# EIA: State Energy Info 101

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Shirley Neff | Barbara Fichman

Michael Leahy | Chris Noonan Sturm

September 12, 2011

NASEO Energy Data & Security Committee Meeting

### How we can help you

- State-specific data, analysis & maps
- Brief energy analysis every weekday
- Energy education in plain language







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International Energy Outlook

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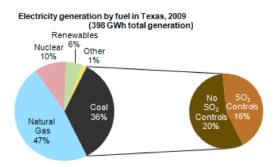
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#### Today in Energy

Posted September 8, 2011

### EPA rule requires SO<sub>2</sub> emissions reduction from Texas coal power plants in 2012 >

Starting in 2012, power plants in 23 states must meet new sulfur dioxide (SO $_2$ ) emissions caps in order to comply with the Cross State Air Pollution Rule (CSAPR). Including Texas in CSAPR was a key difference between the final rule and the draft version released last year. The rule requires power plants in Texas to reduce SO $_2$  emissions 53% below 2010 levels by 2012. More  $\rangle$ 



Source: EIA, Form EIA-923 "Annual Power Plant Operations Report".

#### Data Highlights

#### Crude oil futures price

9/7/2011: \$89.34/bbl

1 \$0.53 from week earlier

1 \$15.25 from year earlier

#### Natural gas futures price

9/7/2011: \$3.940/mmBtu

↓ \$0.114 from week earlier

1 \$0.090 from year earlier

#### Natural gas inventories

9/2/2011: 3,025 Bcf

↑ 64 Bcf from week earlier

131 Bcf from year earlier

#### Crude oil inventories

9/2/2011: **353.1 mmbbl** 

↓ 4.0 mmbbl from week earlier

↓ 6.8 mmbbl from year earlier

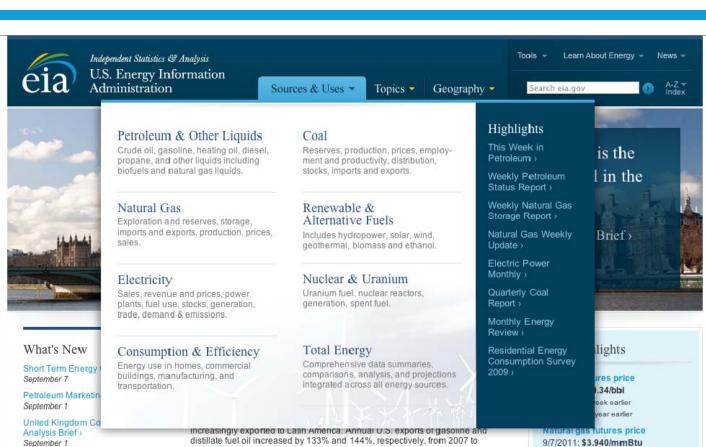
#### Weekly coal production

8/27/2011: 21.153 million tons

1 0.366 million tons from week earlier

↓ 0.251 million tons from year earlier





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2011)

distillate fuel oil increased by 133% and 144%, respectively, from 2007 to 2010. More >

#### U.S. petroleum product exports, rolling three-month average thousand barrels perday



Source: U.S. Energy Information Administration, Petroleum Supply Monthly.

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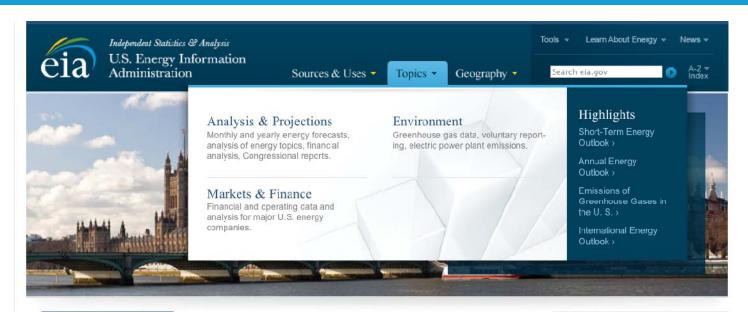
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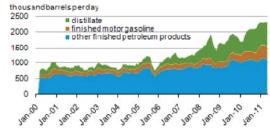
#### Today in Energy

