

## Texas (ERCOT) Electric Market Zones



**Federal Energy Regulatory Commission • Market Oversight @ FERC.gov****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 five ERCOT zones are also traded.

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**Generation/Supply**

Marginal fuel type: Coal and natural gas

Generating capacity (summer 2006): 70,756 MW

Capacity reserve (summer 2006): 8,417 MW

Reserve margin (summer 2006): 14%

The region currently has excess capacity, and some generation has recently been mothballed or decommissioned. Almost 7,000 MW of generating capacity was mothballed during summer 2006. Reserve margins are nevertheless expected to decline to ERCOT's 12.5% target in the next two years.

**Demand**

All time peak demand: 62.3 GW (set August 17, 2006)

In summer of 2006, demand reached record levels on several occasions due to extremely hot weather.

Peak demand growth: 3.5% (2006–2005)

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

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 860 MW with SPP and Mexico through DC links. An additional 250 MW of exchange capacity with Mexico is expected to come online in 2007.

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**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.

**TXU Charged with Price Manipulation:** The Texas Public Utility Commission proposed a \$210 million fine against TXU after a market monitor's report alleged economic withholding of generating capacity to raise prices in ERCOT's balancing market to levels as high as \$200/MWh or more above marginal costs during times TXU was a pivotal supplier (when demand in the market cannot be satisfied without the resources of this supplier). TXU denies the charges.

## Supply and Demand Statistics for Texas

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

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

Updated February 2, 2007

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## Yearly Average of RTO Real-Time Prices – All Hours

**Annual Average Real-Time Ahead Prices (\$/MWh)**

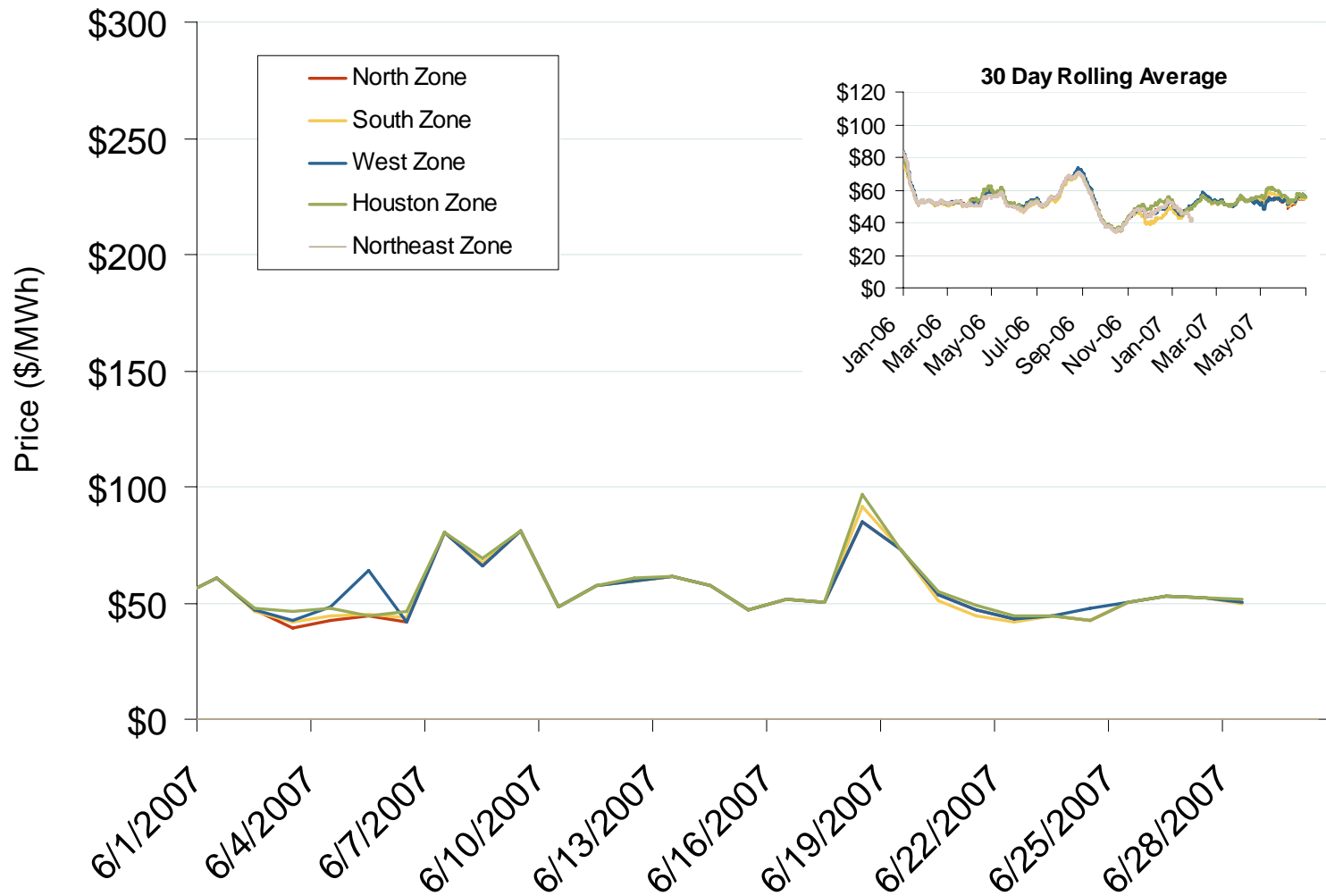
	2005	2006	5 Years
North Zone	\$66.81	\$51.98	\$45.67
South Zone	\$63.91	\$50.66	\$43.65
West Zone	\$66.83	\$51.91	\$45.23
Houston Zone	\$67.77	\$52.59	\$45.76
Northeast Zone	\$66.18	\$51.34	NA

