



Southern States Regional Energy Profiles 2014

Developed by



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July 28, 2014

Dear Board Members, Associate Members and Colleagues:

The Southern States Energy Board is pleased to present this 2nd edition of an informative and insightful analysis of *Southern States Energy Profiles*, providing an overview of the changing patterns of energy consumption across the South as well as their impacts on energy independence, security, reliability, environmental landscape and economic growth. This is a cooperative venture between the Southern States Energy Board and the Kentucky Department of Energy Development and Independence of the Energy and Environment Cabinet.

The report is expected to serve as a foundation for the discussion of energy programs, policies and technologies that can enhance economic development and the quality of life in the region. The Kentucky Energy and Environment Cabinet is to be commended for the skillful designs that have shaped the direction and substance of the report. Both organizations are indebted to the United States Department of Energy's Office of Fossil Energy, which provided grant funding to perform the assessments contained in the report.

These state energy profiles show the importance of energy to the region. In 2012, the sixteen states in the SSEB region consumed over 45 percent of the energy used in the nation and almost 47 percent of the electricity used nationwide. Energy consumption per capita and per unit of gross domestic product (GDP) continues to be substantially higher in the South than in the rest of the nation. Total energy consumption in member states has risen by 171 percent from 1960 to over 43 Quadrillion Btu in 2012.

Energy-intensive industrial and manufacturing processes found in the South continue to consume more energy than other economic sectors. Residential and commercial energy consumption rates continue growing faster than industrial demand due in part to an increase in population and as business is relocated to the SSEB region.

The SSEB region produces over half of U.S. domestic energy supply and serves nearly 40 percent of the nation's population. SSEB member states have created a robust, innovative energy supply including traditional fuel sources as well as renewable energy and energy efficiency. Three of the top five coal, oil, and natural gas-producing states are located in the South. Electricity in the region is primarily supplied by coal-burning power plants. In 2013, coal was used to generate 691 TWh, 40 percent of electricity generation. The southern states generate 66 percent of the nation's natural gas supply and four states (Texas, Louisiana, Alabama, and Oklahoma) produce more than 50 percent of U.S. domestic crude oil. West Virginia, Kentucky, and Texas rank among the top six coal producing states, collectively producing 25 percent of the nation's coal supply. Texas, Oklahoma, and West Virginia have almost 16 Gigawatts of wind capacity. SSEB states also generate 41 percent of the nation's nuclear energy, and five new nuclear units are under construction in the region.

While the South continues to lead the nation in energy consumption, electricity prices in 2012 continued to be lower than the national average. Even though residential prices were considerably lower in the region, consumption per household is higher than the national average partially due to those lower prices, weather requiring a heavy air-conditioning load, housing stock, as well as a historical availability of low-priced substitutes.

We would like to recognize the public sources used in aggregating data for this report, the *Southern States Energy Profiles*. The Energy Information Administration of the U.S. Department of Energy; U.S. Environmental Protection Agency; the Bureau of Labor Statistics; the Bureau of Economic Analysis; and the Census Bureau have all provided data used in the report. The document compares energy consumption, energy sources, electricity consumption, electricity generation and emissions, electricity prices, and energy exports between all SSEB member states, the SSEB region, and the United States.

A handwritten signature in black ink, appearing to read "K. Nemeth", written over a faint, stylized graphic of a bird or leaf.

Kenneth J. Nemeth
Secretary and Executive Director

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Southern States Energy Board

About Southern States Energy Board

The Southern States Energy Board (SSEB) is a non-profit interstate compact organization created in 1960 and established under Public Laws 87-563 and 92-440. The Board's mission is to enhance economic development and the quality of life in the South through innovations in energy and environmental policies, programs and technologies. Sixteen southern states and two territories comprise the membership of SSEB: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, U.S. Virgin Islands, Virginia and West Virginia. Each jurisdiction is represented by the governor and a legislator from the House and Senate. A governor serves as the chair and legislators serve as vice-chair and treasurer. Ex-officio non-voting Board members include a federal representative appointed by the president of the United States and SSEB's executive director, who serves as secretary.