Posted September 7, 2011

#### U.S. exports of petroleum products increase as markets become more globally integrated >

Total U.S. exports of finished petrcleum products have increased more than 60% since 2007 as markets have become more globally integrated. This trend is driven primarily by finished motor gasoline and distillate, which are increasingly exported to Latin America. Annual U.S. exports of gasoline and distillate fuel oil increased by 133% and 144%, respectively, from 2007 to 2010. More >

#### U.S. petroleum product exports, rolling three-month average



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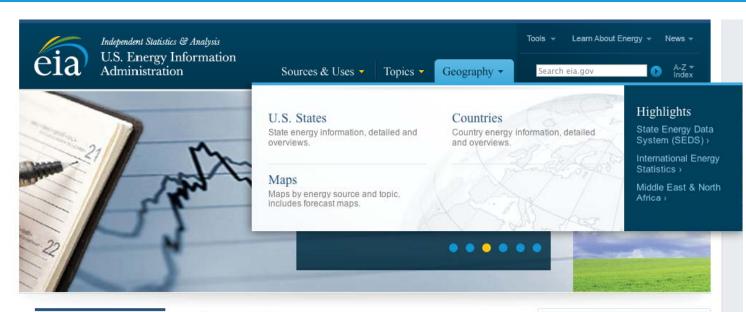
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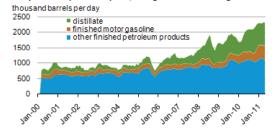
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Source: U.S. Energy Information Administration, Annual

Energy Review 2009, Table 1.2 (August 2010)

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Energy in Briefs explain important energy topics in plain language. Each Brief answers a question relevant to the public and recommends resources for further reading. Please use the tools to the right to give us feedback, share with others, or sign up for notices as new Briefs are released.



#### August 30, 2011

#### How much of the world's electricity supply is generated from wind and who are the leading generators?

Worldwide wind power generation exceeded 250 billion kilowatthours in 2009, which is equivalent to the annual electricity consumption of over 22 million average households in the United States. Wind generation increased by about 20% from 2008 to 2009, and has more than tripled since 2004. This growth is mostly due to capacity increases in the United States, China, India, and Western Europe. Despite this growth, the world still generated only 1% of its total electricity from wind power in 2009.



August 8, 2011

#### How old are U.S. power plants?

The current fleet of electric power generators has a wide range of ages. About 530 gigawatts, or 51% of all generating capacity, were at least 30 years old at the end of 2010. Trends in generating capacity additions vary by fuel type, for coal, hydropower, natural gas, nuclear, petroleum, and wind.



August 4, 2011

#### What is shale gas and why is it important?

Shale gas refers to natural gas that is trapped within shale formations. Shales are fine-grained sedimentary rocks that can be rich sources of petroleum and natural gas. Over the past decade, the combination of horizontal drilling and hydraulic fracturing has allowed access to large volumes of shale gas that were previously uneconomical to produce. The production of natural gas from shale formations has rejuvenated the natural gas industry in the United States.



June 24, 2011

#### How dependent are we on foreign oil?

The United States imported about 49% of the petroleum, which includes crude oil and refined petroleum products, that we consumed during 2010. About half of these imports came from the Western Hemisphere. Our dependence on foreign petroleum has declined since peaking in 2005.



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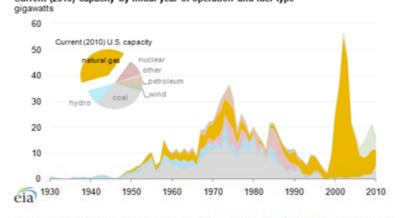
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About Our Charts





Sources: U.S. Energy Information Administration, Form EIA-860 Annual Electric Generator Report, and Form EIA-860N (see Table E83 in the March 2011 Electric Power Monthly)

Note: Date for 2010 are preliminary. Generators with online dates earlier than 1930 are predominantly hydroelectric. Date include nonretired plants existing as of year-end 2010. This chart shows the most recent (summer) capacity date for each generator. However, this number may change over time, if a generator undergoes an uprate or derate.

