U.S. Energy Information Administration

Electricity Monthly Update

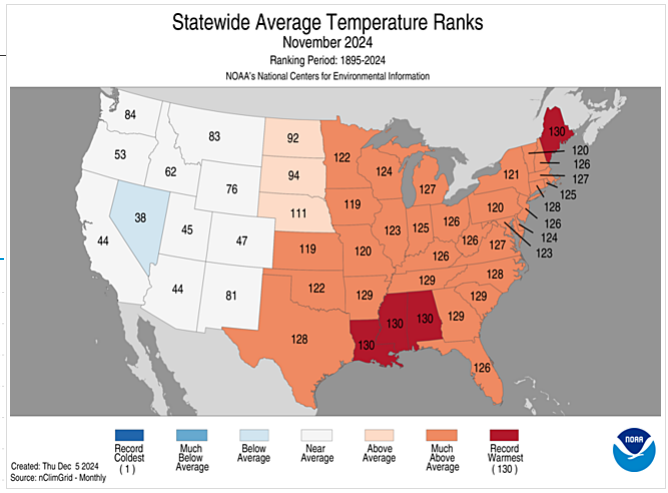
With Data for November 2024 | Release Date: January 24, 2025 | Next Release Date: February 26, 2025

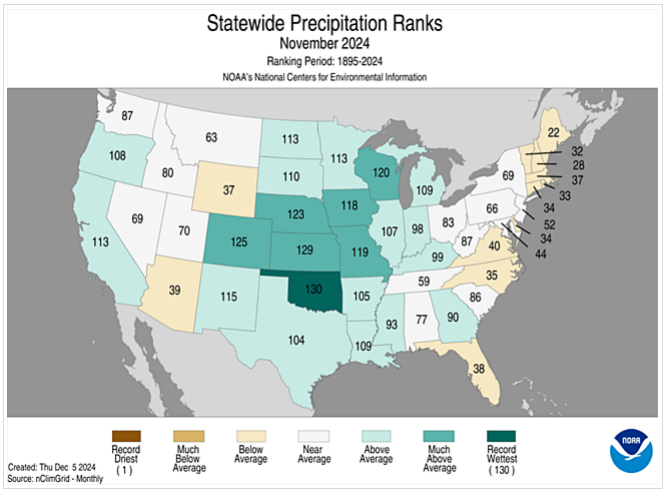
Highlights: November 2024

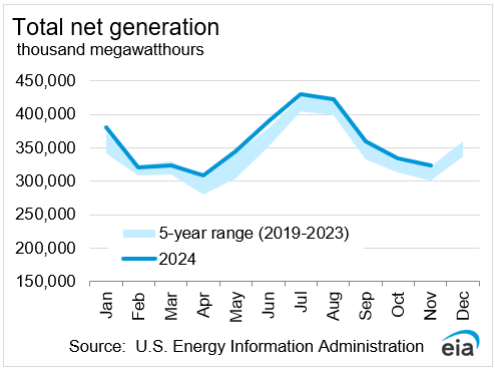
- Electricity system daily peak demand remained on the lower half of the 12-month range on all selected electricity systems during November.
- New 12-month wholesale natural gas price lows were set in the mid-Atlantic (Tetco M-3), Midwest (Chicago Citygate), and Louisiana (Henry Hub).
- Total U.S. coal stockpiles increased by 2.5% to 131 million tons compared with the previous month.

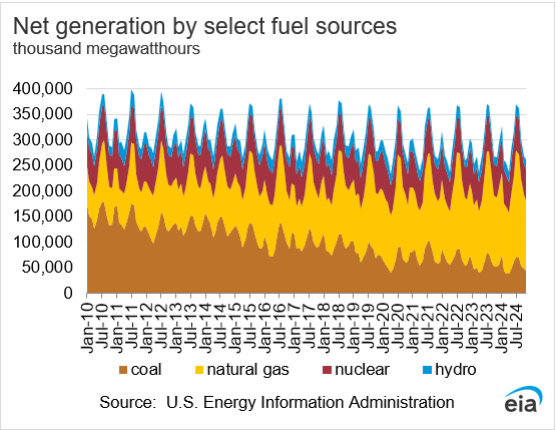
Key indicators

	November 2024	% Change from November 2023
Total net generation (thousand MWh)	324,033	1.1%
Residential retail price (cents/kwh)	17.01	5.1%
Retail sales (thousand MWh)	292,614	-0.6%
Heating degree-days	466	-11.1%
Natural gas price, Henry Hub ($/mmBtu)	2.2	-21.7%
Coal stocks (thousand tons)	131,111	-0.1%
Coal consumption (thousand tons)	26,453	-10.5%
Natural gas consumption (Mcf)	1,013,866	2.8%
Nuclear net generation (thousand MWh)	61,904	-0.6%









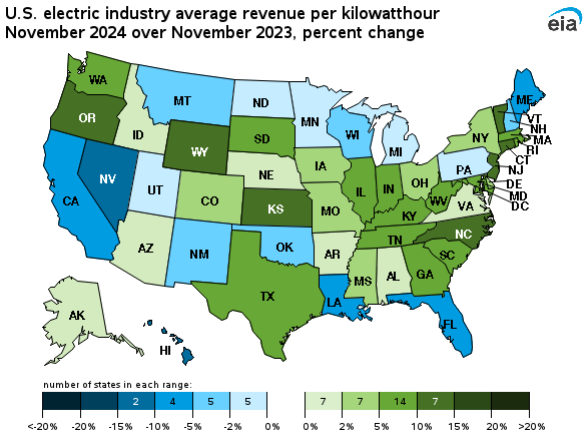
End Use: November 2024

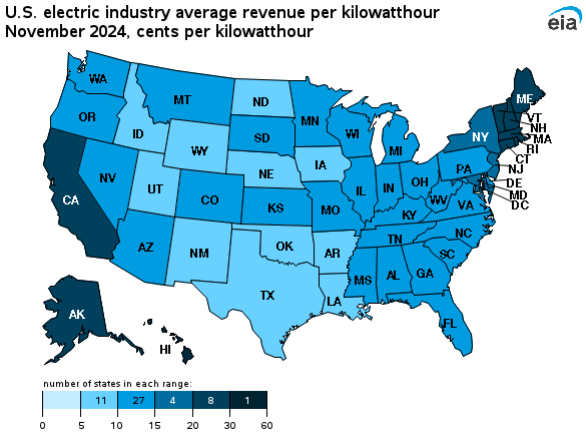
RETAIL RATES/PRICES AND CONSUMPTION

In this section, we look at what electricity costs and how much is purchased. Charges for retail electric service are based primarily on rates approved by state regulators. However, a number of states have allowed retail marketers to compete to serve customers and these competitive retail suppliers offer electricity at a market-based price.