SSEB was created by state law and consented to by Congress with a broad mandate to contribute to the economic and community well-being of the southern region. The Board exercises this mandate through the creation of programs in the fields of energy and environmental policy research, development and implementation, science and technology exploration and related areas of concern. SSEB serves its members directly by providing timely assistance designed to develop effective energy and environmental policies and programs and represents its members before governmental agencies at all levels.

Long-term Goals

- Perform essential services that provide direct scientific and technical assistance to state governments;
- Develop, promote and recommend policies and programs on energy, environment and economic development that encourage sustainable development;
- Provide technical assistance to executive and legislative policy-makers and the private sector in order to achieve synthesis of energy, environment and economic issues that ensure energy security and supply;
- Facilitate the implementation of energy and environmental policies between federal, state and local governments and the private sector;
- Sustain business development throughout the region by eliminating barriers to the use of efficient energy and environmental technologies; and
- Support improved energy efficient technologies that reduce environmental impacts and contribute to a clean global environment while protecting indigenous natural resources for future generations.

Executive Summary

The Southern States Energy Board (SSEB) is pleased to offer the 2nd edition of these *Southern States Energy Profiles* to provide a general overview of energy consumption within the SSEB region. The Profiles should also serve as a foundation to discuss energy and environmental policies, programs and technologies that could enhance future economic development of member states and the region. This report is a collaboration between the SSEB and the Kentucky Department for Energy Development and Independence (DEDI), Energy and Environment Cabinet. All of the data summarized in this report were aggregated from public sources, specifically the following agencies of the U.S. government: Energy Information Administration (EIA); Environmental Protection Agency (EPA); Bureau of Labor Statistics (BLS); Bureau of Economic Analysis (BEA); and the Census Bureau. Data compares the SSEB region and individual states with national averages for energy and electricity consumption, electricity generation and emissions from that generation, electricity prices, and energy exports. Note that comparable data for Puerto Rico and the U.S. Virgin Islands was not available at the time of publication.

Changing Electricity Generation Portfolio

The electricity generation portfolio of the SSEB region is changing rapidly, influenced by market conditions, environmental regulations, and state and federal policies related to energy production. Coal generation continues to dominate electricity production, followed by natural gas and nuclear. However, since the 1st edition of these *Profiles* two years ago, electricity produced from coal has decreased from 44 to 40 percent within the SSEB region and from 43 to 39 percent nationwide. Natural gas, meanwhile, has gone from 31 to 34 percent regionally and from 25 to 28 percent nationally. Electricity generated from renewable energy resources increased by 14 percent in the SSEB region in 2013. Wind power is the fastest growing renewable technology regionally, generating nearly 46 TWh in 2013. Hydroelectric generation, which varies from year to year due to rainfall and temperature, remains the largest source of renewable electricity overall at 39 percent.

Emissions Reductions

Pollution mitigation measures at regional power plants include the use of lower-sulfur fuels and the installation of clean coal technologies. Sulfur dioxide (SO₂) emissions from electricity generation have been reduced by 73 percent since 1995. Despite a 29 percent increase in electricity consumption since 1995, carbon dioxide (CO₂) emissions in the SSEB region have increased by only 5 percent. CO₂ emissions from electricity generation peaked at 1.3 billion tons in 2007 and have declined by 15 percent to less than 1.1 billion tons in 2013.

Stable Electricity Prices

Electricity prices in the SSEB region in 2013 were 10 percent lower than the national average and have remained approximately stable over the past decade (in real terms). Industrial and residential prices averaged 6.09 and 10.96 cents/kWh while commercial rates were 8.97 cents in 2013. Monthly electricity bills paid by residential consumers averaged \$121.22 in 2013, which was 25 percent higher than the national average.

Energy Consumption

The sixteen southern states in the SSEB region consumed 45 percent of the total energy used in the United States in the year 2012. Energy consumption per capita and per unit of GDP is not only substantially higher in the region but is also growing faster than the national average. Petroleum, used primarily for transportation fuels such as diesel and motor gasoline, continues to be the region's primary energy source, accounting for 40 percent of all energy consumed. Natural gas is the second largest energy resource, supplying 28 percent of energy demand in 2012, and is used primarily for industrial processes, electricity generation and home heating. Coal is the region's third largest energy resource, supplying 19 percent of energy requirements in 2012, used primarily for electricity generation. Nuclear power supplied 8 percent of the regional energy requirements. Finally, renewable energy resources, primarily electricity generated from hydroelectric power, wood waste and wind power, supplied 6 percent of the energy consumed in the region in 2012. Wind power continues to be the fastest-growing renewable energy resource in the region. With low natural gas prices and increased environmental regulations, along with dramatic reductions in the cost of renewable resources, a number of changes are occurring in the traditional energy mix.

