

# Monthly Flash Estimates of Electric Power Data

Data for:  
September  
2009

## Section 1. Commentary

In September 2009, the contiguous United States as a whole experienced temperatures that were above normal. This occurred because almost all western States experienced record or near record above average temperatures in September 2009. Total population-weighted cooling degree days for the contiguous United States were 7.1 percent above the average for the month of September, although they were 2.9 percent below September 2008.

Accordingly, retail sales of electricity decreased by 3.9 percent compared to September 2008. This decrease in retail sales was caused in part by the significant decline in industrial activity as observed by the 7.6-percent decrease in industrial retail sales over the same period. The average U.S. retail price of electricity decreased 1.3 percent in September 2009 compared to the previous year. This decrease in price can in part be attributed to lower fuel costs for natural gas used for electricity generation.

Total electric power generation in the United States decreased 3.3 percent from September 2008. Over the same period, coal generation decreased 15.2 percent as a result of the increased cost of coal as a fuel used in electricity generation and the decrease in demand for electric power due to the economic downturn in the United States. Natural gas generation in September 2009 increased by 15.2 percent compared to September 2008, while petroleum liquids generation decreased 41.7 percent over the same period. Conventional hydroelectric generation was 14.4 percent higher than September 2008.

Following the year-over-year decrease in coal generation, the consumption of coal to produce electricity decreased 14.6 percent when compared to September 2008. Over the same time period, petroleum liquids consumption decreased 41.9 percent, while natural gas consumption increased 14.2 percent.

Total coal stocks in the Electric Power Sector remained at a historically high level in September 2009, increasing by 2.8 percent from the previous month. The August 2009 to September 2009 change in coal stocks consisted of a 4.2-percent increase in bituminous coal and a 0.5-percent increase in subbituminous coal. Petroleum liquid stocks decreased 1.1 percent from August 2009.

References for weather data:

<http://www.ncdc.noaa.gov/oa/climate/research/2009/sep/national.html>

## Table of Contents

1. Commentary	Page 1
2. Key Indicators of Generation, Consumption & Stocks	Page 2
3. Month-to-Month Comparisons: Generation, Consumption and Stocks (Total)	Page 3
4. Net Generation Trends	Page 4
5. Fossil Fuel Consumption Trends	Page 5
6. Fossil Fuel Stock Trends	Page 6
7. Month-to-Month Comparisons: Electric Power Retail Sales and Average Prices	Page 7
8. Retail Sales Trends	Page 8
9. Average Retail Price Trends	Page 9
10. Heating and Cooling Degree Days	Page 10
11. Documentation	Page 11

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

Data for:  
September 2009

### Table 2.1 Key Generation Indicators

	Total Generation	Nuclear Generation	Hydroelectric Generation
<b>Total Change From:</b>			
August 2009	-14.3%	-8.7%	-8.5%
September 2008	-3.3%	-1.7%	14.4%
<b>Year to Date</b>	<b>-4.8%</b>	<b>0.4%</b>	<b>4.9%</b>
<b>Latest 12 Month Period*</b>	<b>-4.1%</b>	<b>0.4%</b>	<b>4.9%</b>

### Table 2.2 Key Consumption and Stocks Indicators

	Natural Gas Consumption	Coal Consumption	Coal Stocks
<b>Total Change From:</b>			
August 2009	-18.3%	-15.7%	2.8%
September 2008	14.2%	-14.6%	36.9%
<b>Year to Date</b>	<b>3.7%</b>	<b>-11.6%</b>	<b>--</b>
<b>Latest 12 Month Period*</b>	<b>1.5%</b>	<b>-9.3%</b>	<b>--</b>

\* Change in total consumption or generation for the latest 12 month period (October 2008 to September 2009) compared to the prior 12 month period (October 2007 to September 2008).

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

**Data for:  
September 2009**

**Net Generation (Total, All Sectors)**

**Table 3.1 Total Net Generation (All Sectors)**

Net Generation (thousand megawatthours)	Sep-09	Sep-08	% Change	Aug-09	% Change
Coal	137,582	162,248	-15.2%	164,336	-16.3%
Petroleum Liquids	1,740	2,986	-41.7%	2,453	-29.1%
Natural Gas	90,200	78,305	15.2%	108,062	-16.5%
Nuclear	65,941	67,054	-1.7%	72,245	-8.7%
Hydroelectric Conventional	17,917	15,662	14.4%	19,591	-8.5%
All Other	12,607	11,004	14.6%	13,753	-8.3%
Total (All Energy Sources)	325,987	337,259	-3.3%	380,439	-14.3%

