

# Monthly Flash Estimates of Electric Power Data

Data for:  
December 2008

## Section 1. Commentary

Temperatures throughout the contiguous United States were near normal for the fourth straight month in December 2008. However, regional differences in temperature occurred as the western, northwest, and central United States experienced colder than normal temperatures while much of the Southeast experienced warmer than normal temperatures. Accordingly, heating degree days for the contiguous United States as a whole were 0.9 percent above the average for the month of December 2008 and 3.0 percent above a warmer December 2007.

In December 2008, retail sales of electricity increased 0.7 percent compared to December 2007. For the 12-month period ending December 2008, retail sales of electricity decreased 0.3 percent when compared to the previous 12-month period ending December 2007. The average U.S. retail price of electricity continued to show an upward trend in December 2008 from the previous year, increasing 8.2 percent from December 2007. This increase in average U.S. retail price from December 2007 can be attributed to higher fuel costs involved in the generation of electricity. For the 12-month period ending December 2008, the U.S. average retail price of electricity increased 7.2 percent over the previous 12-month period ending December 2007.

Total electric power generation in the United States decreased by 1.3 percent from December 2007. For the 12-month period ending December 2008, total electric power generation decreased 1.0 percent when compared to the previous 12-month period ending December 2007 (the change in electric power generation does not necessarily coincide with the change in retail sales of electricity because utility billing cycles tend to lag electricity production in many areas). Conventional hydroelectric generation was 12.0 percent higher than for December 2007 as drought conditions began to subside throughout much of the contiguous United States. For the 12-month period ending December 2008, conventional hydroelectric generation increased by 6.6 percent over the previous 12-month period ending December 2007.

Coal generation in the contiguous United States decreased 3.3 percent when compared to December 2007, while consumption of coal to generate electricity also decreased 3.3 percent over the same time period. Similarly, natural gas generation decreased 5.3 percent compared to December 2007, while consumption of natural gas to generate electricity also decreased 5.3 percent over the same time period. Petroleum liquids generation continued to show an upward trend, increasing 14.6 percent when compared to December 2007.

For the 12-month period ending December 2008, coal, natural gas, and petroleum liquids generation decreased by 1.2 percent, 2.8 percent, and 36.2 percent, respectively, over the previous 12-month period ending December 2007. Accordingly, coal, natural gas, and petroleum liquids consumption decreased by 0.3 percent, 2.1 percent, and 33.6 percent, respectively, over the previous 12-month period ending December 2007.

Total coal stocks in the contiguous United States decreased 0.4 percent from the previous month as the country entered into winter. The November 2008-to-December 2008 change in coal stocks consisted of a 0.1-percent decrease for bituminous coal and a 0.8-percent decrease for subbituminous coal. However, due to the decrease in total electricity generation in the United States observed in the year 2008, total coal stocks increased 9.5 percent from December 2007 to December 2008. Petroleum liquids stocks were 2.0 percent higher than November 2008.

References for weather data:

<http://www.ncdc.noaa.gov/oa/climate/research/2008/dec/national.html>

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## Section 2. Key Indicators of Generation, Consumption & Stocks

Data for:  
December 2008

### Table 2.1 Key Generation Indicators

	Total Generation	Nuclear Generation	Hydroelectric Generation
<b>Total Change From:</b>			
November 2008	9.8%	14.2%	20.3%
December 2007	-1.3%	0.6%	12.0%
<b>Year to Date</b>	<b>-1.0%</b>	<b>-0.2%</b>	<b>6.6%</b>
<b>Latest 12 Month Period*</b>	<b>-1.0%</b>	<b>-0.2%</b>	<b>6.6%</b>

### Table 2.2 Key Consumption and Stocks Indicators

	Natural Gas Consumption	Coal Consumption	Coal Stocks
<b>Total Change From:</b>			
November 2008	1.1%	8.6%	-0.4%
December 2007	-5.3%	-3.3%	9.5%
<b>Year to Date</b>	<b>-2.1%</b>	<b>-0.3%</b>	<b>n/a</b>
<b>Latest 12 Month Period*</b>	<b>-2.1%</b>	<b>-0.3%</b>	<b>n/a</b>

\* Change in total consumption or generation for the latest 12 month period (January 2008 to December 2008) compared to the prior 12 month period (January 2007 to December 2007).

## Section 3. Month-to-Month Comparisons: Generation, Consumption and Stocks (Total)

Data for:  
December 2008

### Net Generation (Total, All Sectors)

Table 3.1 Total Net Generation (All Sectors)

Net Generation (thousand megawatthours)	Dec-08	Dec-07	% Change	Nov-08	% Change
Coal	168,119	173,830	-3.3%	155,002	8.5%
Petroleum Liquids	3,211	2,803	14.6%	2,097	53.1%
Natural Gas	63,285	66,808	-5.3%	61,461	3.0%
Nuclear	72,407	71,983	0.6%	63,408	14.2%
Hydroelectric Conventional	20,552	18,342	12.0%	17,081	20.3%
All Other	14,158	12,525	13.0%	12,097	17.0%
Total (All Energy Sources)	341,732	346,290	-1.3%	311,146	9.8%