SSEB Region States

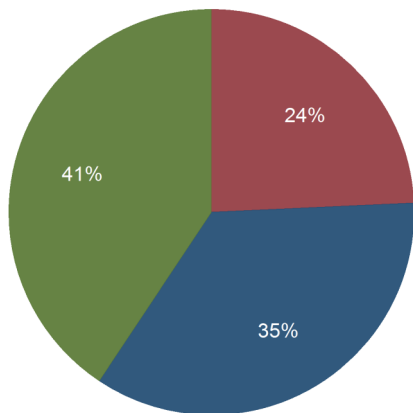
**This document is intended to provide an overview of energy in the following states,
both individually and as a region.**

**ALABAMA
ARKANSAS
FLORIDA
GEORGIA
KENTUCKY
LOUISIANA
MARYLAND
MISSISSIPPI
MISSOURI
NORTH CAROLINA
OKLAHOMA
SOUTH CAROLINA
TENNESSEE
TEXAS
VIRGINIA
WEST VIRGINIA**

**Puerto Rico and the U.S. Virgin Islands, though members of the Southern States Energy Board,
are not included in this profile because comparable data was not available at the time of publication.**

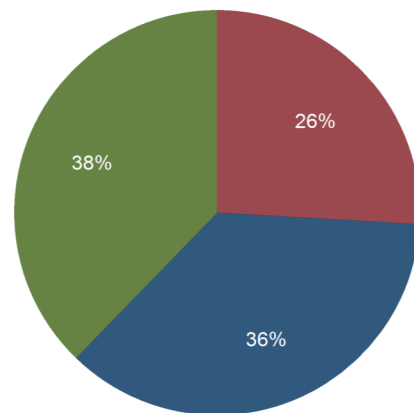
SSEB Region Electricity Consumption

SSEB Region Electricity Consumption by Sector, 2013



Kentucky Energy Database, EEC-DEDI, 2014

United States Electricity Consumption by Sector, 2013

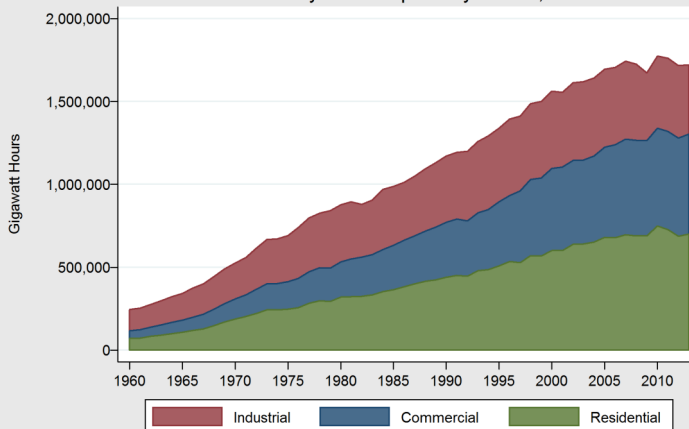


Kentucky Energy Database, EEC-DEDI, 2014

Sector	Gigawatt-hours	2013 Change
Total	1,721,555	+0.3%
Residential	699,988	+1.9%
Commercial	603,493	+1.8%
Industrial	418,074	-4.1%