**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	Sep-09	Sep-08	% Change	Aug-09	% Change
Coal (Thousand Short Tons)	73,355	85,895	-14.6%	87,034	-15.7%
Petroleum Liquids (Thousand Barrels)	2,918	5,023	-41.9%	4,200	-30.5%
Natural Gas (Million Cubic Feet)	700,950	613,648	14.2%	858,375	-18.3%

**Fossil Fuel Stocks (Electric Power Sector)**

**Table 3.3 Total Fossil Fuel Stocks (Electric Power Sector)**

Fossil Fuel Stocks	Sep-09	Sep-08	% Change	Aug-09	% Change
Coal (Thousand Short Tons)	199,653	145,835	36.9%	194,145	2.8%
Petroleum Liquids (Thousand Barrels)	42,503	42,640	-0.3%	42,972	-1.1%

**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

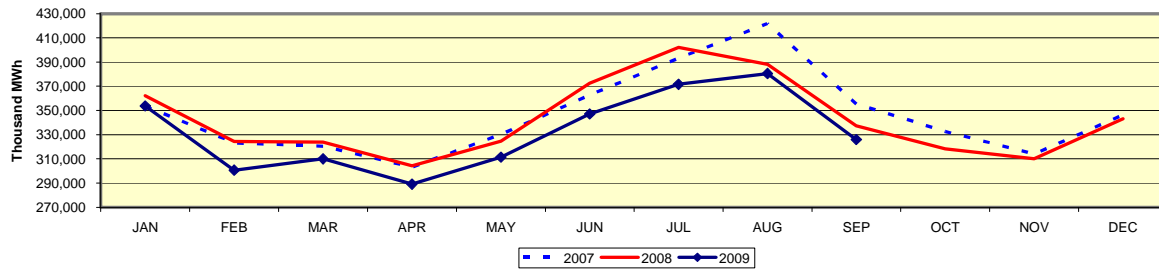
Data for:  
September 2009

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

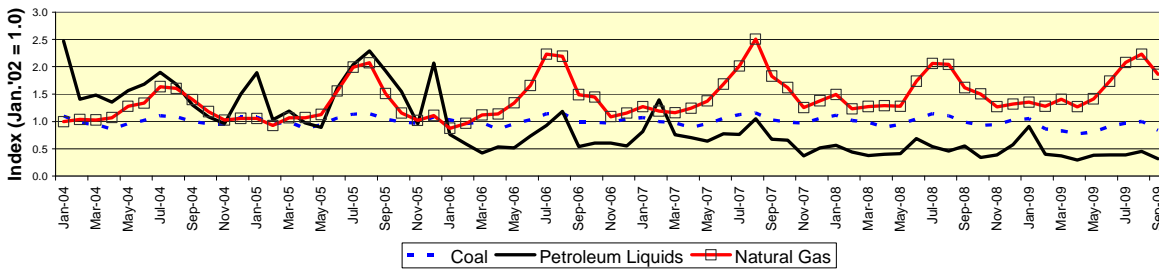
Year-to-Date Comparison									
	Starting Month	Ending Month	Coal	Petroleum Liquids	Natural Gas	Nuclear	Hydroelectric Conventional	All Other	Total
<b>Current Period</b>	January 2009	September 2009	1,321,598	21,198	708,325	609,553	206,540	122,715	2,989,929
<b>Prior Period</b>	January 2008	September 2008	1,517,465	24,092	678,894	607,050	196,919	114,616	3,139,036
<b>Percent Difference</b>			-12.9%	-12.0%	4.3%	0.4%	4.9%	7.1%	-4.8%

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>	October 2008	September 2009	1,798,518	28,268	906,379	808,685	257,707	161,595	3,961,152
<b>Prior Period</b>	October 2007	September 2008	2,012,912	32,454	884,696	805,621	245,739	150,623	4,132,045
<b>Percent Difference</b>			-10.7%	-12.9%	2.5%	0.4%	4.9%	7.3%	-4.1%

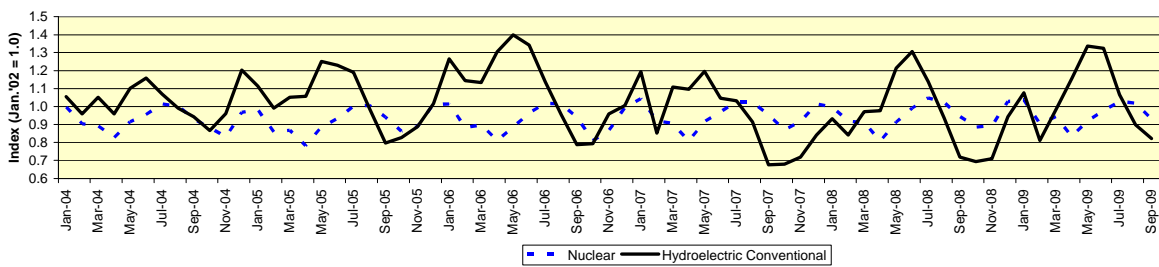
**Figure 4.1 Trends in Total Net Generation (All Sectors): 2007, 2008, and 2009**