### Fossil Fuel Consumption for Electric Generation (Total, All Sectors)

Table 3.2 Total Consumption of Fossil Fuels for Electric Generation (All Sectors)

Consumption of Fossil Fuels	Dec-08	Dec-07	% Change	Nov-08	% Change
Coal (Thousand Short Tons)	88,354	91,363	-3.3%	81,383	8.6%
Petroleum Liquids (Thousand Barrels)	5,933	4,724	25.6%	3,625	63.7%
Natural Gas (Million Cubic Feet)	490,182	517,378	-5.3%	484,860	1.1%

### Fossil Fuel Stocks (Electric Power Sector)

Table 3.3 Total Fossil Fuel Stocks (Electric Power Sector)

Fossil Fuel Stocks	Dec-08	Dec-07	% Change	Nov-08	% Change
Coal (Thousand Short Tons)	165,595	151,221	9.5%	166,298	-0.4%
Petroleum Liquids (Thousand Barrels)	40,922	44,433	-7.9%	40,135	2.0%

#### Notes:

- Coal consumption and generation includes subbituminous coal, bituminous coal, anthracite, lignite, waste coal and coal synfuel.
- Coal stocks include the coal categories listed immediately above except for waste coal. The bituminous category includes anthracite and coal synfuel.
- Petroleum Liquids consumption and generation includes distillate oil, residual oil, jet fuel, kerosene and waste oil.
- Petroleum Liquids stocks includes the oil categories listed immediately above, except waste oil is excluded from data collected for January 2004 and subsequently. Data prior to 2004 contains small quantities of waste oil.
- The "All Other" generation category includes biomass, solar, wind, geothermal, hydroelectric pumped storage, petroleum coke, other gases, and other miscellaneous energy sources.

# Section 4. Net Generation Trends

Data for:  
December 2008

**Table 4.1 Trends in Total Generation by Fuel (All Sectors)**  
Millions of Kilowatthours

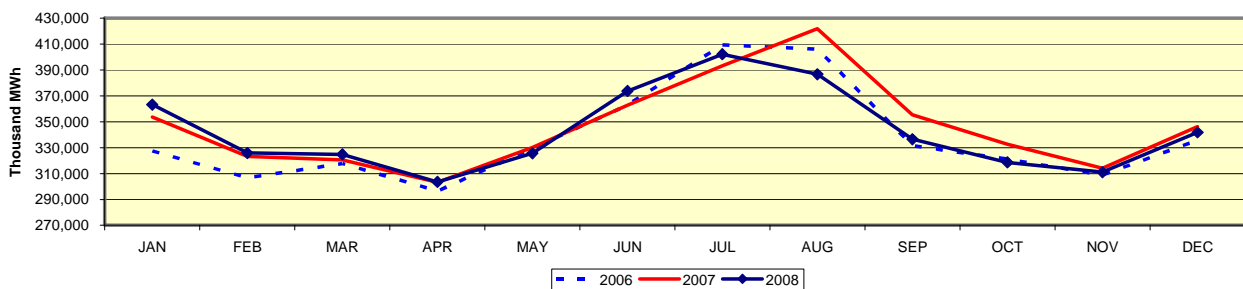
### Year-to-Date Comparison

	Starting Month	Ending Month	Coal	Petroleum Liquids	Natural Gas	Nuclear	Hydroelectric Conventional	All Other	Total
<b>Current Period</b>	January 2008	December 2008	1,992,256	31,601	871,512	805,098	263,772	149,401	4,113,640
<b>Prior Period</b>	January 2007	December 2007	2,016,456	49,505	896,590	806,425	247,510	140,259	4,156,745
<b>Percent Difference</b>			-1.2%	-36.2%	-2.8%	-0.2%	6.6%	6.5%	-1.0%

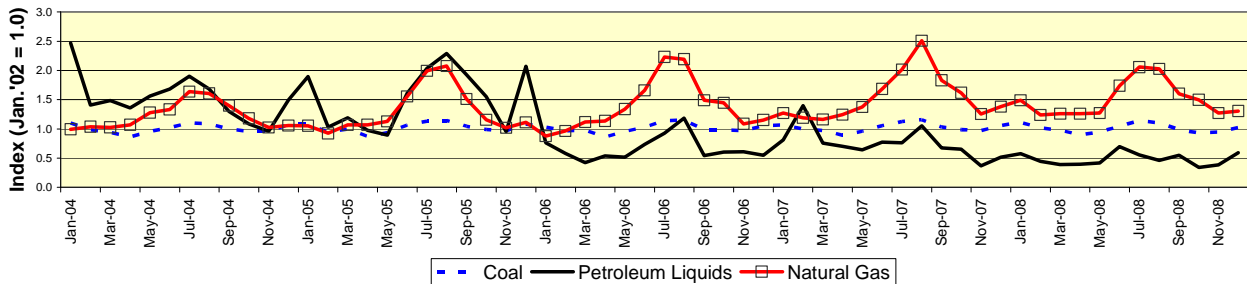
### Comparison to Prior Twelve-Month Period