EIA does not directly collect retail electricity rates or prices. However, using data collected on retail sales revenues and volumes, we calculate average retail revenues per kWh as a proxy for retail rates and prices. Retail sales volumes are presented as a proxy for end-use electricity consumption.

AVERAGE REVENUE PER KWH BY STATE





Thirty-four states and the District of Columbia saw increased revenue per kilowatt-hour (kWh) compared to last November, while average revenue per kWh increased by 1.4% on a national basis. The largest percent increase was in North Carolina, up 13.4%, followed by Wyoming, up 13.3%, and Vermont, up 12.8%. Average revenue per kWh figures decreased in sixteen states, compared to last year. The largest percent decrease was in Nevada, down 14.9%, followed by Hawaii, down 10.9%, and Florida, down 7.2%. In the contiguous US, Rhode Island, Connecticut, and Massachusetts had the highest average revenues at 25.28, 25.13, and 25.10 cents per kWh, respectively. Oregon had the median average revenue at 11.50 cents per kWh. North Dakota, Louisiana, and Utah had the lowest average revenues at 7.71, 8.16, and 8.56 cents per kWh, respectively.

Retail Service by Customer Sector

	Average Revenues/Sales (¢/kWh)			Retail Sales (thousand MWh)	
End-use sector	November 2024	Change fromNovember 2023	November 2024	Change fromNovember 2023	Year to Date

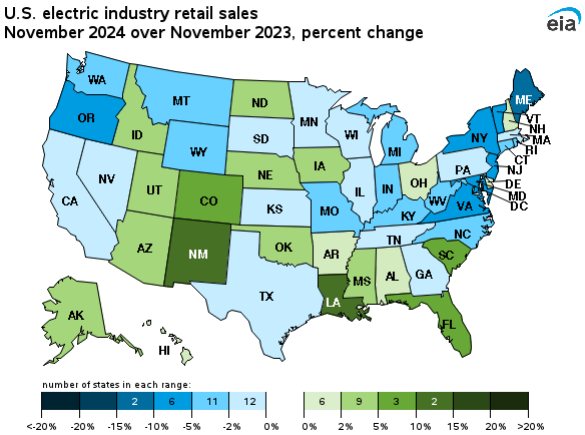
Source: U.S. Energy Information Administration

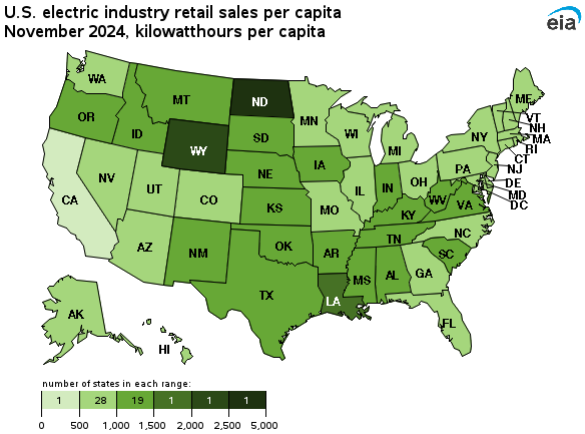
	Average Revenues/Sales (¢/kWh)		Retail Sales (thousand MWh)		
End-use sector	November 2024	Change fromNovember 2023	November 2024	Change fromNovember 2023	Year to Date
Residential	17.01	5.1%	99,393	-2.5%	1,364,454
Commercial	12.22	-1.7%	109,262	-0.5%	1,304,256
Industrial	7.89	1.3%	83,405	1.7%	944,021
Transportation	12.48	-1.0%	554	1.0%	6,421
Total	**12.61**	**1.4%**	**292,614**	**-0.6%**	**3,619,151**

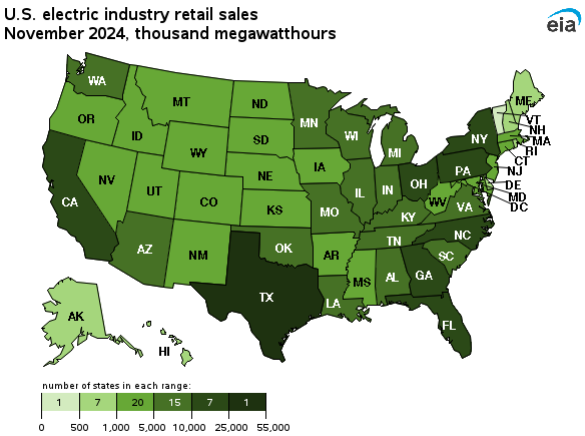
Source: U.S. Energy Information Administration

Total average revenues per kilowatt-hour (kWh) increased by 1.4% from last November, to 12.61 cents/kWh in November 2024. Two sectors saw increases and two sectors saw decreases in average revenues per kWh compared to last November. The Residential sector saw the largest increase in average revenues per kWh, up 5.1%, followed by the Industrial sector, up 1.3%. The Commercial sector saw the largest decrease in average revenues per kWh, down 1.7%, followed by the Transportation sector, down 1.0%. On a nationwide basis, retail sales decreased by 0.6% in November 2024 from last November, with two sectors each seeing increases and two sectors seeing decreases. The Industrial sector saw the largest increase in retail sales from last November, up 1.7%, followed by the Transportation sector, up 1.0%. The Residential sector saw the largest decrease in retail sales from last November, down 2.5%, followed by the Commercial sector, down 0.5%.

