

## Texas (ERCOT) Electric Market Zones



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## Overview

### Geography

States covered: Most of Texas

Reliability regions: Electric Reliability Council of Texas (ERCOT)

Balancing authority: Electric Reliability Council of Texas (ERCOT)

Zones: Houston, North, South, West.

### RTO/ISO

ERCOT schedules and centrally dispatches the grid within a single control area, ensures transmission reliability and wholesale open access, and manages financial settlement in the wholesale power market. It also administers the Texas competitive retail market, including customer switching. ERCOT operates wholesale markets for:

- Balancing energy
- Ancillary service markets with zonal congestion management.

Market participants trade electricity bilaterally directly, through brokers and through the Intercontinental Exchange (ICE). Physical products predominantly use the ERCOT hub pricing point, but physical and financial products priced at the four ERCOT zones are also traded.

### [ERCOT 2006 State of the Markets Report](#)

Market Monitors:

Dan Jones of Potomac Economics – Independent Market Monitor, ERCOT

Jess Totten, Design Oversight and Pam Whittington Enforcement Oversight, PUC of Texas

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**Generation/Supply**

Marginal fuel type: Coal and natural gas

Generating capacity (summer 2007): 71,244 MW

Capacity reserve (summer 2007): 8,744 MW

Reserve margin (summer 2007): 14%

The region currently has excess capacity, and some generation has been mothballed or decommissioned. Reserve margins are nevertheless expected to decline to ERCOT's 12.5% target in the next two years.

**Demand**

All time peak demand: 62.5 GW (set August 13, 2007)

Peak demand growth: 0.0% (2006–2007)

Summer Peak Demand (GW): 60.2 (2005) 62.3 (2006) 62.5 (2007)

Source: *PUC of Texas*

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**Prices**

Annual Average Real-Time Price at ERCOT North Hub

**2004** \$42.63/MWh

**2005** \$66.81/MWh

**2006** \$51.98/MWh

Prices increased in 2005 as a result of disturbances to the natural gas market. Prices declined in 2006 as natural gas storage levels remained above historical ranges throughout the injection season (April through October).

**Interconnections/Seams**

The ERCOT control area is not synchronously connected to the Eastern or Western Interconnection (it is a separate interconnection) but it can exchange about 1,100 MW with SPP and Mexico through DC links. An additional 250 MW of exchange capacity with Mexico came online in 2007.

## Focal Points

**New Market Design:** In 2006, the Energy Reliability Council of Texas (ERCOT) moved forward with a design for a nodal, two-settlement market to begin in early 2009. ERCOT will not have a capacity market but starting in March 2007, ERCOT will increase its \$1,000/MWh offer cap in steps, ending at \$3,000/MWh shortly after the new market design is implemented.

**Rolling Blackout:** In April 2006 an unusual heat wave led to weather and load forecast errors that combined with seasonal maintenance outages and the sudden loss of several generators to force a rolling blackout of 1,000 MW of load lasting about two hours.

**Rapid Growth in Wind Generation:** Texas had more than 4,300 MW of wind generation capacity at the end of 2007, with 1,400 MW more under construction. ERCOT is studying how to optimize new transmission to wind-rich zones in western and western central Texas, pursuant to the state's Competitive Renewable Energy Zone initiative.

## Supply and Demand Statistics for Texas

<b>Supply Demand Statistics</b>				
	2004	2005	2006	2007
Summer Generating Capacity MW	75,056	69,380	70,756	71,244
Summer Peak Demand MW	58,506	60,214	62,339	62,500
Summer Reserves MW	15,324	9,166	8,417	8,744
Summer Reserve Margin:	26%	15%	14%	14%
Annual Load (GWh):	289,113	299,227	NA	NA
Annual Net Generation GWh	NA	NA	NA	NA

Source: Derived from FERC staff discussion with Texas Public Utility Commission

Updated October 22, 2007

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## Annual Average Bilateral Prices