Source: Derived from ERCOT data.

Updated February 2, 2007

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# Daily Average of ERCOT Real Time Prices - All Hours

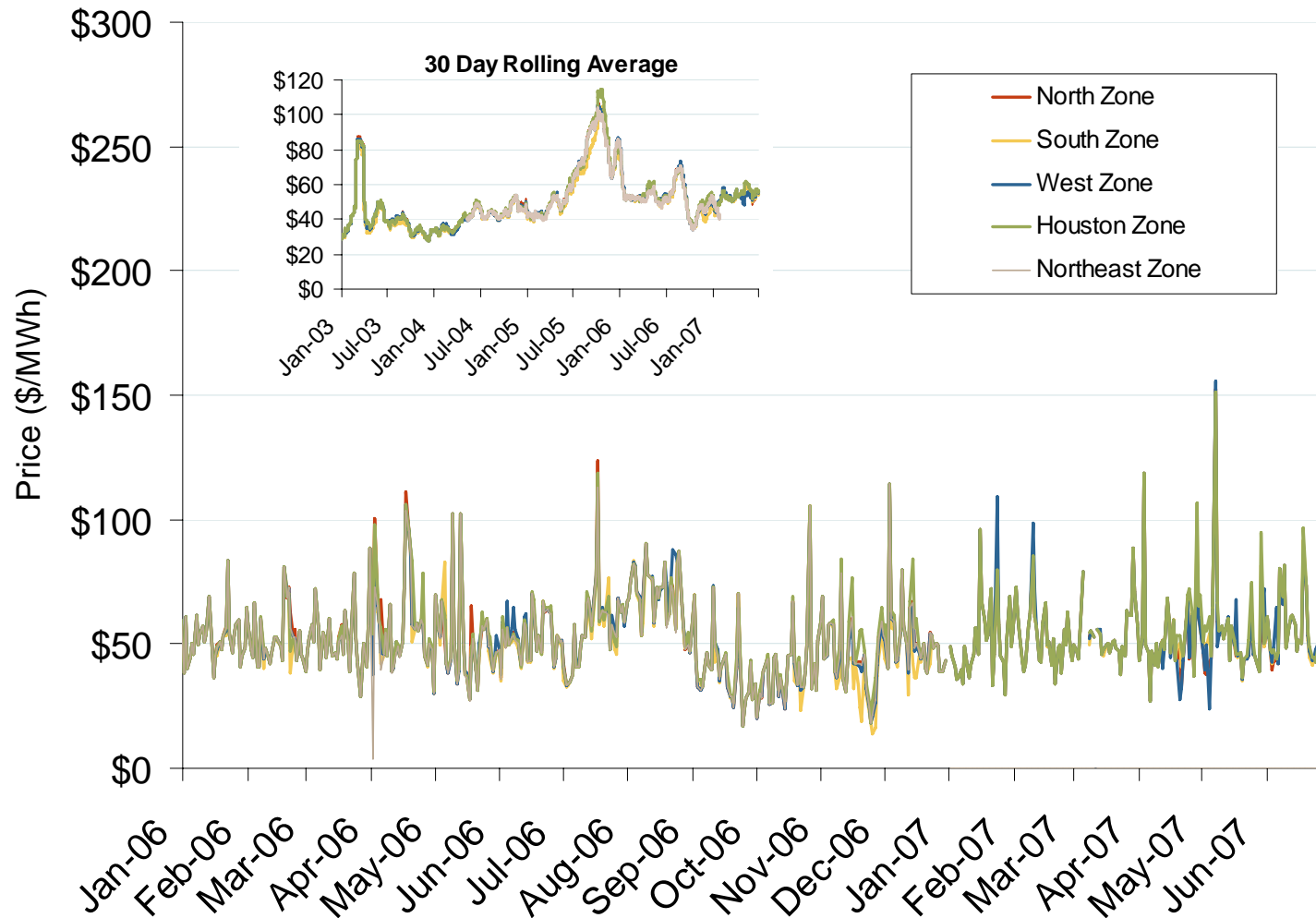


Source: Derived from ERCOT data.

Updated July 7, 2007



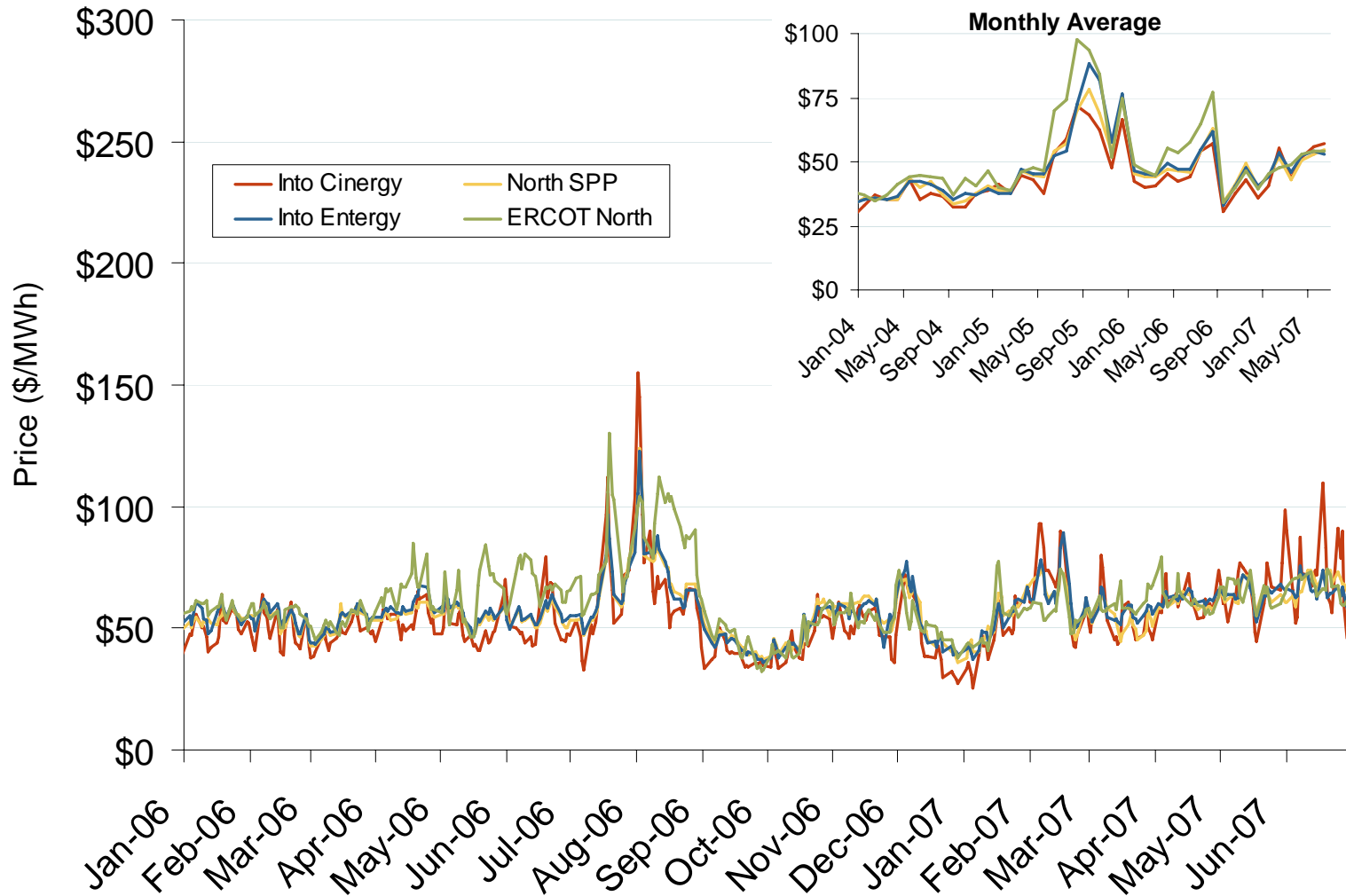
# Daily Average of ERCOT Real Time Prices - All Hours