	Starting Month	Ending Month	Coal	Petroleum Liquids	Natural Gas	Nuclear	Hydroelectric Conventional	All Other	Total
<b>Current Period</b>	January 2008	December 2008	1,992,256	31,601	871,512	805,098	263,772	149,401	4,113,640
<b>Prior Period</b>	January 2007	December 2007	2,016,456	49,505	896,590	806,425	247,510	140,259	4,156,745
<b>Percent Difference</b>			-1.2%	-36.2%	-2.8%	-0.2%	6.6%	6.5%	-1.0%

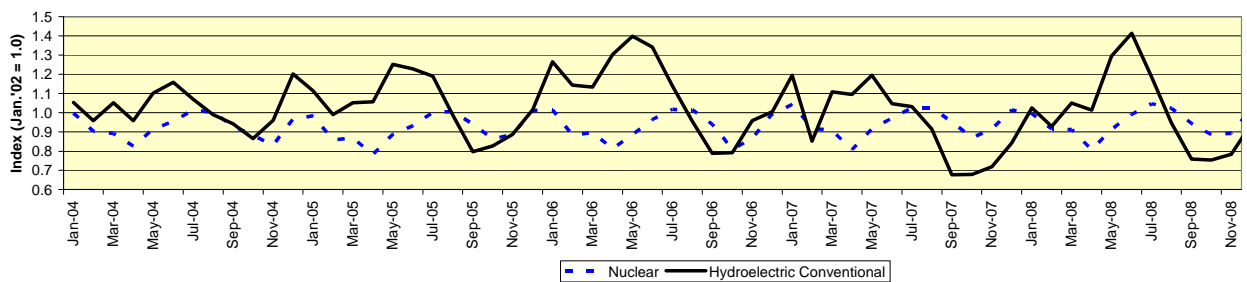
**Figure 4.1 Trends in Total Net Generation (All Sectors): 2006, 2007, and 2008**



**Figure 4.2 Fossil Fuel Generation Trends (Values as Indices, Jan. 2002 = 1.0)**



**Figure 4.3 Nuclear and Hydroelectric Generation Trends (Values as Indices, Jan. 2002 = 1.0)**



# Section 5. Fossil Fuel Consumption Trends

Data for:  
December 2008

**Table 5.1 Trends in Fossil Fuel Consumption For Electric Generation, Total (All Sectors)**

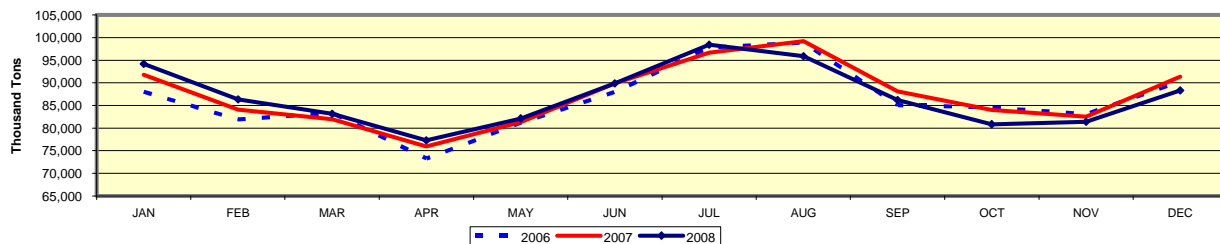
### Year-to-Date Comparison

	Starting Month	Ending Month	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Natural Gas (Million Cubic Feet)
<b>Current Period</b>	January 2008	December 2008	1,044,156	54,735	6,943,872
<b>Prior Period</b>	January 2007	December 2007	1,046,795	82,433	7,089,342
<b>Percent Difference</b>			-0.3%	-33.6%	-2.1%

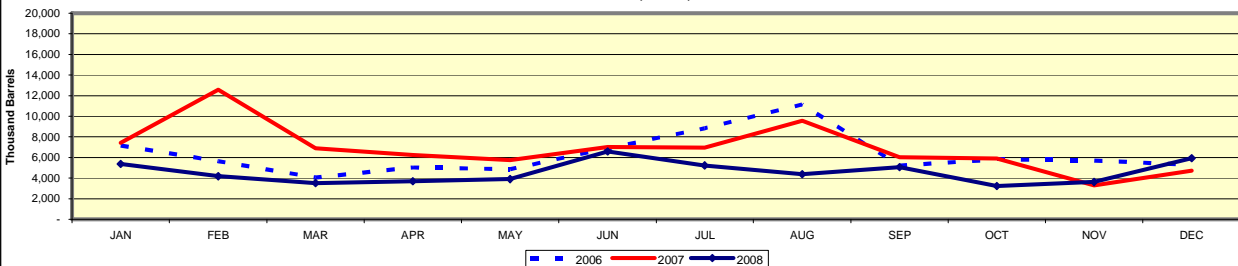
### Comparison to Prior 12 Month Period

	Starting Month	Ending Month	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Natural Gas (Million Cubic Feet)
<b>Current Period</b>	January 2008	December 2008	1,044,156	54,735	6,943,872
<b>Prior Period</b>	January 2007	December 2007	1,046,795	82,433	7,089,342
<b>Percent Difference</b>			-0.3%	-33.6%	-2.1%