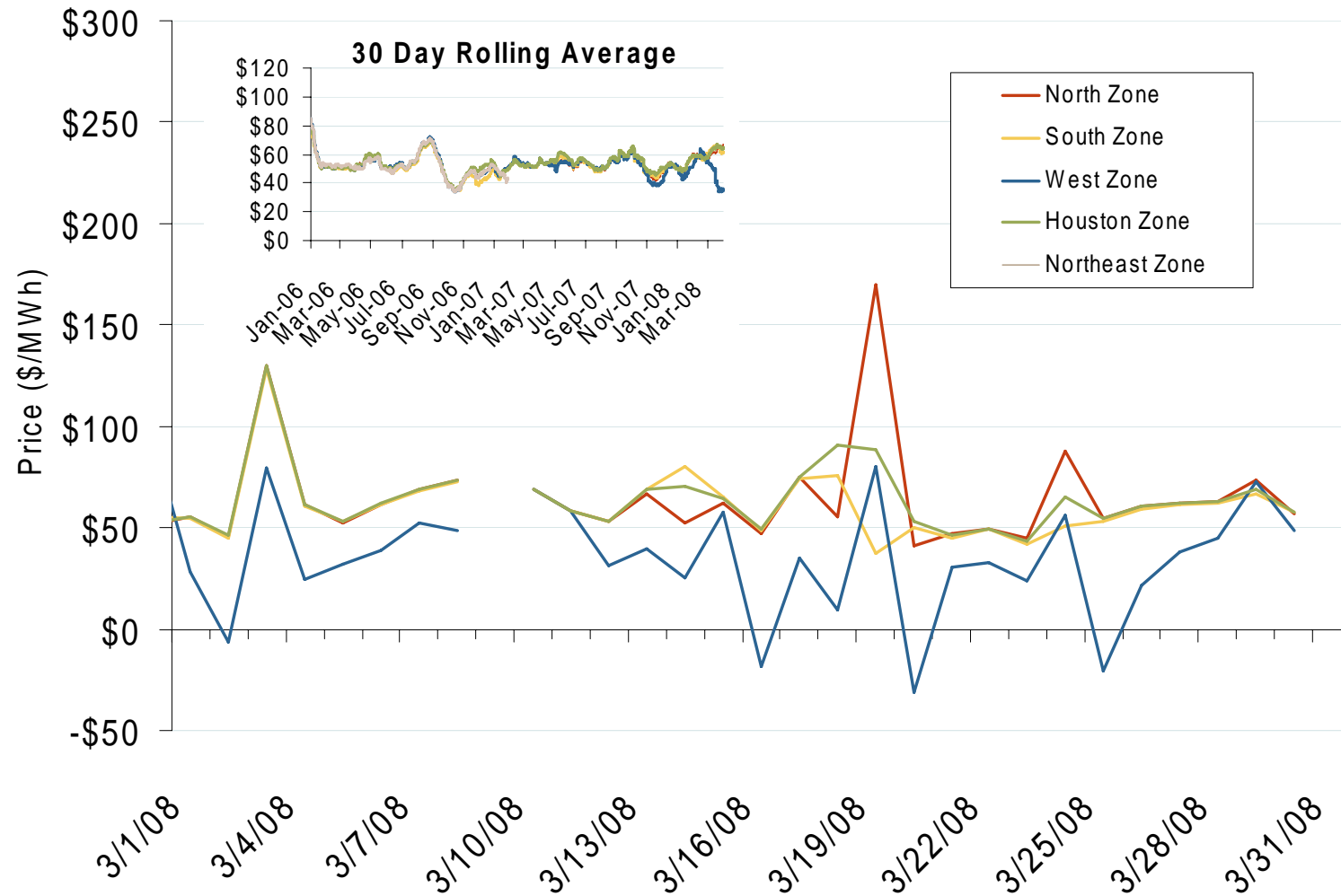
<b>Annual Average Day Ahead On Peak Prices (\$/MWh)</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>5 Years</b>
SPP North	\$67.44	\$55.84	\$60.21	\$54.04
ERCOT	\$70.96	\$57.83	\$58.27	\$56.16

Source: Derived from *Platts* data.