Source: Derived from ERCOT data.

Updated July 7, 2007

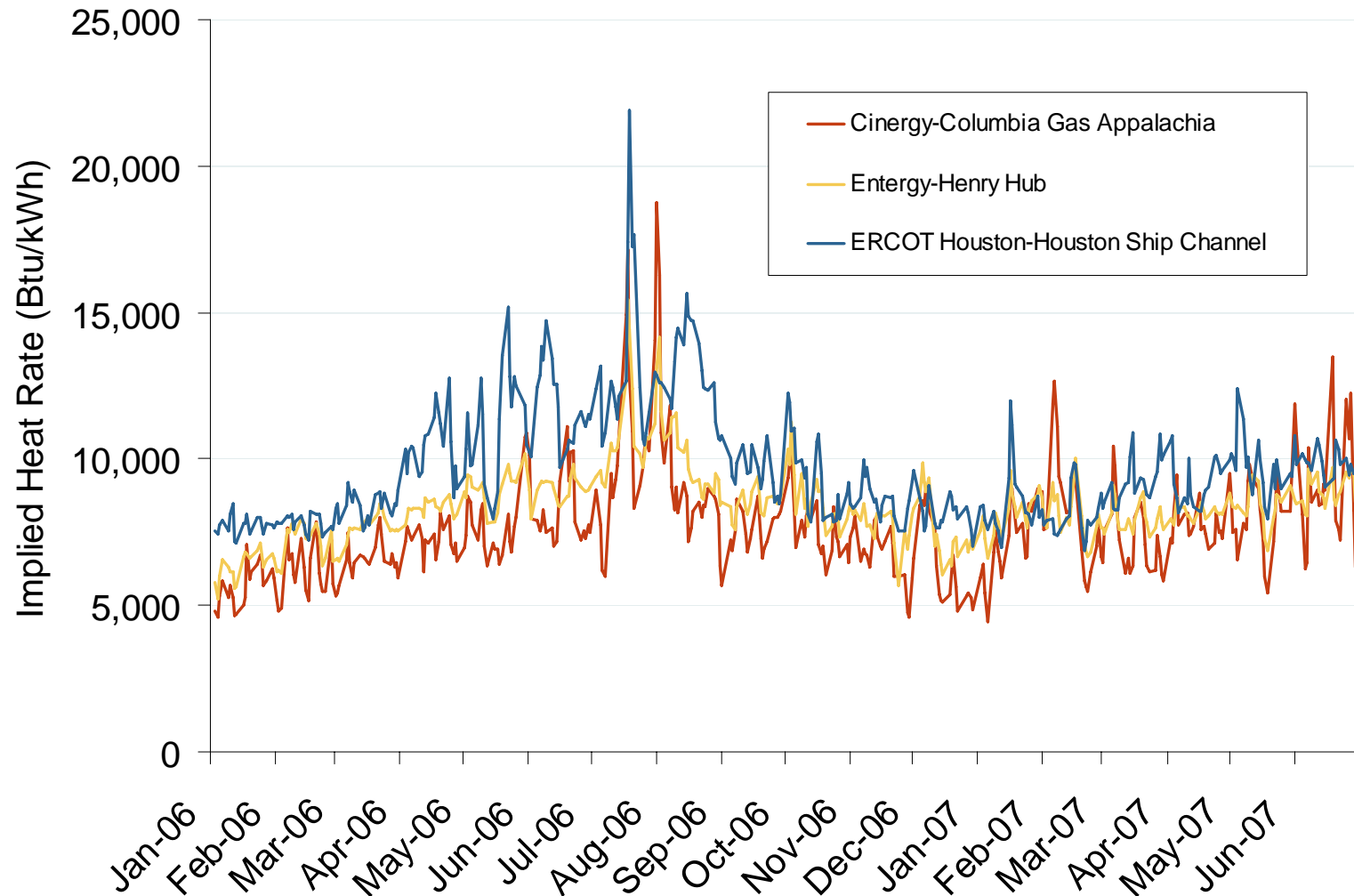
# Midwestern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from Platts data.