**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:  
September 2009

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

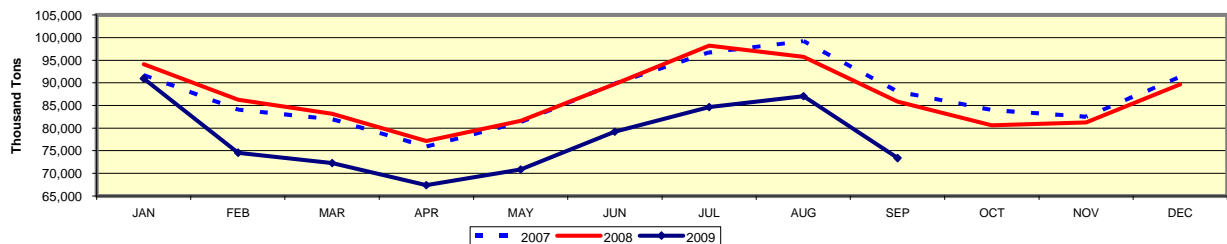
### Year-to-Date Comparison

	Starting Month	Ending Month	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Natural Gas (Million Cubic Feet)
<b>Current Period</b>	January 2009	September 2009	700,277	35,735	5,506,680
<b>Prior Period</b>	January 2008	September 2008	791,999	40,491	5,310,647
<b>Percent Difference</b>			-11.6%	-11.7%	3.7%

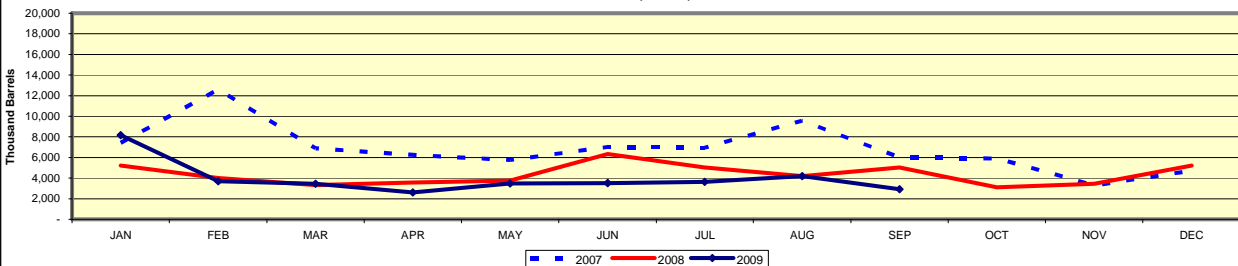
### Comparison to Prior 12 Month Period

	Starting Month	Ending Month	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Natural Gas (Million Cubic Feet)
<b>Current Period</b>	October 2008	September 2009	951,867	47,512	7,029,431
<b>Prior Period</b>	October 2007	September 2008	1,049,852	54,430	6,922,949
<b>Percent Difference</b>			-9.3%	-12.7%	1.5%

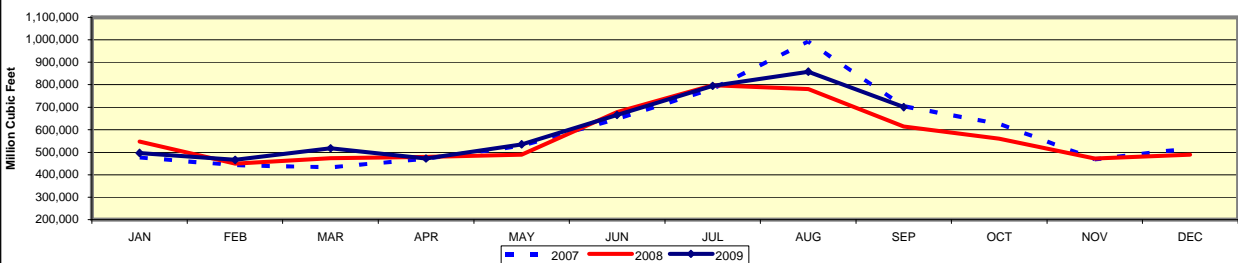
**Figure 5.1 Trend in Total Coal Consumption For Electric Generation (All Sectors): 2007, 2008, and 2009**