Updated March 7, 2008

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# Daily Average of ERCOT Real Time Prices - All Hours

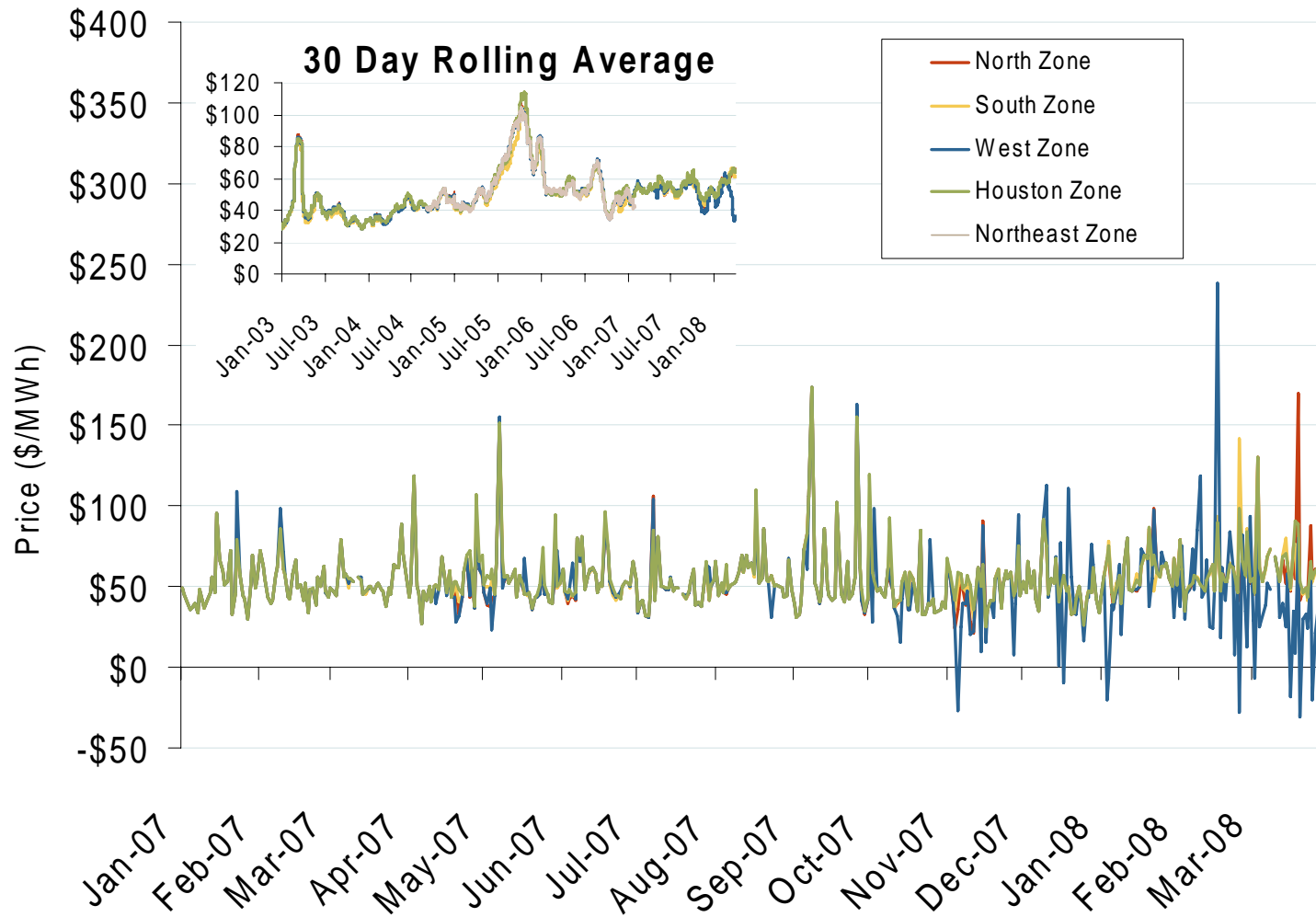


Source: Derived from ERCOT data.

