases and sales of energy to supplement their forward bilateral contracts. While on average only a relatively small portion of the electricity produced in ERCOT is cleared through the balancing energy market, its role is critical in the overall wholesale market. The balancing energy market governs real-time dispatch of generation by altering where energy is produced to: a) balance supply and demand; b) manage interzonal congestion, and c) displace higher-cost energy with lower-cost energy given the energy offers of the Qualify Scheduling Entities ("QSEs").

In addition, the balancing energy prices also provide a vital signal of the value of power for market participants entering into forward contracts. Although most power is purchased through

forward contracts of varying duration, the spot prices emerging from the balancing energy market should directly affect forward contract prices.

As shown in the following figure, balancing energy market prices were 37 percent higher in 2008 than in 2007, with May and June 2008 showing the largest increases from the same months in 2007. The average natural gas price in 2008 increased 28 percent over 2007 levels, with monthly changes ranging from a 87 percent increase in July ($5.91 per MMBtu in July 2007 and $11.05 per MMBtu in July 2008) to an 20 percent decrease in December ($6.63 per MMBtu in December 2007 and $5.29 per MMBtu in December 2008). Natural gas is typically the marginal fuel in the ERCOT market. Hence, the movements in wholesale energy prices from 2007 to 2008 were largely a function of natural gas price levels.

Balancing Energy Market Prices



Average Balancing Market Prices

	2005	2006	2007	2008
ERCOT	**$72.79**	**$55.22**	**$56.35**	**$77.19**
Houston	$73.75	$55.26	$57.05	$82.95
North	$74.70	$56.13	$56.21	$71.19
South	$69.46	$54.19	$56.38	$85.31
West	$71.45	$54.30	$54.27	$57.76

Although fuel price fluctuations are the dominant factor driving electricity prices in the ERCOT wholesale market, fuel prices alone do not explain all of the price outcomes. At least five other factors provided a meaningful contribution to price outcomes in 2008.