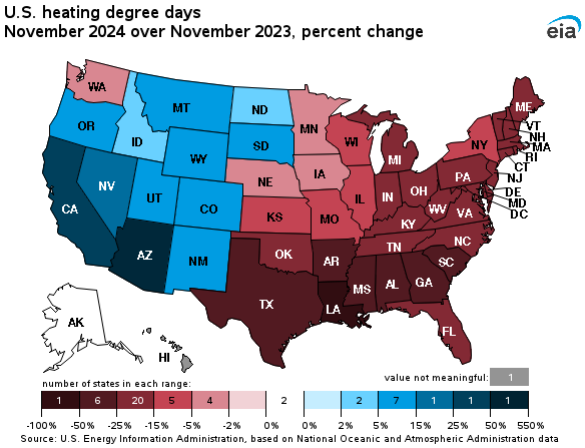
RETAIL SALES

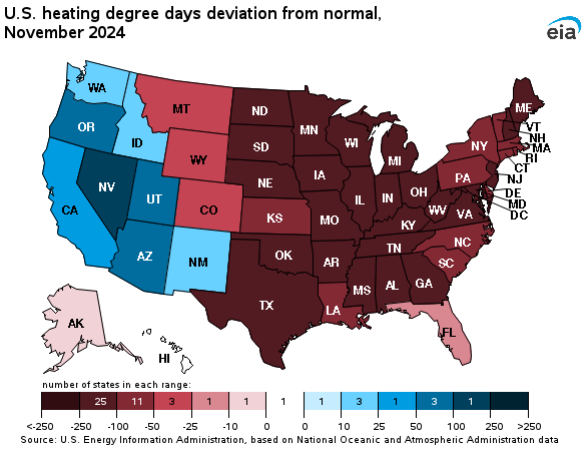






Twenty states saw an increase in retail sales volume in November 2024 compared to November 2023. New Mexico had the highest percent year over year increase in retail sales, up 14.2%, followed by Louisiana, up 12.9%, and Colorado, up 8.4%. Thirty states and the District of Columbia saw a decrease in retail sales volume compared to last year. Maine had the highest percent year over year decrease, down 11.2%, followed by the District of Columbia, down 10.1%, and Vermont, down 9.1%.





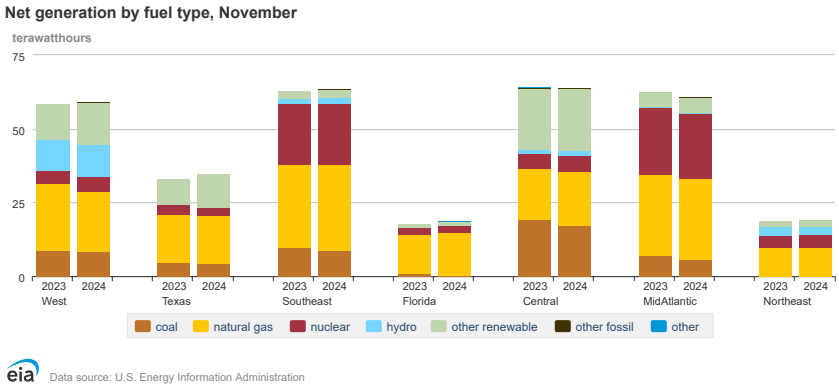
Thirty-six states saw a decrease in HDDs compared to last November. In the contiguous US, Louisiana had the highest percent year over year decrease, down 50%, followed by Mississippi, down 43%, and Texas, down 41%. Twelve states and the District of Columbia saw an increase in HDDs from last November. In the contiguous US, Arizona had the highest percent year over year increase, up 67%, followed by California, up 44%, and Nevada, up 18%. The states east of the Rocky Mountains saw a warmer-than-normal November and thus a lower-than-normal number of HDDs, and the states west of the Rocky Mountains saw a cooler-than-normal November and thus a higher-than-normal number of HDDs.

Resource Use: November 2024

SUPPLY AND FUEL CONSUMPTION

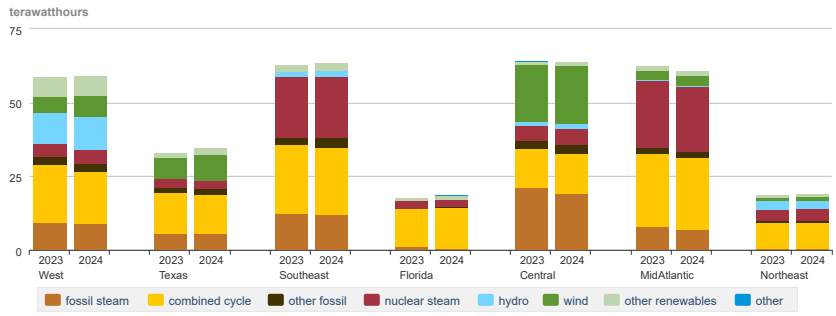
In this section, we look at the resources used to produce electricity. Generating units are chosen to run primarily on their operating costs, of which fuel costs account for the lion's share. Therefore, we present below, electricity generation output by fuel type and generator type. Since the generator/fuel mix of utilities varies significantly by region, we also present generation output by region.