Updated April 4, 2008 1132



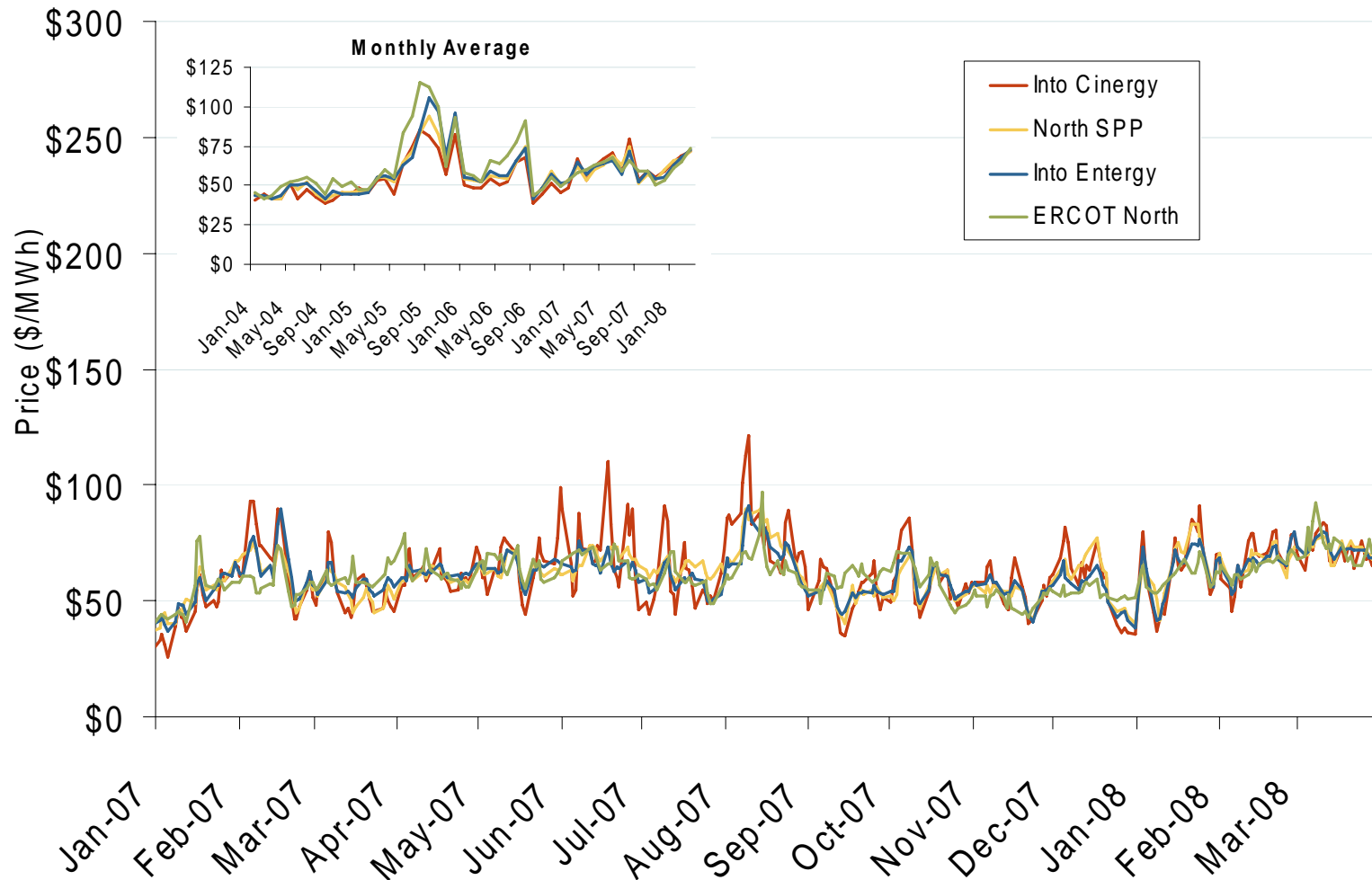
## Daily Average of ERCOT Real Time Prices - All Hours



Source: Derived from ERCOT data.