Updated July 7, 2007

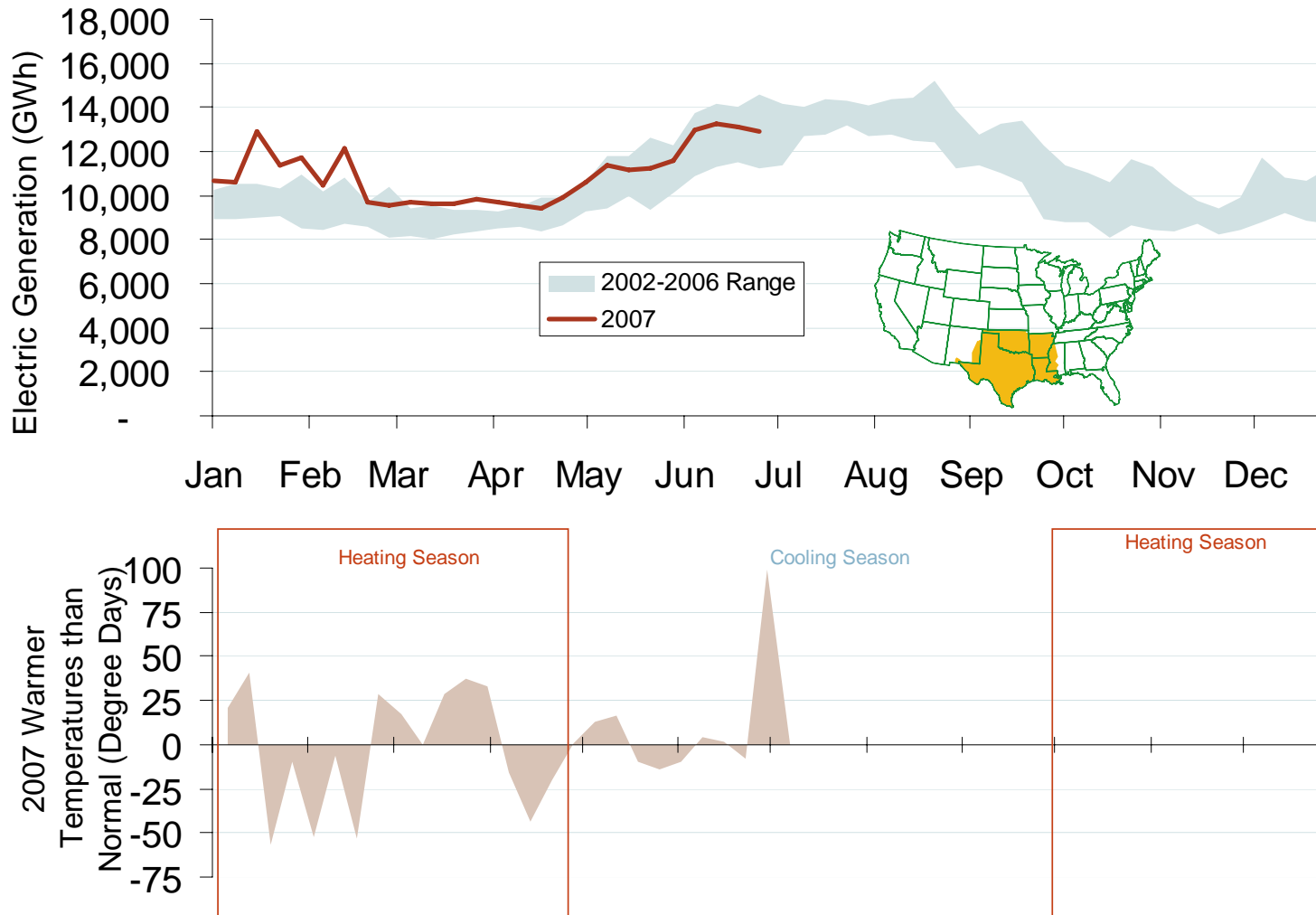
## Implied Heat Rates at South Central Trading Points