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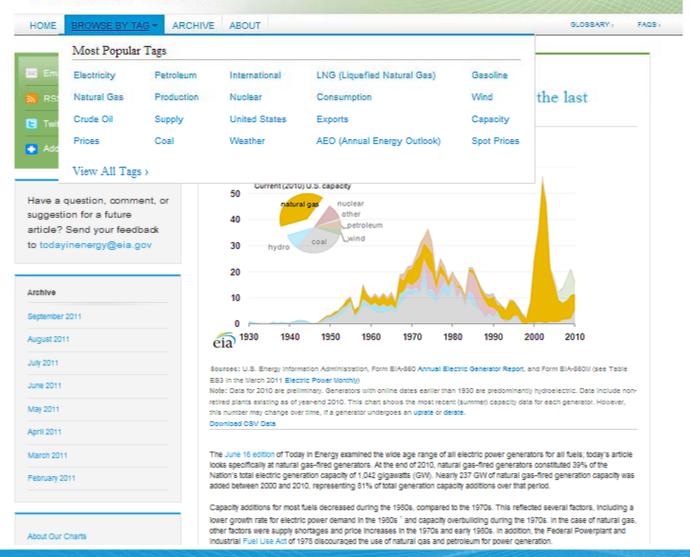
The June 16 edition of Today in Energy examined the wide age range of all electric power generators for all fuels; today's article looks specifically at natural gas-fired generators. At the end of 2010, natural gas-fired generators constituted 39% of the Nation's total electric generation capacity of 1,042 gligawatts (GVV). Nearly 237 GVV of natural gas-fired generation capacity was added between 2000 and 2010, representing 81% of total generation capacity additions over that period.

Capacity additions for most fuels decreased during the 1980s, compared to the 1970s. This reflected several factors, including a lower grown rate for electric power demand in the 1960s i and capacity overbuilding during the 1970s, in the case of natural gas, other factors were supply shortages and price increases in the 1970s and early 1980s. In addition, the Federal Powerplant and Industrial Fuel Use Act of 1978 discouraged the use of natural gas and petroleum for power generation.