**Figure 5.2 Trend in Total Petroleum Liquids Consumption For Electric Generation (All Sectors): 2007, 2008, and 2009**



**Figure 5.3 Trend in Total Natural Gas Consumption For Electric Generation (All Sectors): 2007, 2008, and 2009**

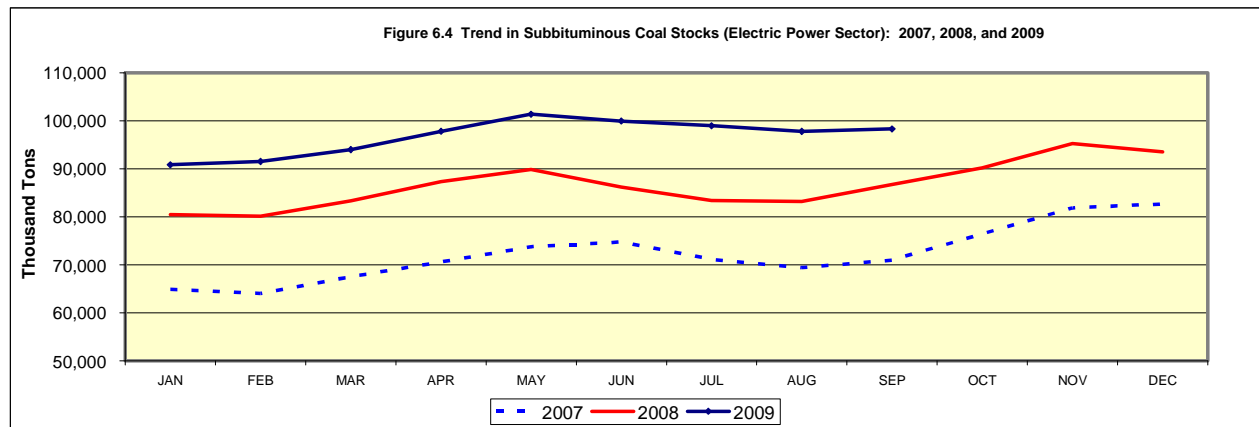
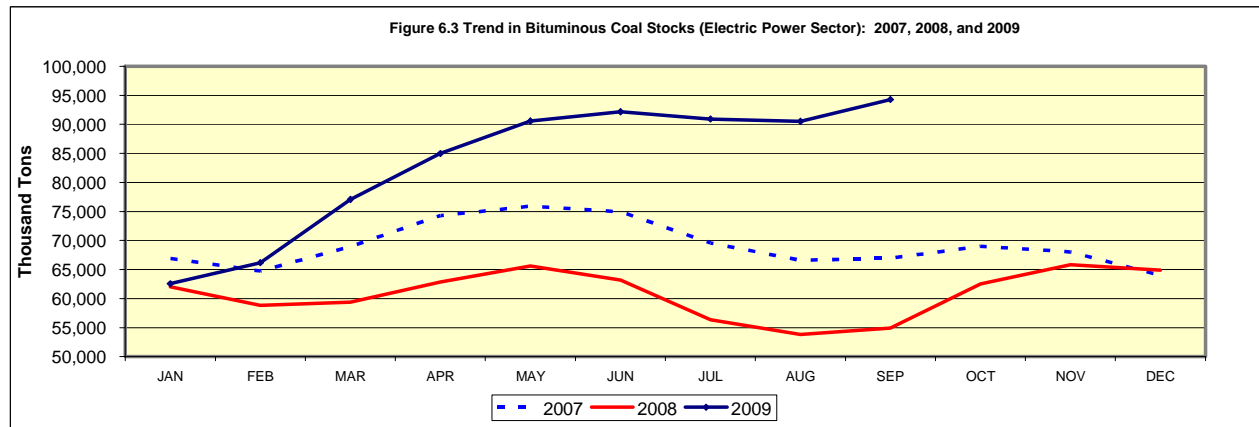
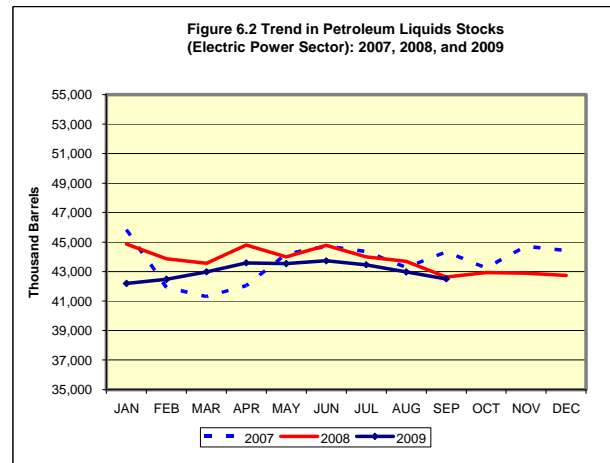
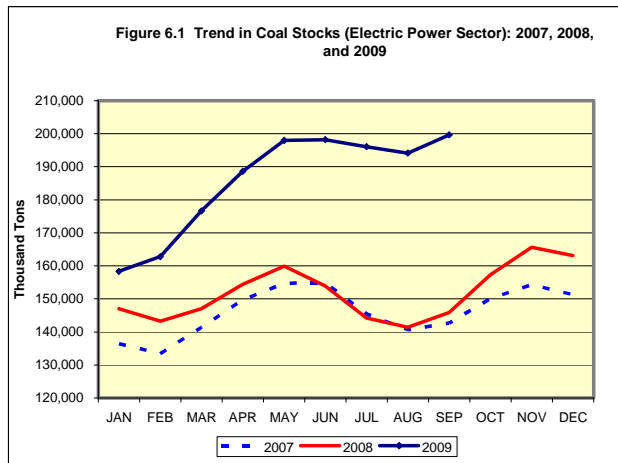