GENERATION OUTPUT BY REGION

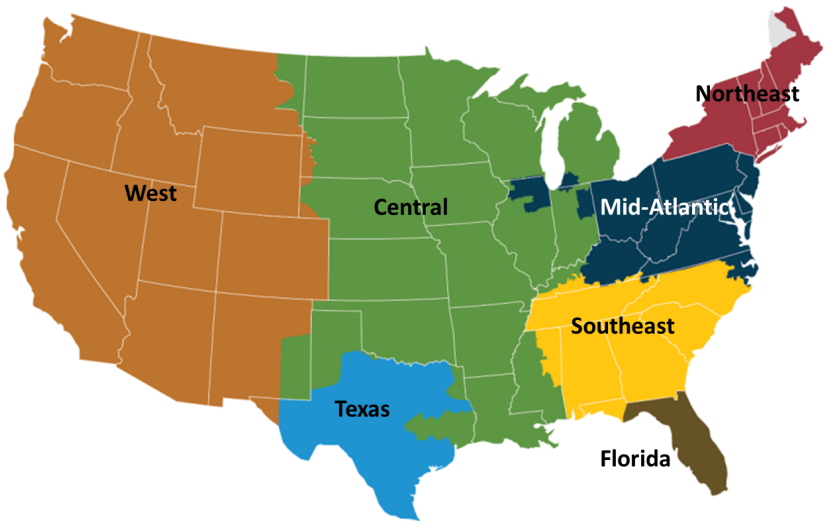


eia Data source: U.S. Energy Information Administration

Net generation by generator type, November



eia Data source: U.S. Energy Information Administration

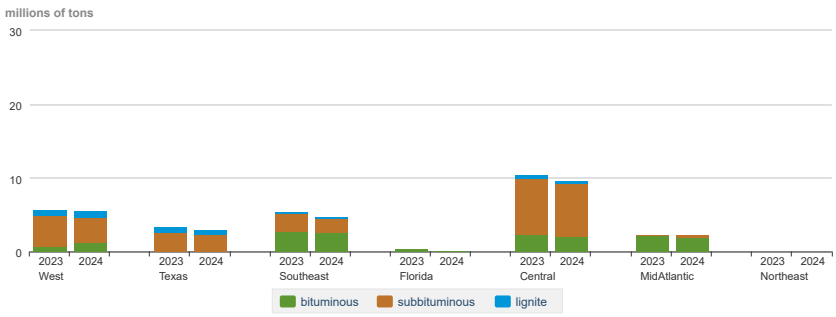


Net electricity generation in the United States increased by 1.1% compared to November 2023. At the regional level, only the MidAtlantic and Central regions saw a decrease in electricity generation compared to the previous year. All other regions saw a year-over-year increase in electricity generation, with Texas seeing the largest percent increase (up 5.1%) compared to the previous November.

Electricity generation from coal decreased in all parts of the country, except the Northeast, compared to November 2023. Electricity generation from natural gas increased in all parts of the country, except in the West. Other renewables generation increased in all regions of the country, except the Southeast, with Texas experiencing the largest year-over-year increase (up 29.6%) compared to the previous November.

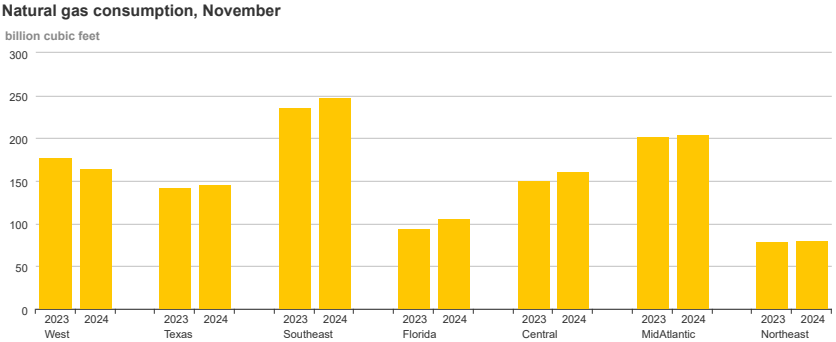
FOSSIL FUEL CONSUMPTION BY REGION

Coal consumption by type, November



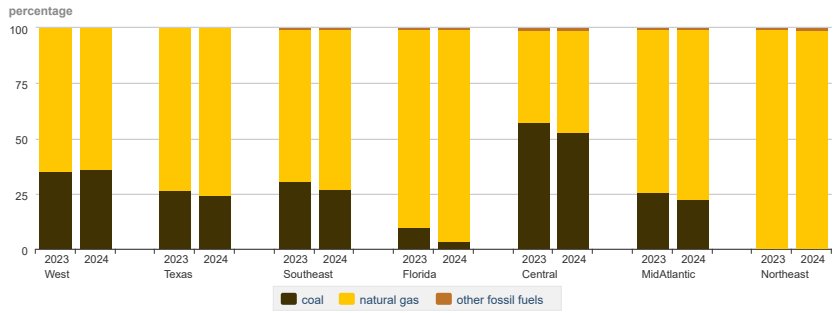
eia Data source: U.S. Energy Information Administration

Natural gas consumption, November



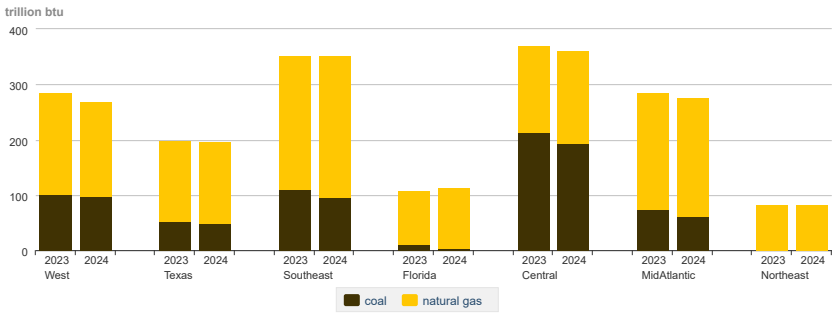
eia Data source: U.S. Energy Information Administration