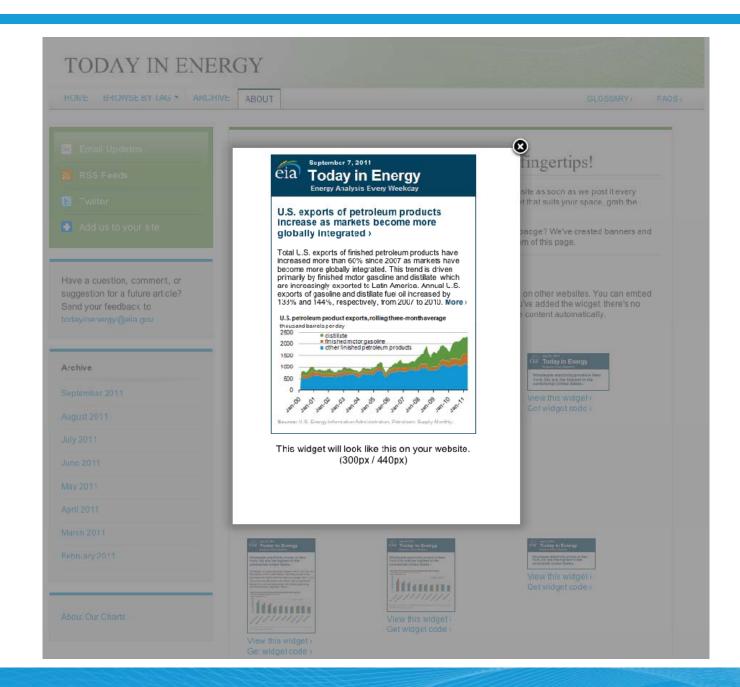




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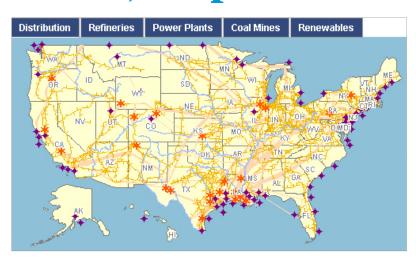
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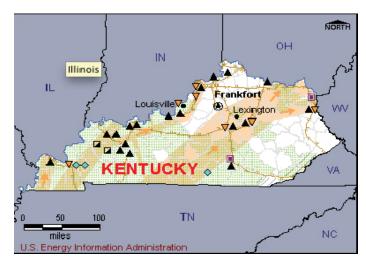
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- State rankings with matching maps

#### State-level:

- State energy maps
- Quick facts & energy overview
- Data

Other: Directory list of all EIA State information, detailed notes & sources





#### U.S. STATES

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Alaska	Idaho	Minnesota	North Dakota	Vermont
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Arkansas	Indiana	Missouri	Oklahoma	Washington
California	Iowa	Montana	Oregon	West Virginia
Colorado	Kansas	Nebraska	Pennsylvaria	Wisconsin
Connecticut	Kentucky	Nevada	Rhode Island	Wyoming
Delaware	Louisiana	New Hampshire	South Carolina	
District of Columbia	Maine	New Jersey	South Dakota	
Florida	Maryland	New Mexico	Tennessee	
Georgia	Massachusetts	New York	Texas	

U.S. Territories: American Samoa | Guam | Northern Mariana Islands | Puerto Rico | U.S. Virgin Islands

State Ranking 1. Total Energy Production, 2009 (trillion Btu)

Total Energy Production (trillion Btu)

GLOSSARY)

FAQS)

7,302

1 Texas 11,915 2 Wyoming 10,337

4 West Virginia 3,727 5 Kentucky 2,819

6 Pennsylvania 2,674 7 California 2,605 8 Oklahoma 2.571

9 Colorado 2,483 10 New Mexico 2,412

See Complete List »

3 Louisiana



View State Energy Data System (SEDS) >

#### Updates

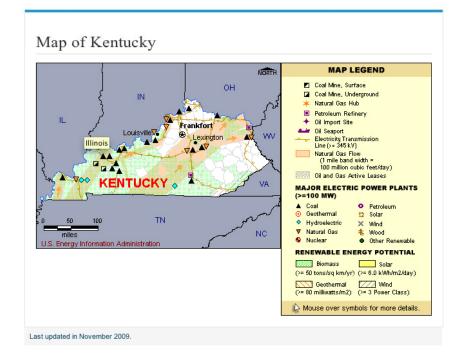
as of August 25, 2011

#### New statistics for May 2011:

- · Price of coal delivered to the electric power sector
- · Prices of electricity sold to the residential, commercial, and industrial







#### Kentucky Quick Facts

- Kentucky ranks third in the Nation in coal production. It accounts for about one-tenth of U.S. coal
  production and nearly one-fourth of U.S. production east of the Mississippi River,
- Nearly one-third of all the coal mines in the Nation are found in Kentucky.
- · Coal-fired plants typically generate more than nine-tenths of the electricity produced in Kentucky.
- . The majority of Kentucky's natural gas is supplied by pipeline from the Gulf Coast.

Last updated in October 2009.



Data

Related Information





#### Analysis

#### Resources and Consumption

Kentucky has major coal deposits in the eastern Central Appalachian Basin and in the western Illinois Basin. Those basins also hold minor reserves of oil and gas. The Tennessee and Cumberland Rivers in the Ohio River Basin provide hydroelectric power potential. Kentucky's per capita energy consumption is among the highest in the Nation, and the industrial sector leads State energy demand. The State is a leader in the energy-intensive aluminum industry.