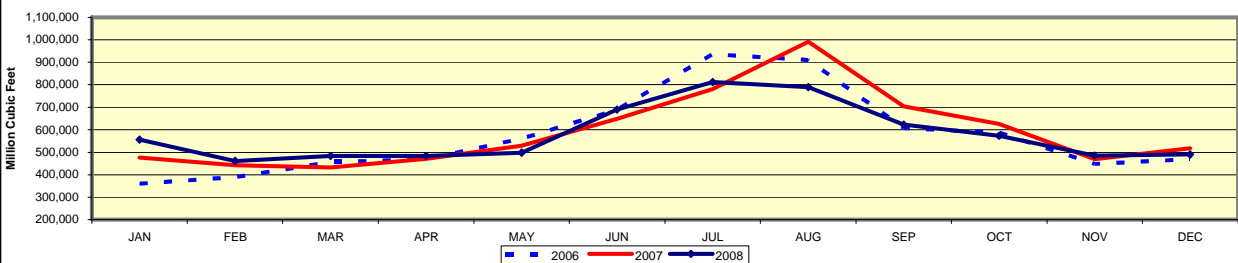
**Figure 5.1 Trend in Total Coal Consumption For Electric Generation (All Sectors): 2006, 2007, and 2008**



**Figure 5.2 Trend in Total Petroleum Liquids Consumption For Electric Generation (All Sectors): 2006, 2007, and 2008**



**Figure 5.3 Trend in Total Natural Gas Consumption For Electric Generation (All Sectors): 2006, 2007, and 2008**

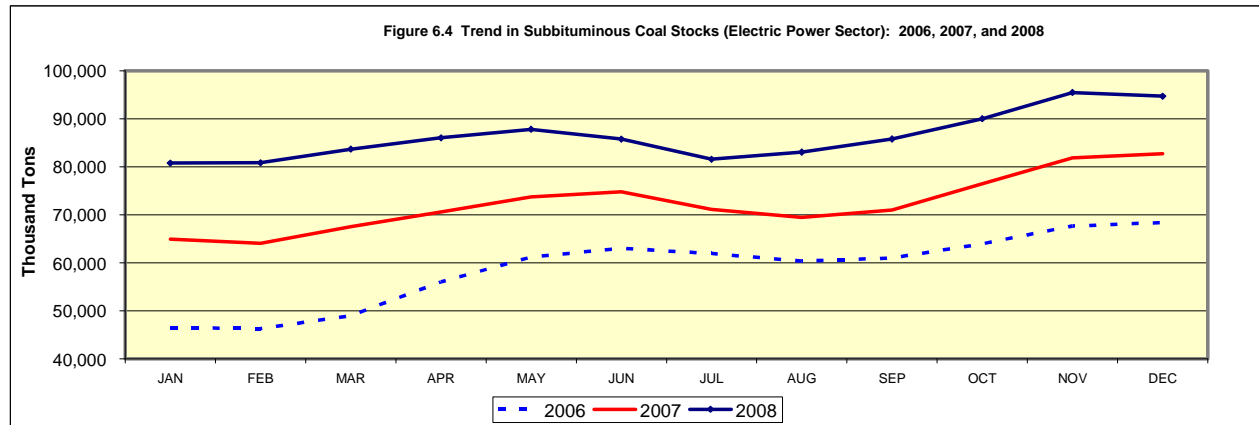
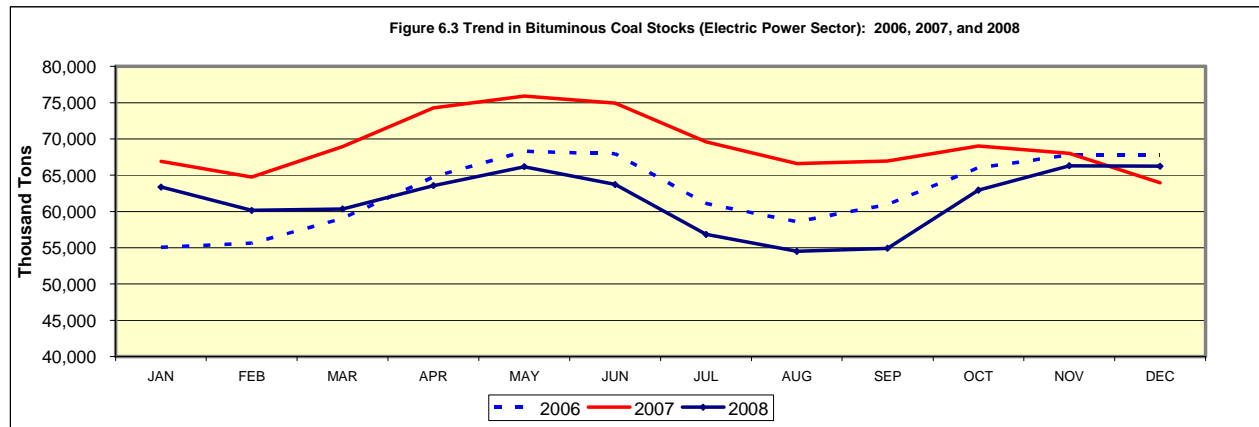
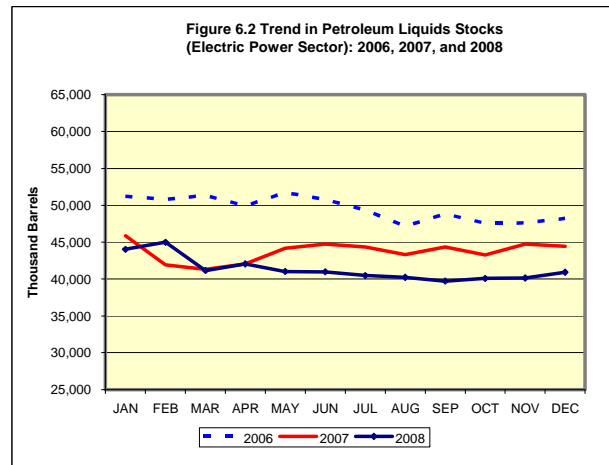
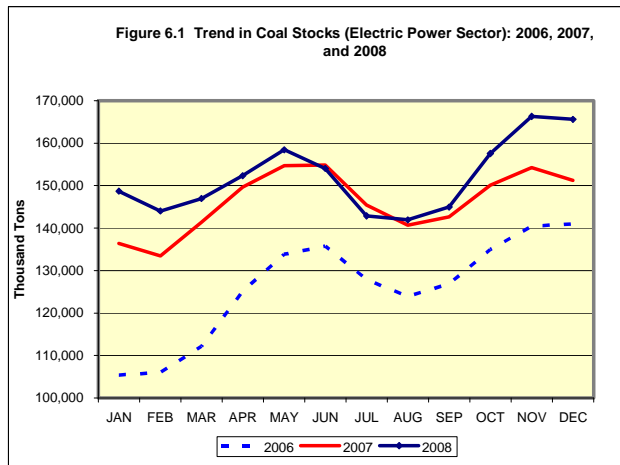