Updated April 4, 2008 1078

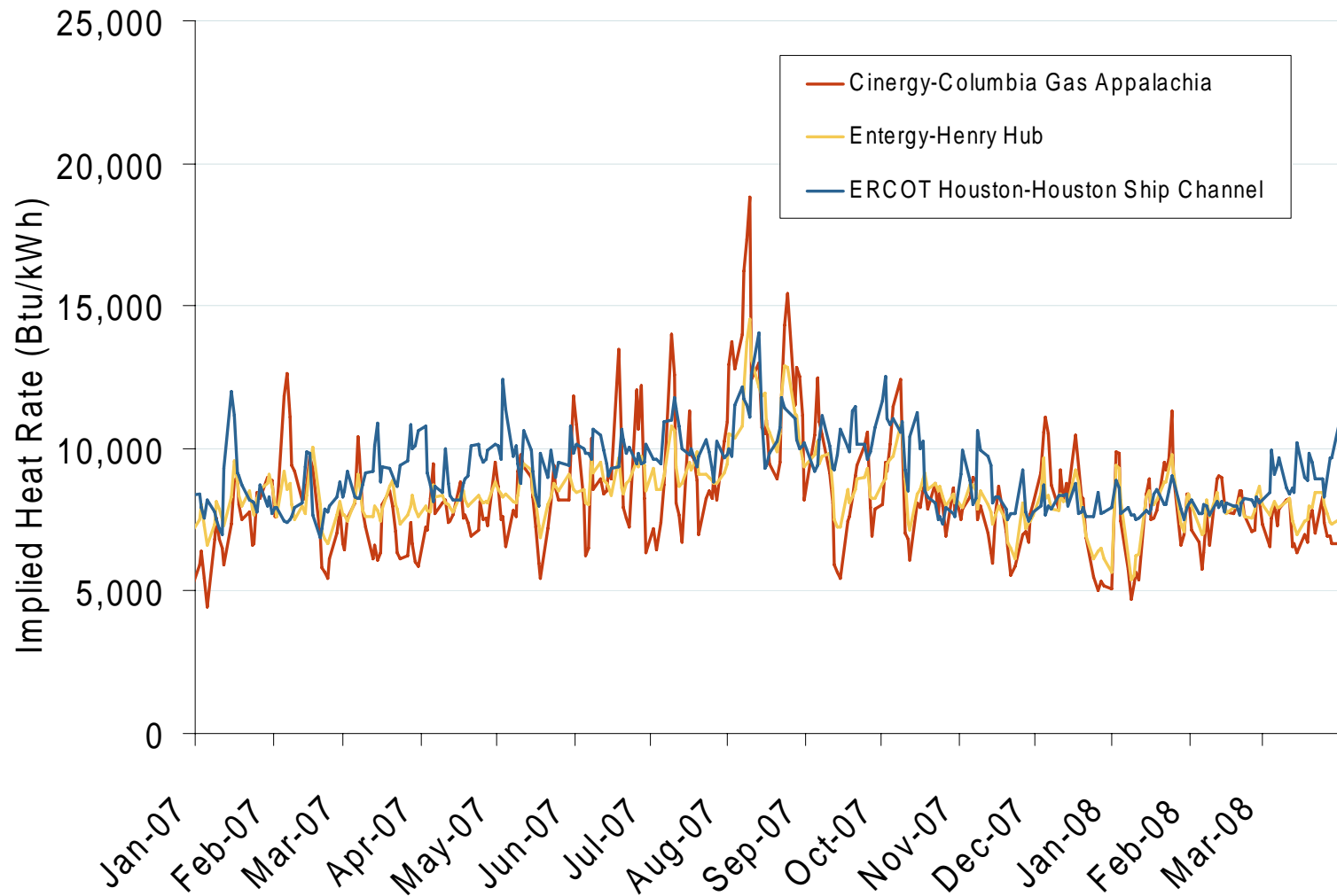
# Midwestern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated April 4, 2008 1079