# Section 6. Fossil Fuel Stock Trends

Data for:  
September 2009

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

Fossil Fuel Stocks	Sep-09	Sep-08	% Change	Aug-09	% Change
<b>Coal, Total (Thousand Short Tons)</b>	199,653	145,835	36.9%	194,145	2.8%
Bituminous (includes anthracite and coal synfuel)	94,284	54,882	71.8%	90,514	4.2%
Subbituminous	98,305	86,715	13.4%	97,790	0.5%
Lignite	7,064	4,239	66.6%	5,841	20.9%
<b>Petroleum Liquids (Thousand Barrels)</b>	42,503	42,640	-0.3%	42,972	-1.1%



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

Data for:  
September 2009

### Retail Sales

Table 7.1 Retail Sales (Million kWh)

Ultimate Customer	Sep-09	Sep-08	% Change	Aug-09	% Change
Residential	115,186	117,581	-2.0%	138,255	-16.7%
Commercial	116,394	120,231	-3.2%	125,090	-7.0%
Industrial	76,877	83,200	-7.6%	78,954	-2.6%
Transportation	617	622	-0.8%	620	-0.5%
All Sectors	309,074	321,634	-3.9%	342,918	-9.9%

### Average Retail Price

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

Ultimate Customer	Sep-09	Sep-08	% Change	Aug-09	% Change
Residential	12.06	11.99	0.6%	12.05	0.1%
Commercial	10.51	10.77	-2.4%	10.60	-0.8%
Industrial	6.99	7.35	-4.9%	7.17	-2.5%
Transportation	10.87	13.82	-21.3%	11.25	-3.4%
All Sectors	10.21	10.34	-1.3%	10.40	-1.8%

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

Census Division	Residential			All Sectors		
	Sep-09	Sep-08	% Change	Sep-09	Sep-08	% Change
New England	17.68	18.14	-2.5%	15.63	16.08	-2.8%
Middle Atlantic	16.22	16.28	-0.4%	13.76	14.14	-2.7%
East North Central	11.44	10.92	4.8%	9.03	8.79	2.7%
West North Central	9.74	9.30	4.7%	7.85	7.48	4.9%
South Atlantic	11.66	11.35	2.7%	10.06	9.94	1.2%
East South Central	9.55	9.59	-0.4%	8.00	8.18	-2.2%
West South Central	11.29	12.48	-9.5%	9.09	10.68	-14.9%
Mountain	10.81	10.39	4.0%	9.00	8.68	3.7%
Pacific Contiguous	13.74	12.82	7.2%	12.66	11.78	7.5%
Pacific Noncontiguous	22.53	29.54	-23.7%	19.97	26.57	-24.8%
U.S. Total	12.06	11.99	0.6%	10.21	10.34	-1.3%