# Section 6. Fossil Fuel Stock Trends

Data for:  
December 2008

**Table 6.1 Trends in Total Fossil Fuel Stocks (Electric Power Sector)**

Fossil Fuel Stocks	Dec-08	Dec-07	% Change	Nov-08	% Change
<b>Coal, Total (Thousand Short Tons)</b>	165,595	151,221	9.5%	166,298	-0.4%
Bituminous (includes anthracite and coal synfuel)	66,232	63,964	3.5%	66,311	-0.1%
Subbituminous	94,693	82,692	14.5%	95,456	-0.8%
Lignite	4,670	4,565	2.3%	4,530	3.1%
<b>Petroleum Liquids (Thousand Barrels)</b>	40,922	44,433	-7.9%	40,135	2.0%



## Section 7. Month-to-Month Comparisons: Electric Power Retail Sales and Average Prices

Data for:  
December 2008

### Retail Sales

**Table 7.1 Retail Sales (Million kWh)**

Ultimate Customer	Dec-08	Dec-07	% Change	Nov-08	% Change
Residential	125,617	117,408	7.0%	96,153	30.6%
Commercial	109,146	105,909	3.1%	104,245	4.7%
Industrial	74,479	83,725	-11.0%	78,610	-5.3%
Transportation	669	663	0.9%	616	8.6%
All Sectors	309,912	307,704	0.7%	279,623	10.8%

### Average Retail Price

**Table 7.2 Average Retail Price (Cents/kWh) -- U.S. Total**

Ultimate Customer	Dec-08	Dec-07	% Change	Nov-08	% Change
Residential	10.99	10.33	6.4%	11.47	-4.2%
Commercial	9.94	9.42	5.5%	10.13	-1.9%
Industrial	6.89	6.26	10.1%	7.06	-2.4%
Transportation	11.21	9.19	22.0%	10.61	5.7%
All Sectors	9.64	8.91	8.2%	9.73	-0.9%

**Table 7.3 Average Retail Price (Cents/kWh) by Census Division**

Census Division	Residential			All Sectors		
	Dec-08	Dec-07	% Change	Dec-08	Dec-07	% Change
New England	18.01	16.13	11.7%	16.14	14.79	9.1%
Middle Atlantic	14.03	13.37	4.9%	12.42	12.05	3.1%
East North Central	10.18	9.34	9.0%	8.68	7.83	10.9%
West North Central	8.09	7.69	5.2%	6.88	6.43	7.0%
South Atlantic	10.60	9.81	8.1%	9.63	8.58	12.2%
East South Central	9.63	8.37	15.1%	8.25	6.93	19.0%
West South Central	11.31	10.58	6.9%	9.71	8.94	8.6%
Mountain	9.23	8.83	4.5%	7.65	7.37	3.8%
Pacific Contiguous	11.53	11.52	0.1%	10.27	10.05	2.2%
Pacific Noncontiguous	23.16	22.66	2.2%	20.96	20.85	0.5%
U.S. Total	10.99	10.33	6.4%	9.64	8.91	8.2%