## Implied Heat Rates at South Central Trading Points

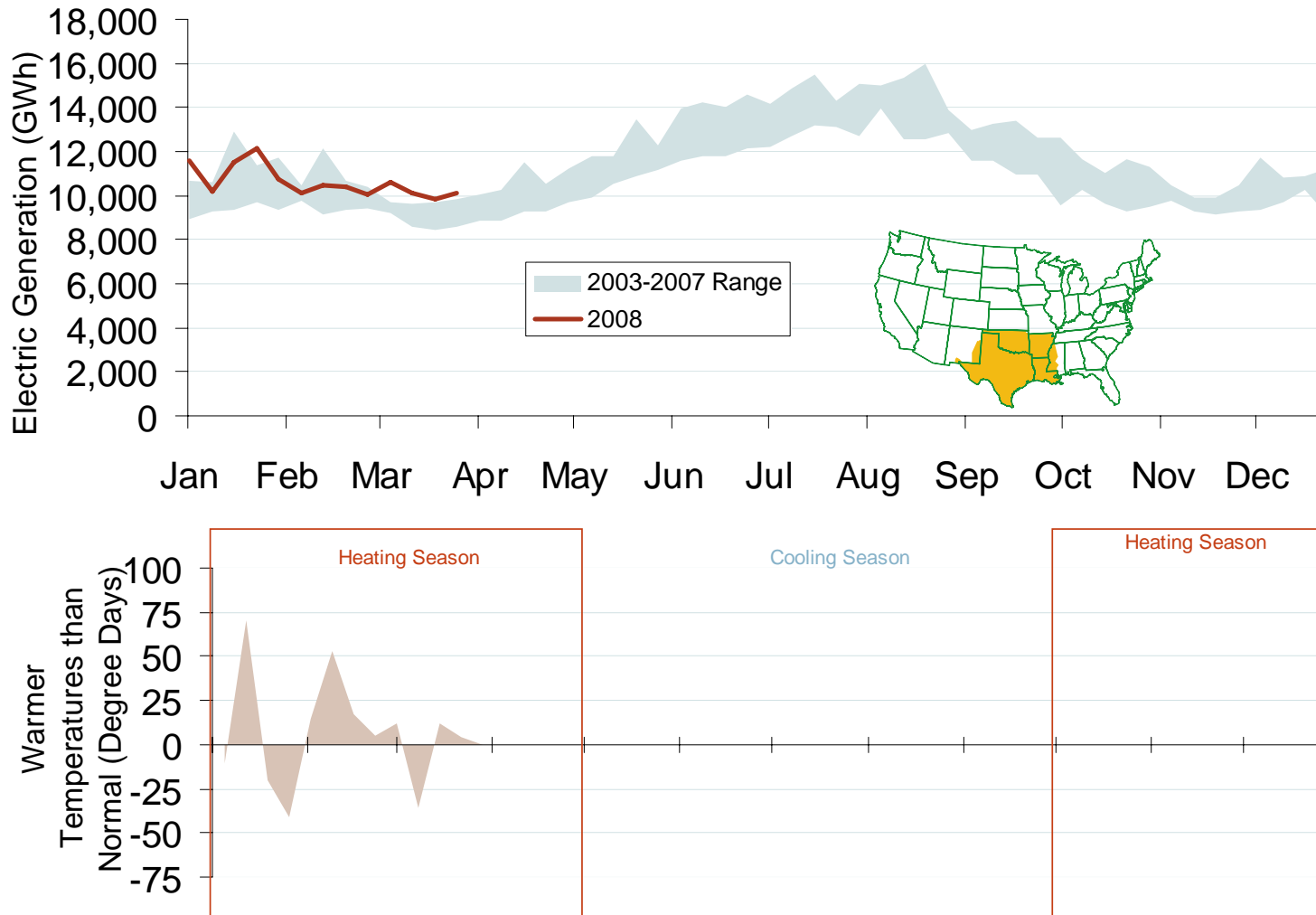


Source: Derived from *Platts* data

Updated April 4, 2008

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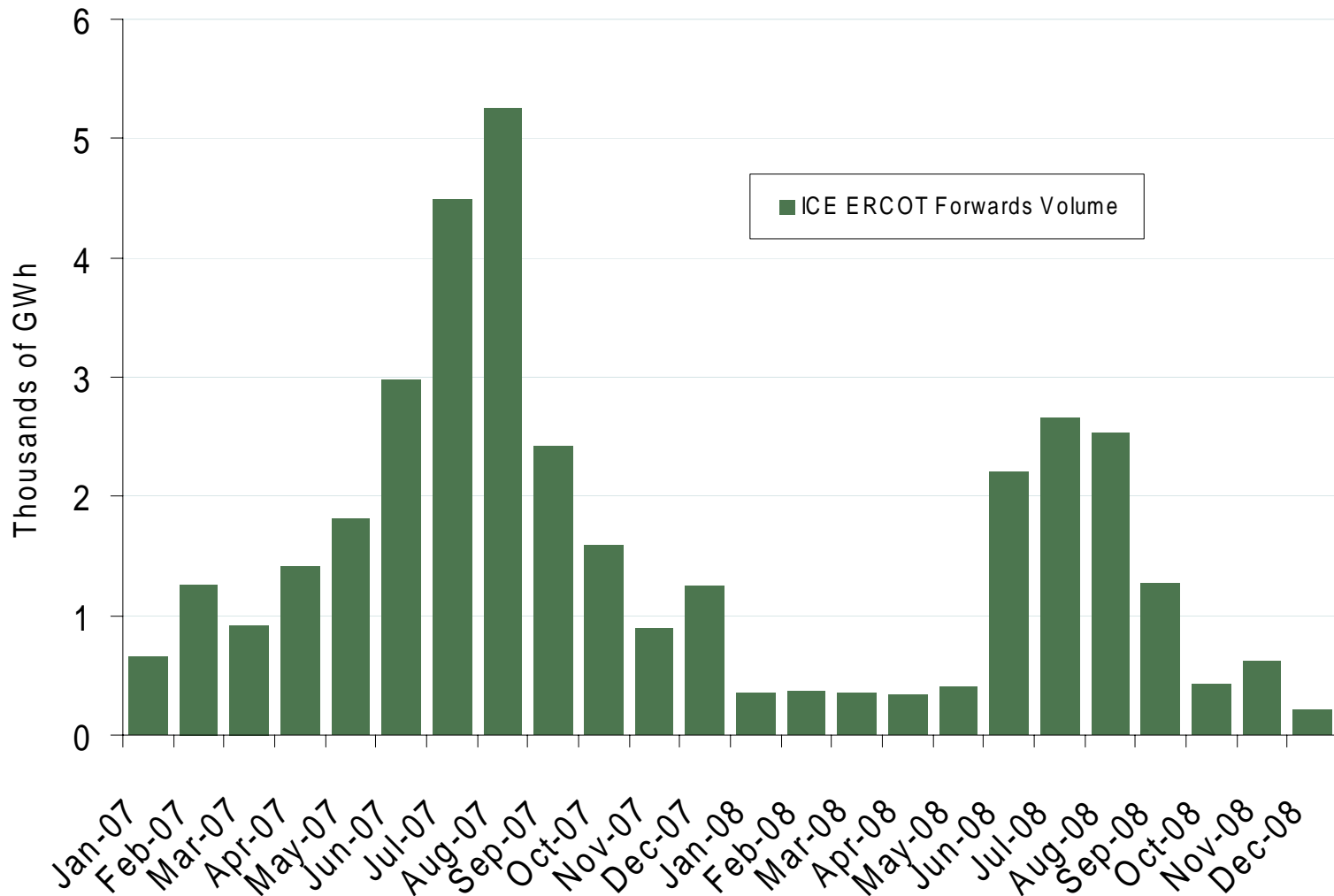
# Weekly Electric Generation Output and Temperatures South Central Region



Source: Derived from EEI and NOAA data.

Updated April 4, 2008

## ERCOT Forwards Volume



Source: Derived from ICE data. ICE forwards (physical) volume for ERCOT include on-peak monthly, dual month, quarterly, and calendar year contracts traded for each month.

Updated April 4, 2008