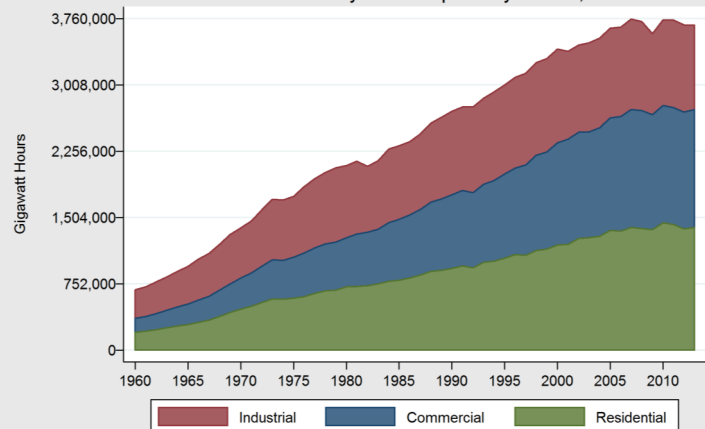
Sector	Gigawatt-hours	2013 Change
Total	3,691,788	-<0.1%
Residential	1,391,087	+1.2%
Commercial	1,338,448	+0.8%
Industrial	954,727	-3.2%

SSEB Electricity Consumption by Sector, 1960-2013



Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA SEDS & EIA Form 861 & 826

United States Electricity Consumption by Sector, 1960-2013



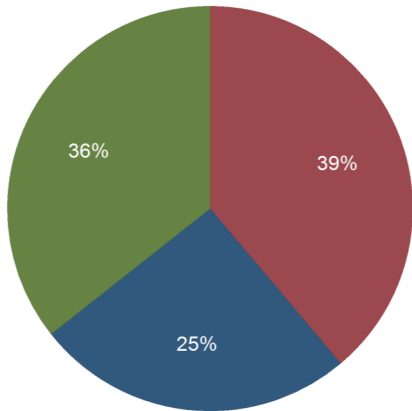
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA SEDS & EIA Form 861 & 826

Electricity consumption across the SSEB region grew by a marginal 0.3 percent in 2013, which was higher than demand growth elsewhere in the United States. Commercial and residential consumption grew by 1.8 and 1.9 respectively in 2013, while industrial demand decreased by 4.1 percent. In 2013, industrial consumers in the SSEB region accounted for 24 percent of demand compared to 26 percent nationally.

Industrial electricity demand was once the largest electricity consuming sector; however, industrial demand growth in the SSEB region has actually declined by 10.3 percent since peaking in the year 2000. Since the mid-1980's, residential demand has accounted for the largest proportion of electricity consumption in both the SSEB region and the United States as a whole at 41 percent and 38 percent of total 2013 demand respectively.

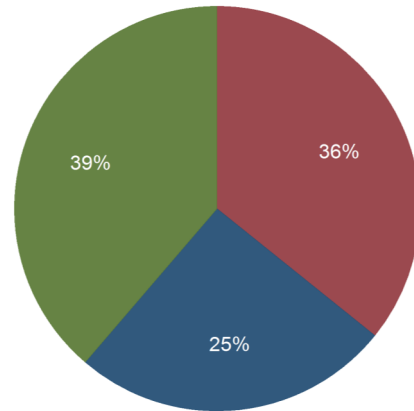
Electricity Consumption by Sector

Alabama Electricity Consumption by Sector, 2013



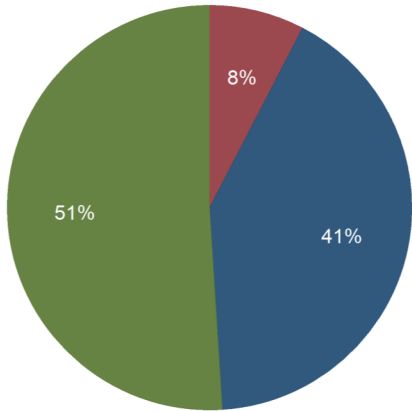
Kentucky Energy Database, EEC-DEDI, 2014

Arkansas Electricity Consumption by Sector, 2013



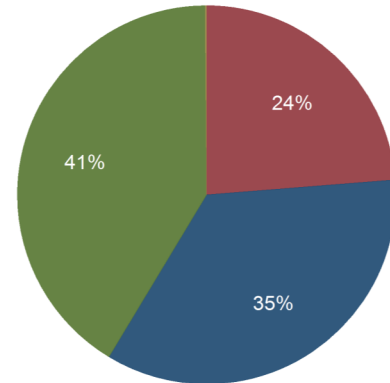
Kentucky Energy Database, EEC-DEDI, 2014