Share of fossil fuel consumption (percentage), November

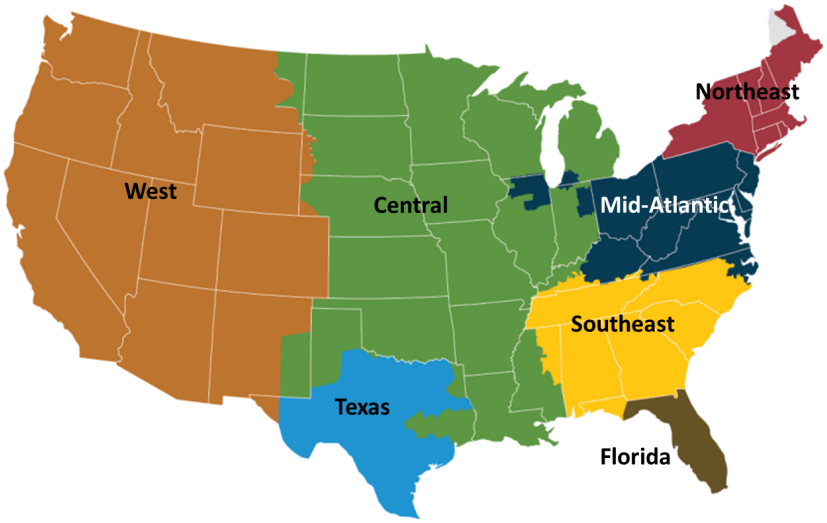


eia Data source: U.S. Energy Information Administration

Coal and natural gas consumption by energy content, November



eia Data source: U.S. Energy Information Administration



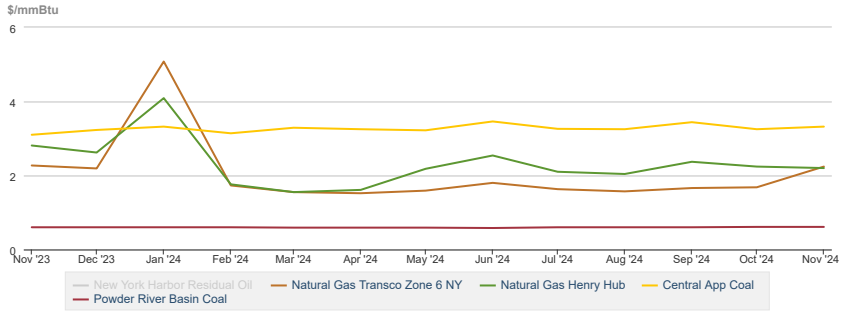
The chart above compares coal consumption in November 2023 and November 2024 by region and the second tab compares natural gas consumption by region over the same period. Changes in coal and natural gas consumption were similar to their respective changes in coal and natural gas generation.

The third tab presents the change in the relative share of fossil fuel consumption by fuel type on a percentage basis, calculated using equivalent energy content (Btu). This highlights changes in the relative market shares of coal, natural gas, and petroleum. All regions of the country, except for the West, saw their share of natural gas increase at the expense of coal.

The fourth tab presents the change in coal and natural gas consumption on an energy content basis by region. The changes in total coal and natural gas consumption were similar to the changes seen in total coal and natural gas net generation in each region.

FOSSIL FUEL PRICES

Average fossil fuel spot prices ($/mmBtu), November 2023 - November 2024



Data source: U.S. Energy Information Administration derived from Bloomberg Energy

To gain some insight into the changing pattern of consumption of fossil fuels over the past year, we look at relative monthly average spot fuel prices. A common way to compare fuel prices is on an equivalent $/MMBtu basis as shown in the chart above. The average price of natural gas at Henry Hub decreased slightly from the previous month, going from $2.24/MMBtu in October 2024 to $2.20/MMBtu in November 2024. The natural gas price for New York City (Transco Zone 6 NY) increased in price from the previous month, going from $1.68/MMBtu in October 2024 to $2.24/MMBtu in November 2024. The average spot price of Central Appalachian increased from the previous month, going from $3.25/MMBtu in October 2024 to $3.32/MMBtu in November 2024.

A fuel price comparison based on equivalent energy content ($/MMBtu) does not reflect differences in energy conversion efficiency (heat rate) among different types of generators. Gas-fired combined-cycle units tend to be more efficient than coal-fired steam units. The second tab shows coal and natural gas prices on an equivalent energy content and efficiency basis. The Henry Hub natural gas price ($17.62/MWh) saw a slight decrease from the previous month ($17.92/MWh) and was well below the Central Appalachian coal price ($35.86/MWh) in November 2024. The price of natural gas at New York City ($17.95/MWh) increased from the previous month ($13.49/MWh) and was still below the Central Appalachian coal price ($35.86/MWh) during November 2024.

The conversion shown in this chart is done for illustrative purposes only. The competition between coal and natural gas to produce electricity is more complex. It involves delivered prices and emission costs, the terms of fuel supply contracts, and the workings of fuel markets.

Regional Wholesale Markets: November 2024

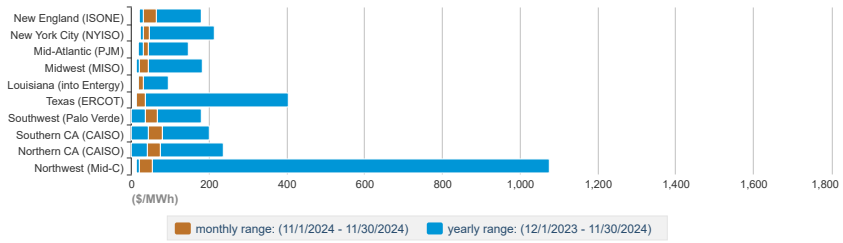
The United States has many regional wholesale electricity markets. Below we look at monthly and annual ranges of on-peak, daily wholesale prices at selected pricing locations and daily peak demand for selected electricity systems in the Nation. The range of daily prices and demand data is shown for the report month and for the year ending with the report month.

Prices and demand are shown for six Regional Transmission Operator (RTO) markets: ISO New England (ISO-NE), New York ISO (NYISO), PJM Interconnection (PJM), Midwest ISO (MISO), Electric Reliability Council of Texas (ERCOT), and two locations in the California ISO (CAISO). Also shown are wholesale prices at trading hubs in Louisiana (into Entergy), Southwest (Palo Verde) and Northwest (Mid-Columbia). In addition to the RTO systems, peak demand is also shown for the Southern Company, Progress Florida, and the Bonneville Power Authority (BPA). Refer to the map tabs for the locations of the electricity and natural gas pricing hubs and the electric systems for which peak demand ranges are shown.

In the second tab immediately below, we show monthly and annual ranges of on-peak, daily wholesale natural gas prices at selected pricing locations in the United States. The range of daily natural gas prices is shown for the same month and year as the electricity price range chart. Wholesale electricity prices are closely tied to wholesale natural gas prices in all but the center of the country. Therefore, one can often explain current wholesale electricity prices by looking at what is happening with natural gas prices.