# Section 8. Retail Sales Trends

Data for:  
September 2009

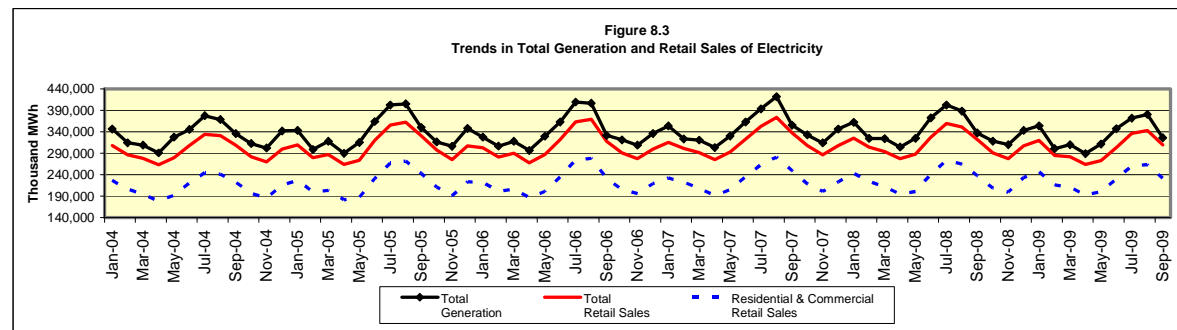
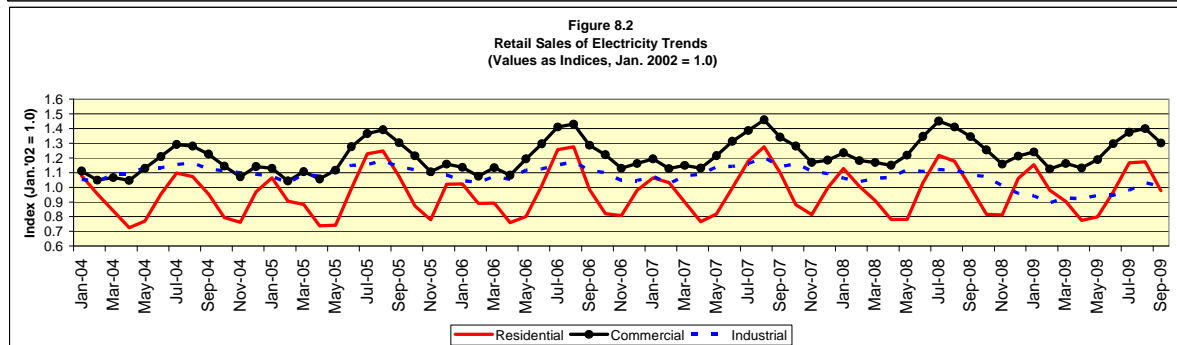
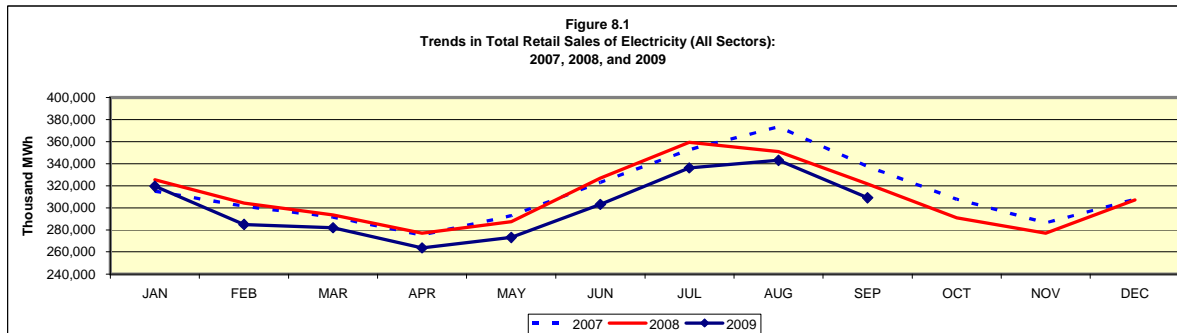
**Table 8.1 Trends in Total Retail Sales of Electricity (All Sectors)**  
Millions of Kilowatthours

### Year-to-Date Comparison

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	January 2009	September 2009	1,047,803	1,002,882	657,973	5,680	2,714,339
<b>Prior Period</b>	January 2008	September 2008	1,062,919	1,028,467	749,096	5,738	2,846,220
<b>Percent Difference</b>			-1.4%	-2.5%	-12.2%	-1.0%	-4.6%

### Comparison to Prior Twelve-Month Period

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	October 2008	September 2009	1,364,192	1,326,868	891,027	7,594	3,589,681
<b>Prior Period</b>	October 2007	September 2008	1,379,985	1,353,460	1,006,835	7,726	3,748,006
<b>Percent Difference</b>			-1.1%	-2.0%	-11.5%	-1.7%	-4.2%