#### Petroleum

Kentucky has minor crude oil production but is host to two refineries, located in Catlettsburg and Somerset. The Catlettsburg refinery is the larger of the two and receives crude oil supply from the Gulf Coast via the Capline Pipeline. The much smaller Somerset refinery processes crude oil produced regionally in Kentucky, Tennessee, and West Virginia. In addition to deliveries from these refineries, Kentucky also receives petroleum product shipments by pipeline and river barge. Kentucky's total petroleum consumption is high relative to its population. The Louisville metropolitan area and the Kentucky suburbs of Cincinnati require reformulated motor gasoline blended with ethanol. Kentucky has two ethanol plants that help supply those areas.

#### Natural Gas

Kentucky's natural gas production, much of which comes from the Big Sandy field in the eastern part of the State, typically accounts for less than 1 percent of total U.S. natural gas production. The majority of Kentucky's natural gas is supplied by pipeline from the Gulf Coast. Industry is Kentucky's largest natural gas-consuming sector, accounting for about one-half of total natural gas consumption in the State. More than two-fifths of Kentucky households use natural gas as their primary fuel for home heating.

#### Coal, Electricity, and Renewables

Kentucky is the third largest coal-producing State, after Wyoming and West Virginia. It accounts for roughly one-tenth of total U.S. coal production and nearly one-fourth of U.S. coal production east of the Mississippi River. Although all Kentucky coal is bituminous, its sulfur content varies across the State. Coal produced in the Central Appalachian Basin is low in sulfur, while coal produced in the Illinois Basin is high in sulfur. Nearly one-third of all the coal mines in the Nation are found in Kentucky, more than in any other State. Kentucky has both surface and underground coal mines. Large volumes of coal move into and out of Kentucky by railcar and river barge. Kentucky delivers approximately three fourths of State coal production to more than two dozen States, most of which are on the East Coast and in the Midwest. Nearly 95 percent of the coal used in Kentucky is burned for electricity generation, and most of the remainder is used in industrial and coke plants.

Coal-fired power plants typically account for more than nine-tenths of the electricity produced in Kentucky, making it one of the most coal-dependent States in the Nation. The remaining electricity generation within the State is mostly provided by petroleum-fired and hydroelectric power plants.

Kentucky's per capita consumption of residential electricity is among the highest in the United States. More than twofifths of Kentucky households use electricity as their primary energy source for home heating.

#### A Print this state

(includes overview, data, & analysis)

#### Updates

as of August 25, 2011

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- Price of coal delivered to the electric power sector
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- Total net electricity generation and net electricity generation by fuel
- Fuel stocks at electric power producers
- Consumption for electricity generation by fuel

View all updates »

#### Notes & Sources

Maps

Quick Facts & Analysis

Data

#### Related Information

Kentucky State Energy Data System >

State Electricity Profiles >

State Nuclear Profiles >









#### State Data for Prices

Total Energy	Period
State Energy Data System (SEDS), Price and Expenditure Estimates	Annual
Primary Energy, Electricity, and Total Energy Price Estimates	Annual
Total End-Use Energy Price Estimates	Annual
Residential Sector Energy Price Estimates	Annual
Commercial Sector Energy Price Estimates	Annual
Industrial Sector Energy Price Estimates	Annual
Transportation Sector Energy Price Estimates	Annual
Electric Power Sector Energy Price Estimates	Annual
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Petroleum and Natural Gas Prices and Expenditures, Ranked by State	Annual
Coal and Retail Electricity Prices and Expenditures, Ranked by State	Annual

Petroleum	Period
Weekly Retail Gasoline & Diesel Prices	Weekly, Monthly, Annual
Weekly Heating Oil and Propane Prices	Weekly, Monthly
Refiner Petroleum Product Prices by Sales Type	Monthly, Annual
Refiner Gasoline Prices by Grade and Sales Type	Monthly, Annual
Gasoline Prices by Formulation, Grade, Sales Type	Monthly, Annual
No. 2 Distillate Prices by Sales Type	Monthly, Annual
Propane (Consumer Grade) Prices by Sales Type	Monthly, Annual
Residual Fuel Oil Prices by Sales Type	Monthly, Annual
Domestic Crude Oil First Purchase Prices by Area	Monthly, Annual