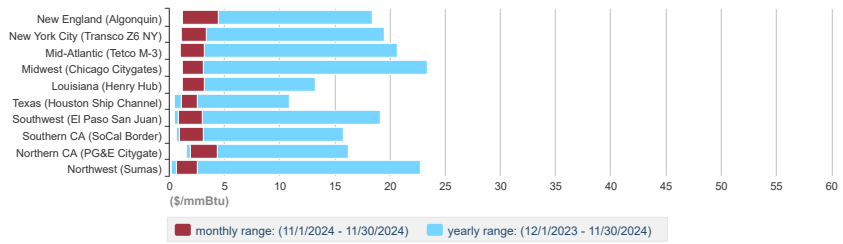
WHOLESALE PRICES

Monthly and annual range of wholesale electricity prices for selected regional trading hubs, November 2024



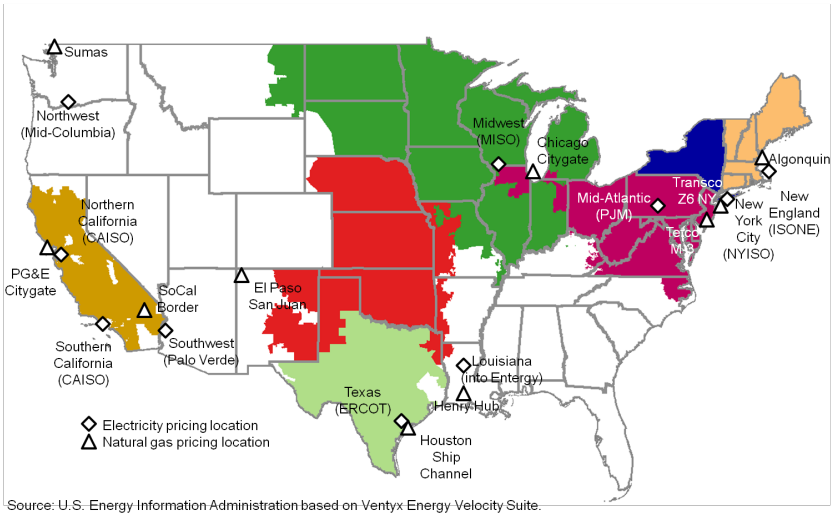
Data source: U.S Energy Information Administration based on SNL Energy

Monthly and annual range of wholesale natural gas prices for selected regional trading hubs, November 2024



Data source: U.S Energy Information Administration based on SNL Energy

Selected Wholesale Electricity and Natural Gas Pricing Locations

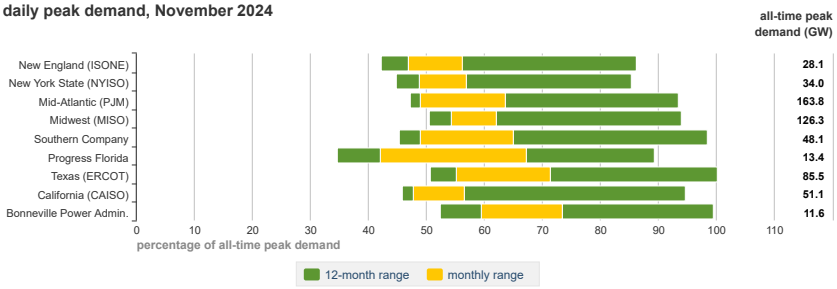


Source: U.S. Energy Information Administration based on Ventyx Energy Velocity Suite.

Wholesale electricity and natural gas prices remained towards the bottom-end of the annual range at all selected trading hubs throughout the month of November. New England (ISONE) recorded the highest wholesale electricity price at $64.21/MWh, followed closely by Northern California (CAISO) at $63/MWh. The lowest wholesale electricity prices were found in Texas (ERCOT) at $12.50/MWh and in the Southwest (Palo Verde) at $15.50/MWh. Wholesale natural gas prices were highest in New England (Algonquin) at $4.43/MMBtu and in Northern California (PG&E Citygate) at $4.39/MMBtu. New 12-month lows were set in the Mid-Atlantic (Tetco M-3) at $1.01/MMBtu, in the Midwest (Chicago Citygates) at $1.15/MMBtu, and in Louisiana (Henry Hub) at $1.21/MMBtu.

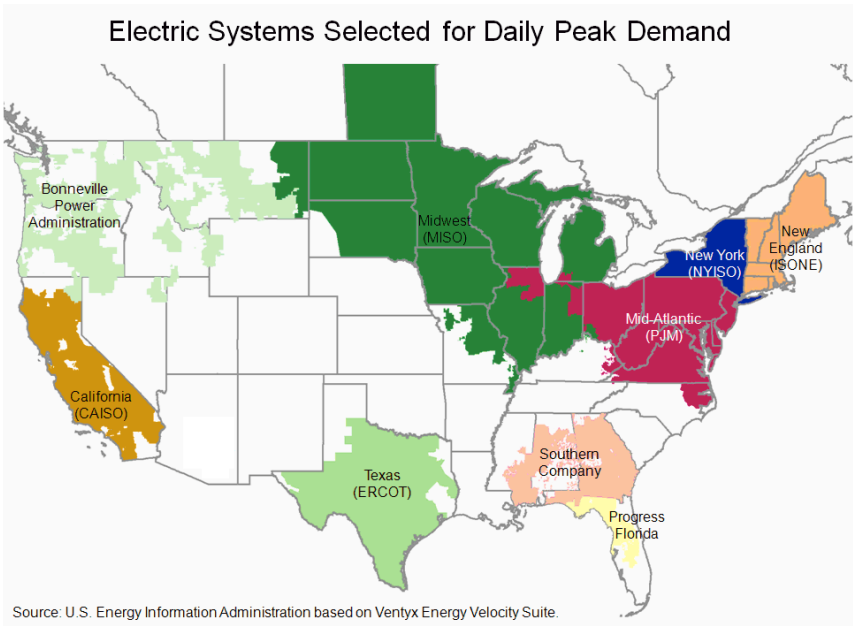
ELECTRICITY SYSTEM DAILY PEAK DEMAND

Monthly and annual range of selected electricity system daily peak demand, November 2024



eia Data source: U.S Energy Information Administration

Electric Systems Selected for Daily Peak Demand

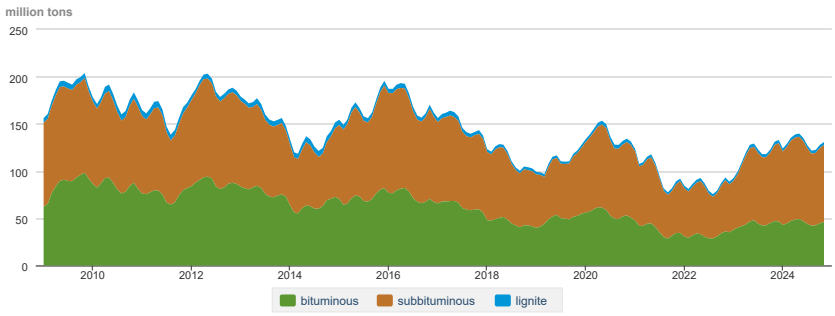


Source: U.S. Energy Information Administration based on Ventyx Energy Velocity Suite.