# Section 9. Average Retail Price Trends

Data for:  
September  
2009

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

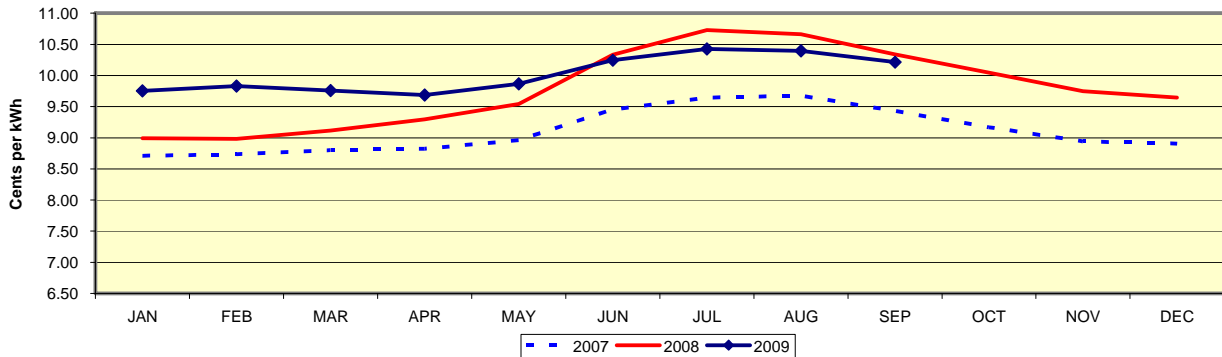
### Year-to-Date Comparison

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	January 2009	September 2009	11.67	10.32	6.99	11.41	10.04
<b>Prior Period</b>	January 2008	September 2008	11.33	10.30	7.00	11.41	9.82
<b>Percent Difference</b>			3.0%	0.2%	-0.1%	0.0%	2.2%

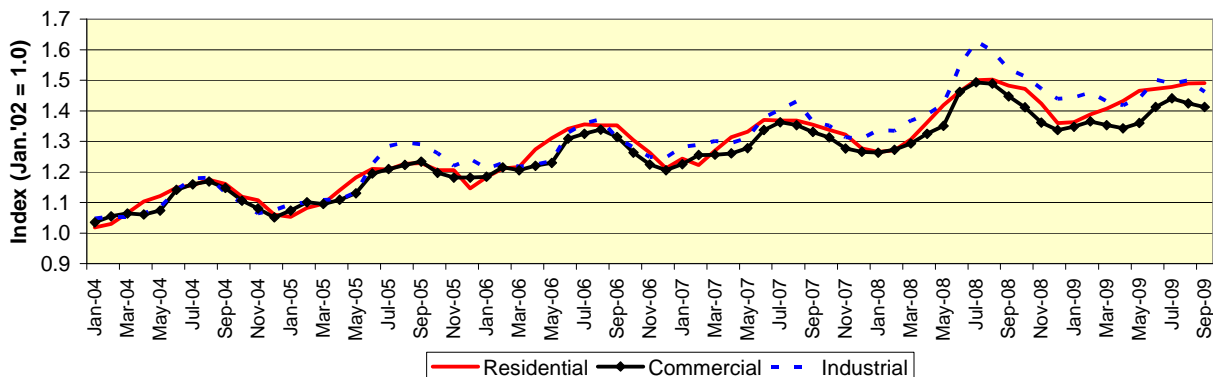
### Comparison to Prior 12 Month Period

	Starting Month	Ending Month	Residential	Commercial	Industrial	Transportation	Total (All Sectors)
<b>Current Period</b>	October 2008	September 2009	11.62	10.29	7.00	11.29	9.98
<b>Prior Period</b>	October 2007	September 2008	11.17	10.12	6.83	10.83	9.62
<b>Percent Difference</b>			4.0%	1.7%	2.5%	4.2%	3.7%

**Figure 9.1 Trends in Average Retail Price of Electricity (All Sectors):  
2007, 2008, and 2009**



**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:  
September 2009

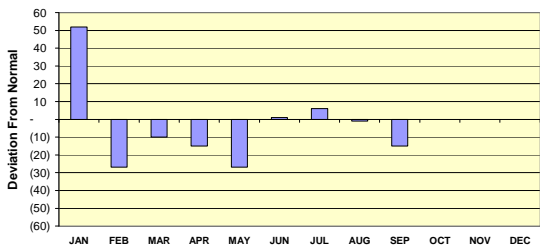
**Table 10.1 Degree Days**

		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>	September 2009	62	77	-15	-19.5%	166	155	11	7.1%
<b>Prior Period</b>	September 2008	52	77	-25	-32.5%	171	155	16	10.3%
<b>Percent Difference</b>		19.2%				-2.9%			