# Section 8. Retail Sales Trends

Data for:  
December 2008

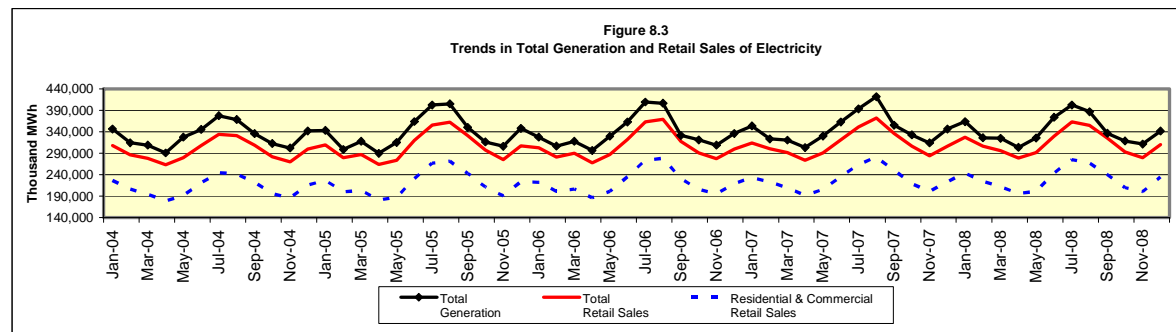
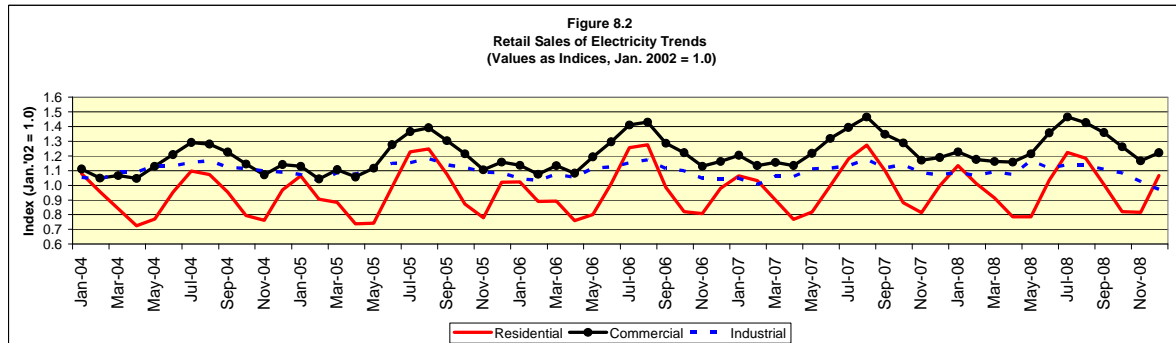
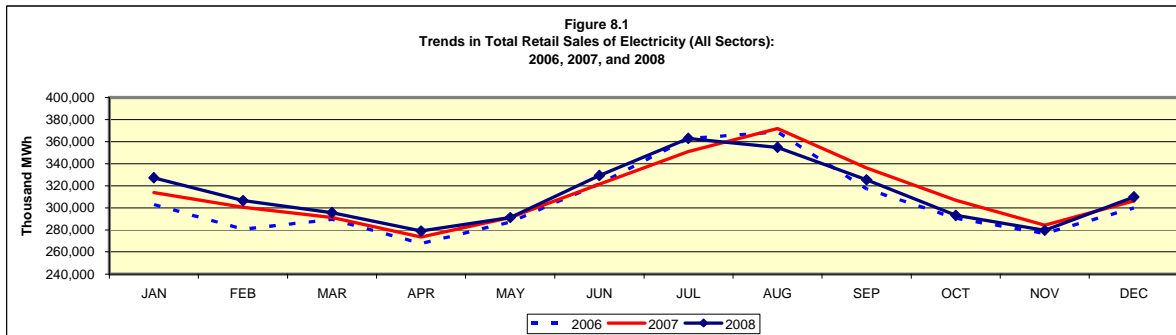
**Table 8.1 Trends in Total Retail Sales of Electricity (All Sectors)**  
Millions of Kilowatthours

**Year-to-Date Comparison**

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	January 2008	December 2008	1,387,428	1,358,011	1,001,580	7,648	3,754,667
<b>Prior Period</b>	January 2007	December 2007	1,392,241	1,336,315	1,027,832	8,173	3,764,561
<b>Percent Difference</b>			-0.3%	1.6%	-2.6%	-6.4%	-0.3%

**Comparison to Prior Twelve-Month Period**

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	January 2008	December 2008	1,387,428	1,358,011	1,001,580	7,648	3,754,667
<b>Prior Period</b>	January 2007	December 2007	1,392,241	1,336,315	1,027,832	8,173	3,764,561
<b>Percent Difference</b>			-0.3%	1.6%	-2.6%	-6.4%	-0.3%