Electricity system daily peak demand remained on the lower half of the 12-month range on all selected electricity systems during November because of mild weather across most of the country. All states east of the Rocky Mountains experienced above-average to much-above-average temperatures with all-time average warmest temperatures across the month recorded in Louisiana, Mississippi, Alabama, and Maine. These warmer-than-normal temperatures during a winter month leads to lower energy usage for space-heating demand.

Electric Power Sector Coal Stocks: November 2024

Coal stocks by type, January 2009 - November 2024

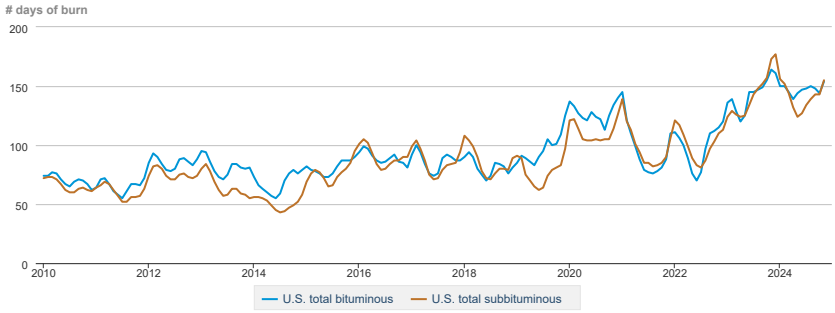


eia Data source: U.S. Energy Information Administration

Total U.S. coal stockpiles increased by 2.5% to 131 million tons compared to the previous month. This month-over-month increase in coal stockpiles is normal during the fall months when coal power plants begin to build-up their stockpiles for use during the winter months.

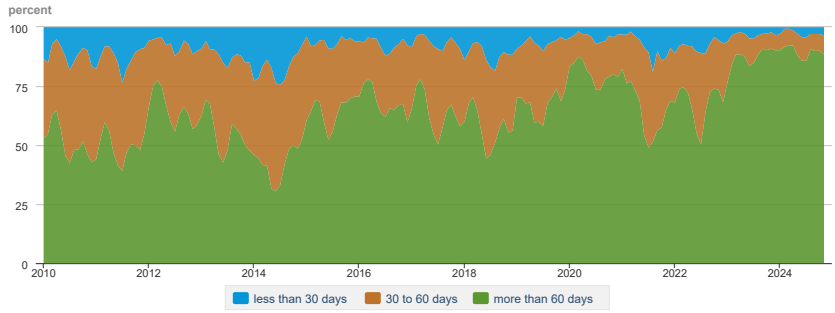
DAYS OF BURN

Days of burn by non-lignite coal rank, January 2010 - November 2024



eia Data source: U.S. Energy Information Administration

U.S. non-lignite capacity by days of burn, January 2010 - November 2024



eia Data source: U.S. Energy Information Administration

The average number of days of burn held at electric power plants is a forward-looking estimate of coal supply given a power plant's current stockpile and past consumption patterns. For bituminous units largely located in the eastern United States, the average number of days of burn increased from the previous month, going from 144 days of forward-looking days of burn in October 2024 to 154 days of burn in November 2024. For subbituminous units largely located in the western United States, the average number of days of burn also increased, going from 143 days of burn in October 2024 to 155 days of burn in November 2024.

COAL STOCKS AND AVERAGE NUMBER OF DAYS OF BURN FOR NON-LIGNITE COAL BY REGION (ELECTRIC POWER SECTOR)

		November 2024		November 2023			October 2024		
Zone	Coal	Stocks (1000 tons)	Days of Burn	Stocks (1000 tons)	Days of Burn	% Change of Stocks	Stocks (1000 tons)	Days of Burn	% Change of Stocks
Northeast	Bituminous	2,127	166	2,442	251	-12.9%	2,150	174	-1.1%
	Subbituminous	.	.	.	.	.	.	.	.
South	Bituminous	20,805	151	22,615	165	-8.0%	20,339	143	2.3%
	Subbituminous	6,284	102	6,598	113	-4.8%	5,962	96	5.4%
Midwest	Bituminous	12,472	145	13,260	148	-5.9%	11,869	131	5.1%
	Subbituminous	33,699	154	33,303	179	1.2%	33,706	146	-0.0%
West	Bituminous	3,145	221	2,755	190	14.2%	3,292	228	-4.5%
	Subbituminous	31,176	172	31,390	183	-0.7%	30,183	158	3.3%
U.S. Total	Bituminous	38,549	154	41,073	164	-6.1%	37,649	144	2.4%

Source: U.S. Energy Information Administration

NOTE: Stockpile levels shown above reflect a sample of electric power sector plants, which were used to create the days of burn statistics. These levels will not equal total electric power sector stockpile levels.

		November 2024		November 2023			October 2024		
Zone	Coal	Stocks (1000 tons)	Days of Burn	Stocks (1000 tons)	Days of Burn	% Change of Stocks	Stocks (1000 tons)	Days of Burn	% Change of Stocks
	Subbituminous	71,158	155	71,291	173	-0.2%	69,852	143	1.9%

Source: U.S. Energy Information Administration

NOTE: Stockpile levels shown above reflect a sample of electric power sector plants, which were used to create the days of burn statistics. These levels will not equal total electric power sector stockpile levels.

Methodology and Documentation

GENERAL

The Electricity Monthly Update is prepared by the Electric Power Operations Team, Office of Electricity, Renewables and Uranium Statistics, U.S. Energy Information Administration (EIA), U.S. Department of Energy. Data published in the Electricity Monthly Update are compiled from the following sources: U.S. Energy Information Administration, Form EIA-826,"Monthly Electric Utility Sales and Revenues with State Distributions Report," U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report," fuel spot prices from Bloomberg Energy, electric power prices from SNL Energy, electric system demand data from Ventyx Energy Velocity Suite, and weather data and imagery from the National Oceanic and Atmospheric Administration.