Natural Gas	Period
Wellhead Price	Annual
Imports Price	Annual

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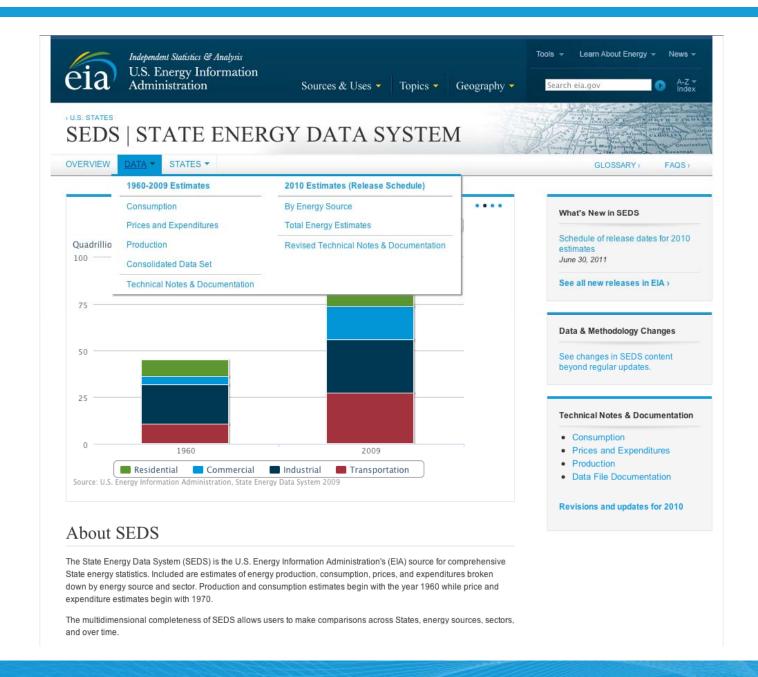
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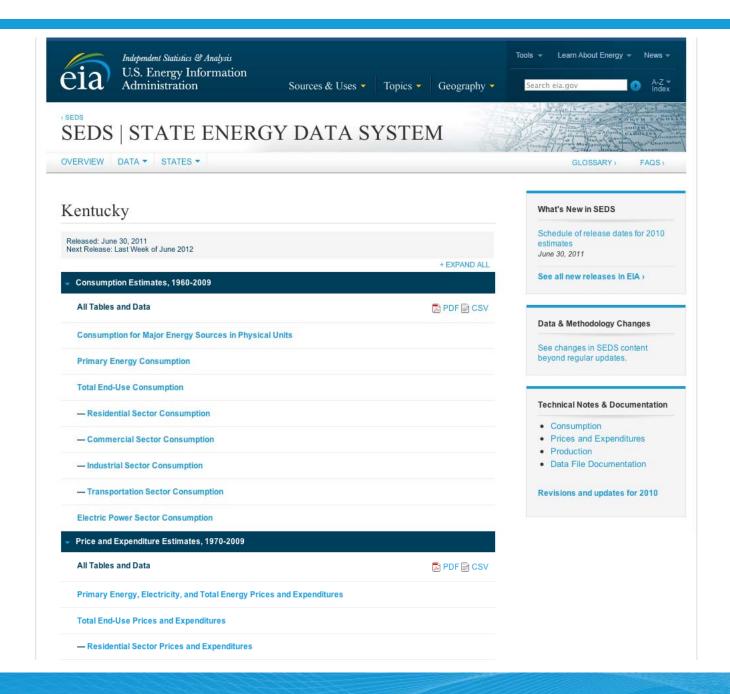














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- 2. Do you produce reports from EIA data?
- 3. What information do you use on the States section of the website? (data, analysis, maps) What is most useful?
- 4. How important is States content compared to other EIA web content?



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- 1. Do you use the maps on the States website? How important are they to you?
- 2. What data layers would you like to see in State maps?
- 3. What functionality would you like to see in State maps?



### Thank you! Contact us:

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