Source: Derived from Platts data

Updated July 7, 2007

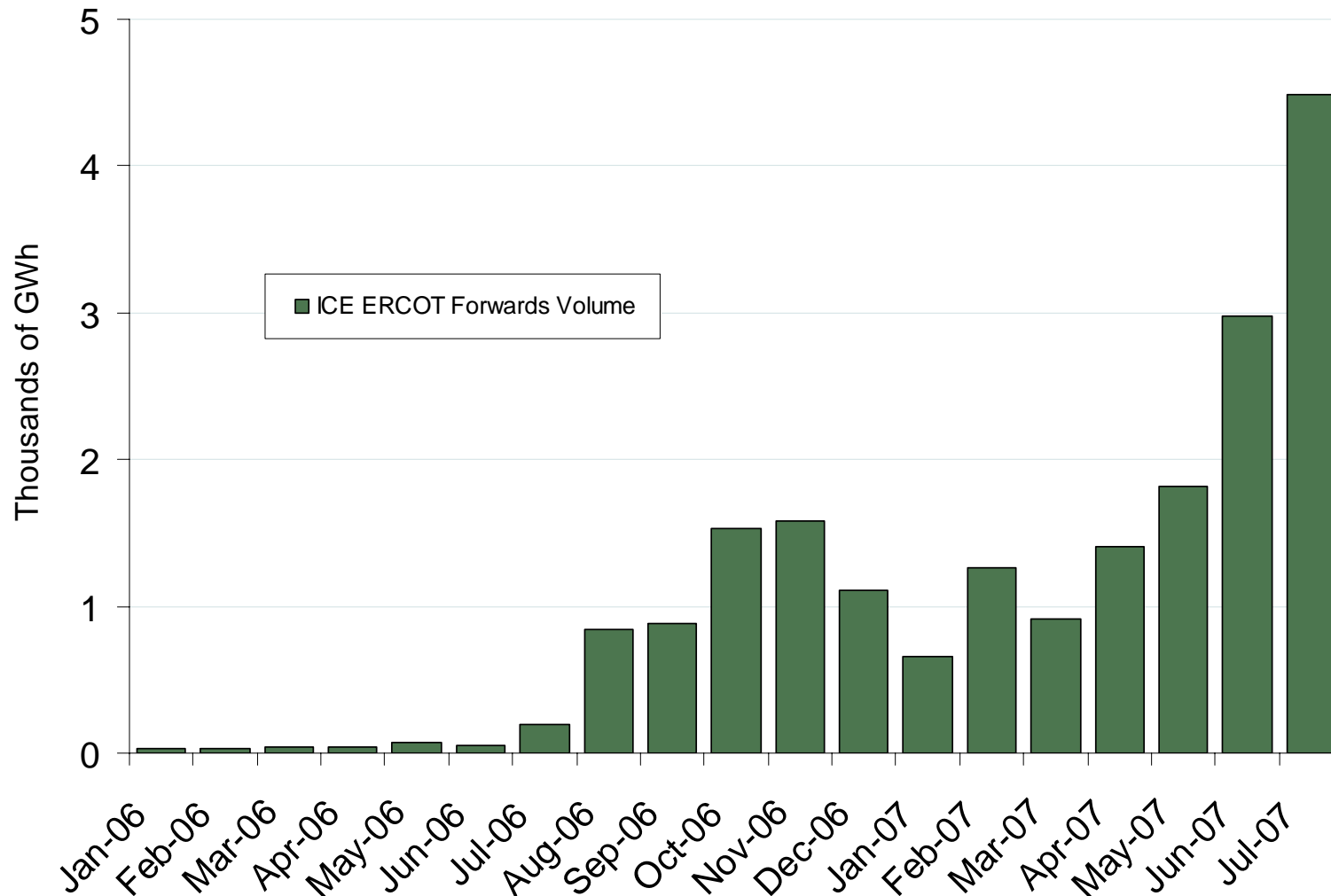
# Weekly Electric Generation Output and Temperatures South Central Region



Source: Derived from EEI and NOAA data.

Updated July 7, 2007

## ERCOT Forward Volumes



Source: Derived from ICE data. ICE on-peak forward volumes are for ERCOT and include monthly, dual monthly, quarterly, and calendar year contracts traded for each month.

Updated July 7, 2007