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 1900 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 Electricity Monthly Update is based on an incomplete sample and includes only regional estimates and ranges for state values where applicable. 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 PDF to the *Electric Power Monthly*. Values displayed in the Electric Monthly Update may differ from values published in the Electric Power Monthly due to the additional data collection and data revisions that may occur between the releases of these two publications.

Accessing the data: The data included in most graphics can be downloaded via the "Download the data" icon above the navigation pane.Some missing data are proprietary and non-public.

For a guide that describes electricity data that EIA collects and how the data are made available to the public, see the Guide to EIA Electric Power Data.

KEY INDICATORS

The Key Indicators in the table located in the "Highlights" section, are defined below. The current month column includes data for the current month at a national level. The units vary by statistic, but are included in the table. The "% Change from 2010" value is the current month divided by the corresponding month last year (e.g. July 2011 divided by July 2010). This is true for Total Generation, Residential Retail Price, Retail Sales, Degree-Days, Coal Stocks, Coal and Natural Gas Consumption. The Henry Hub current month value is the average weekday price for the current month. The Henry Hub "% Change from 2010" value is the average weekday price of the same month from 2010 divided by the average weekday price of the current month.

- **Total Net Generation**: Reflects the total electric net generation for all reporting sectors as collected via the Form EIA-923.
- **Residential Retail Price**: Reflects the average retail price as collected via the Form EIA-826.
- **Retail Sales**: Reflects the reported volume of electricity delivered as collected via the Form EIA-826.
- **Degree-Days**: Reflects the total population-weighted United States degree-days as reported by the National Oceanic and Atmospheric Administration.
- **Natural Gas Henry Hub**: Reflects the average price of natural gas at Henry Hub for the month. The data are provided by Bloomberg.
- **Coal Stocks**: Reflects the total coal stocks for the Electric Power Sector as collected via the Form EIA-923.
- **Coal Consumption**: Reflects the total coal consumption as collected via the Form EIA-923.
- **Natural Gas Consumption**: Reflects the total natural gas consumption as collected via the Form EIA-923.
- **Nuclear Outages**: Reflects the average daily outage amount for the month as reported by the Nuclear Regulatory Commission's Power Reactor Status Report and the latest net summer capacity data collected on the EIA-860 Annual Generator Report.

SECTOR DEFINITIONS

The Electric Power Sector comprises electricity-only and combined heat and power (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 (IPPs), including IPP plants that operate as CHPs). The All Sectors totals include the Electric Power Sector and the Commercial and Industrial Sectors (Commercial and Industrial power producers are primarily CHP plants).

DEGREE DAYS

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).

PER CAPITA RETAIL SALES

The per capita retail sales statistics use 2011 population estimates from the U.S. Census Bureau and monthly data collected by the Energy Information Administration. The volume of electricity delivered to end users for all sectors in kilowatthours is divided by the 2011 population estimate for each state.

COMPOSITION OF FUEL CATEGORIES

Net generation statistics are grouped according to regions (see Electricity Monthly Update Explained Section) by generator type and fuel type. Generator type categories include:

- Fossil Steam: Steam turbines powered by the combustion of fossil fuels
- Combined Cycle: Combined cycle generation powered by natural gas, petroluem, landfill gas, or other miscellaneous energy sources
- Other Fossil: Simple cycle gas turbines, internal combustion turbines, and other fossil-powered technology
- Nuclear Steam: Steam turbines at operating nuclear power plants
- Hydroelectric: Conventional hydroelectric turbines
- Wind: Wind turbines
- Other renewables: All other generation from renewable sources such as geothermal, solar, or biomass
- Other: Any other generation technology, including hydroelectric pumped storage

Generation statistics are also displayed by fuel type. These include:

- Coal: all generation associated with the consumption of coal
- Natural Gas: all generation associated with the consumption of natural gas
- Nuclear: all generation associated with nuclear power plants
- Hydroelectric: all generation associated with conventional hydroelectric turbines
- Other Renewable: all generation associated with wind, solar, biomass, and geothermal energy sources
- Other Fossil: all generation associated with petroleum products and fossil-dervied fuels
- Other: all other energy sources including waste heat, hydroelectric pumped storage, other reported sources

RELATIVE FOSSIL FUEL PRICES

Relative fossil fuel prices are daily averages of fossil fuel prices by month, displayed in dollars per million British thermal units as well as adjusted for operating efficiency at electric power plants to convert to dollars per megawatthour. Average national heat rates for typical operating units for 2010 were used to convert relative fossil fuel prices.

AVERAGE DAYS OF BURN

Average Days of Burn is defined as the average number of days remaining until coal stocks reach zero if no further deliveries of coal are made. These data have been calculated using only the population of coal plants present in the monthly Form EIA-923. This includes 1) coal plants that have generators with a primary fuel of bituminous coal (including anthracite) or subbituminous, and 2) are in the Electric Power Sector (as defined in the above "Sector definitions"). Excluded are plants with a primary fuel of lignite or waste coal, mine mouth plants, and out-of-service plants. Coal storage terminals and the related plants that they serve are aggregated into one entity for the calculation of Average Days of Burn, as are plants that share stockpiles.

Average Days of Burn is computed as follows: End of month stocks for the current (data) month, divided by the average burn per day. Average Burn per Day is the average of the three previous years' consumption as reported on the Form EIA-923.

These data are displayed by coal rank and by zone. Each zone has been formed by combining the following Census Divisions:

- Northeast — New England, Middle Atlantic
- South — South Atlantic, East South Central
- Midwest — West North Central, East North Central
- West — Mountain, West South Central, Pacific Contiguous

COAL STOCKS VS. DAYS OF BURN STOCKS

The coal stocks data presented at the top of the Fossil Fuel Stocks section (“Coal Stocks”) will differ from the coal stocks presented in the Days of Burn section (“DOB Stocks”) at the bottom of the Fossil Fuel Stocks section. This occurs because Coal Stocks include the entire population of coal plants that report on both the annual and monthly Form EIA-923. The DOB Stocks only include coal plants that report on the monthly Form EIA-923 and have a primary fuel of bituminous (including anthracite) or subbituminous as reported on the Form EIA-860.