# Section 9. Average Retail Price Trends

Data for:  
December 2008

**Table 9.1 Trends in Average Retail Price of Electricity (All Sectors)  
Cents per Kilowatthour**

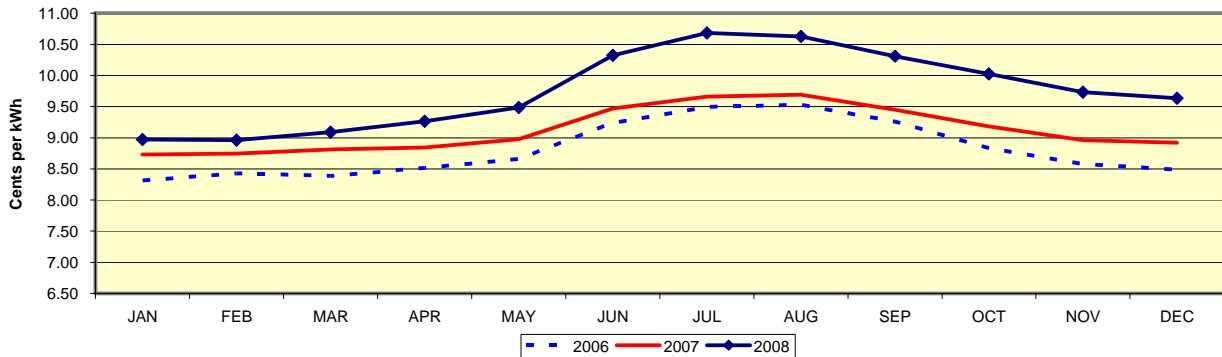
### Year-to-Date Comparison

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	January 2008	December 2008	11.31	10.29	7.01	11.35	9.79
<b>Prior Period</b>	January 2007	December 2007	10.65	9.65	6.39	9.70	9.13
<b>Percent Difference</b>			6.2%	6.6%	9.7%	17.0%	7.2%

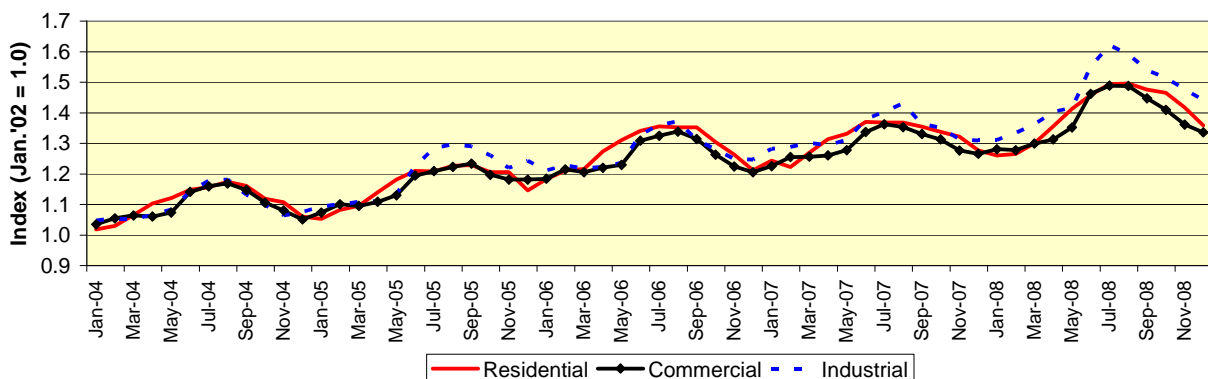
### Comparison to Prior 12 Month Period

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	January 2008	December 2008	11.31	10.29	7.01	11.35	9.79
<b>Prior Period</b>	January 2007	December 2007	10.65	9.65	6.39	9.70	9.13
<b>Percent Difference</b>			6.2%	6.6%	9.7%	17.0%	7.2%

**Figure 9.1 Trends in Average Retail Price of Electricity (All Sectors):  
2006, 2007, and 2008**



**Figure 9.2 Average Retail Price of Electricity: Trends by Sector  
(Values as Indices, Jan. 2002 = 1.0)**



# Section 10. Heating and Cooling Degree Days

Data for:  
December 2008

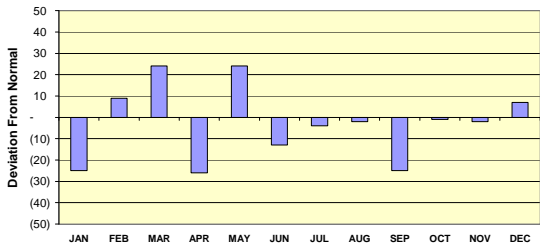
**Table 10.1 Degree Days**

		Heating Degree Days				Cooling Degree Days			
	Month	Heating Degree Days	Normal Heating Degree Days	Deviation From Normal	Percent Difference From Normal	Cooling Degree Days	Normal Cooling Degree Days	Deviation From Normal	Percent Difference From Normal
<b>Current Period</b>	December 2008	824	817	7	0.9%	8	8	0	0.0%
<b>Prior Period</b>	December 2007	800	817	-17	-2.1%	12	8	4	50.0%
<b>Percent Difference</b>		3.0%				-33.3%			

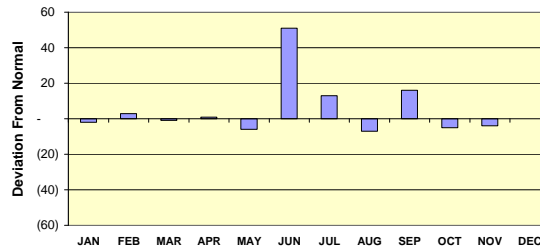
**Table 10.2 Trends in Heating and Cooling Degree Days**