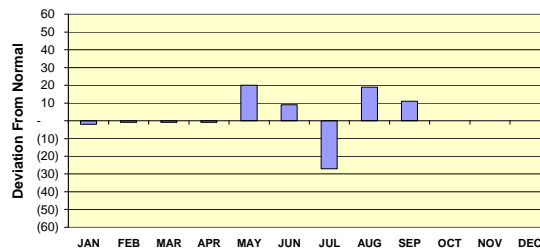
**Table 10.2 Trends in Heating and Cooling Degree Days**

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 2009	September 2009	2,850	1,168	<b>Current Period</b>	October 2008	September 2009	4,496	1,236
<b>Prior Period</b>	January 2008	September 2008	2,848	1,209	<b>Prior Period</b>	October 2007	September 2008	4,344	1,319
<b>Percent Difference</b>			0.1%	-3.4%	<b>Percent Difference</b>			3.5%	-6.3%

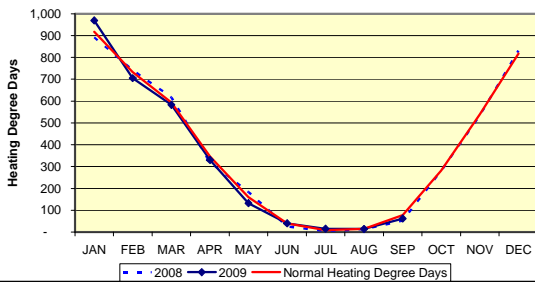
**Figure 10.1 Deviation From Normal: Heating Degree Days, 2009**



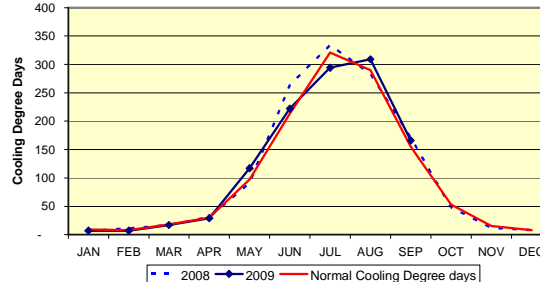
**Figure 10.2 Deviation From Normal Cooling Degree Days, 2009**



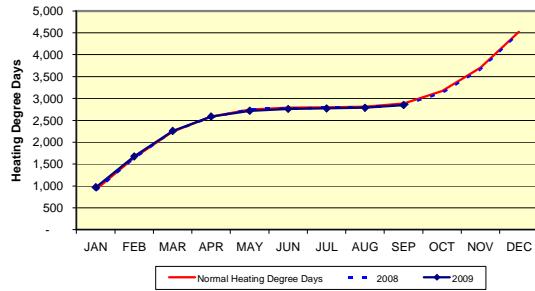
**Figure 10.3 Trend in Heating Degree Days: 2008, 2009, and Normal**



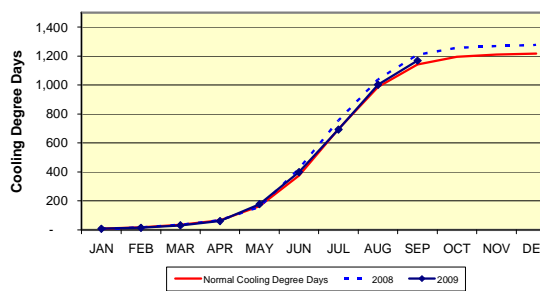
**Figure 10.4 Trend in Cooling Degree Days: 2008, 2009, and Normal**



**Figure 10.5 Trend in Cumulative Heating Degree Days: 2008, 2009, and Normal**



**Figure 10.6 Trend in Cumulative Cooling Degree Days: 2008, 2009, 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 are collected monthly using multiple-attribute cutoff sampling of power plants and electric retailers for the purpose of estimation for various data elements (generation, stocks, revenue, etc.), for various categories, such as geographic regions. (The data elements and categories are "attributes.") 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. Regression-based (i.e., "prediction") methodologies are used to estimate totals from the sample. Essentially complete samples are collected for the Electric Power Monthly (EPM), which includes State-level values. The Flash Estimates is based on an incomplete sample and includes only national-level estimates. Using 'prediction,' it is generally possible to make estimates based on the incomplete EPM sample, and still estimate variances.

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 the additional data collection and data revisions that may occur between the release of these two publications. 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).