Year-to-Date Comparison					Comparison to Prior 12 Month Period				
	Starting Month	Ending Month	Heating Degree Days	Cooling Degree Days		Starting Month	Ending Month	Heating Degree Days	Cooling Degree Days
<b>Current Period</b>	January 2008	December 2008	4,490	1,276	<b>Current Period</b>	January 2008	December 2008	4,490	1,276
<b>Prior Period</b>	January 2007	December 2007	4,255	1,395	<b>Prior Period</b>	January 2007	December 2007	4,255	1,395
<b>Percent Difference</b>			5.5%	-8.5%	<b>Percent Difference</b>			5.5%	-8.5%

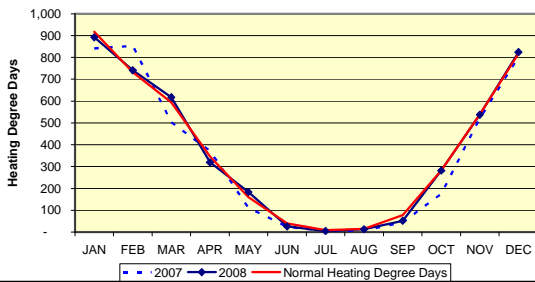
**Figure 10.1 Deviation From Normal: Heating Degree Days, 2008**



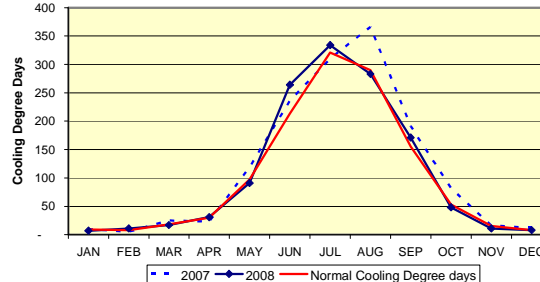
**Figure 10.2 Deviation From Normal Cooling Degree Days, 2008**



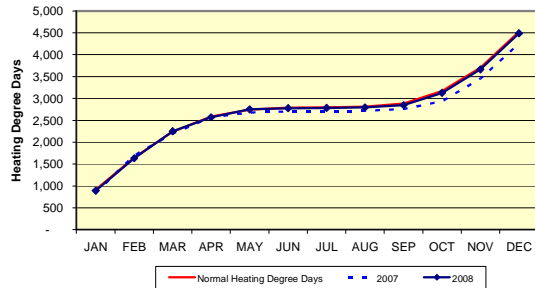
**Figure 10.3 Trend in Heating Degree Days: 2007, 2008, and Normal**



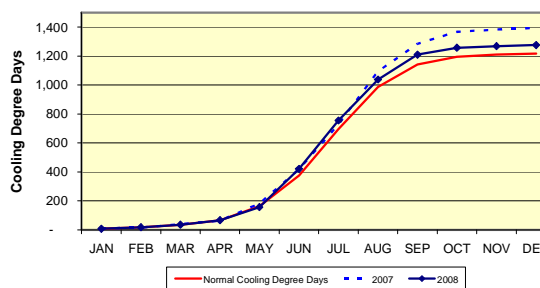
**Figure 10.4 Trend in Cooling Degree Days: 2007, 2008, and Normal**



**Figure 10.5 Trend in Cumulative Heating Degree Days: 2007, 2008, and Normal**



**Figure 10.6 Trend in Cumulative Cooling Degree Days: 2007, 2008, and Normal**



**General:** The *Monthly Flash Estimates of Electric Power Data* ("Flash Estimates") is prepared by the Electric Power Division, Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), U.S. Department of Energy. Data published in the *Flash Estimates* are compiled from the following sources: Form EIA-826, "Monthly Electric Utility Sales and Revenues with State Distributions Report," and Form EIA-923, "Power Plant Operations Report."

The survey data is collected monthly from a statistically-derived sample of power plants and electricity retailers. The nominal sample sizes are: for the Form EIA-826, approximately 450 electric utilities and other energy service providers; for the Form EIA-923, approximately 1590 plants. With the exception of stocks, a regression-based method is used to estimate totals from the sample. Essentially complete samples are collected for the *Electric Power Monthly*, which includes State-level values. The *Flash Estimates* is based on an incomplete sample and includes only national-level estimates. Stocks data for out-of-sample plants and any monthly non-respondents are estimated by bringing forward the last reported value for a plant.

For complete documentation on EIA monthly electric data collection and estimation, see the Technical Notes to the *Electric Power Monthly*, at: <http://www.eia.doe.gov/cneaf/electricity/epm/epm.pdf>. Values displayed in the *Flash Estimates* may differ from values published in the *Electric Power Monthly* due to independent rounding. This report represents the EIA's initial release for national level electricity data. Updated information will be released in the *Electric Power Monthly*.

**Sector definitions:** The Electric Power Sector comprises electricity-only and CHP plants within the North American Industrial Classification System 22 category whose primary business is to sell electricity, or electricity and heat, to the public (i.e., electric utility plants and Independent Power Producers (IPP), including IPP plants that operate as combined heat and power producers). The All Sectors totals include the Electric Power Sector and the Commercial and Industrial sectors (Commercial and Industrial power producers are primarily CHP plants).

**Composition of fuel categories:** See notes on page 3.

**Degree Days:** Notes: Degree-days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, a weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days). If a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 (and 0 heating degree days).