Florida Electricity Consumption by Sector, 2013



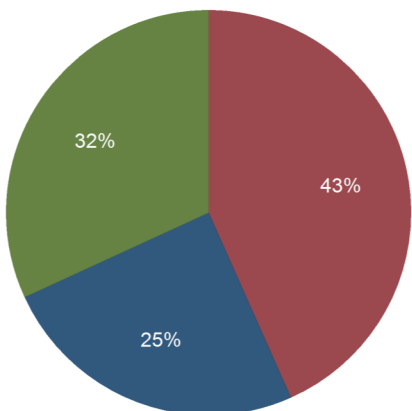
Kentucky Energy Database, EEC-DEDI, 2014

Georgia Electricity Consumption by Sector, 2013



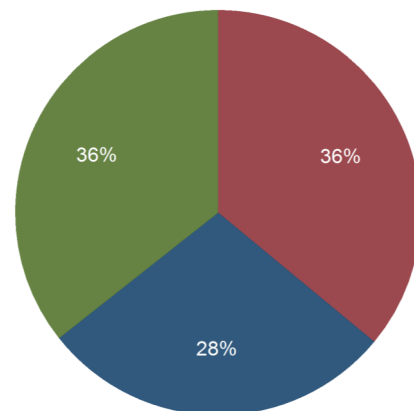
Kentucky Energy Database, EEC-DEDI, 2014

Kentucky Electricity Consumption by Sector, 2013



Kentucky Energy Database, EEC-DEDI, 2014

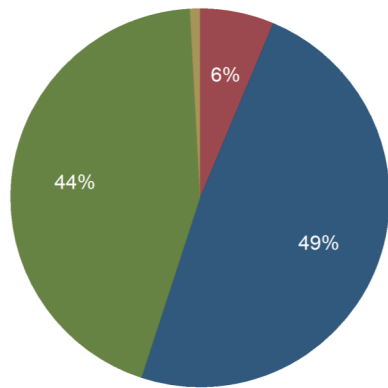
Louisiana Electricity Consumption by Sector, 2013



Kentucky Energy Database, EEC-DEDI, 2014

Electricity Consumption by Sector

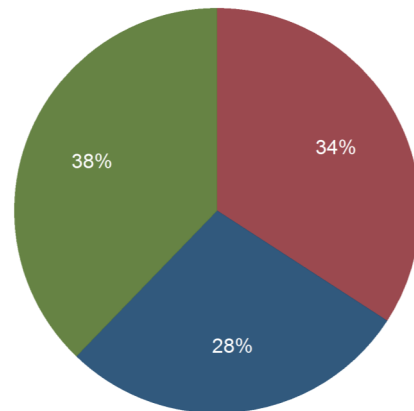
Maryland Electricity Consumption by Sector, 2013



Industrial Commercial Residential
Transportation

Kentucky Energy Database, EEC-DEDI, 2014

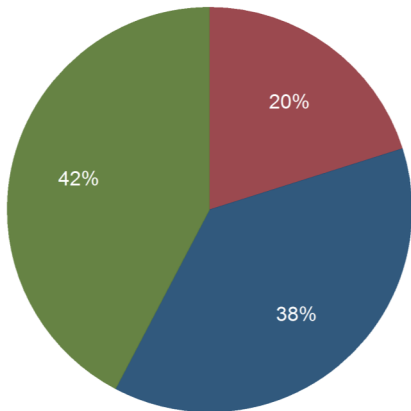
Mississippi Electricity Consumption by Sector, 2013



Industrial Commercial Residential

Kentucky Energy Database, EEC-DEDI, 2014

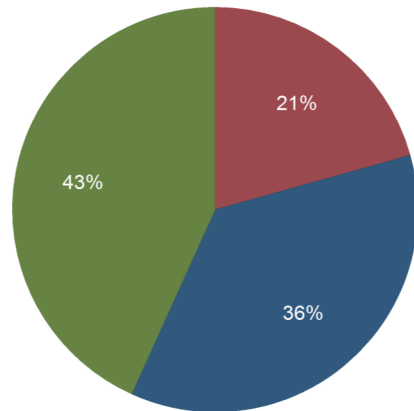
Missouri Electricity Consumption by Sector, 2013



Industrial Commercial Residential

Kentucky Energy Database, EEC-DEDI, 2014

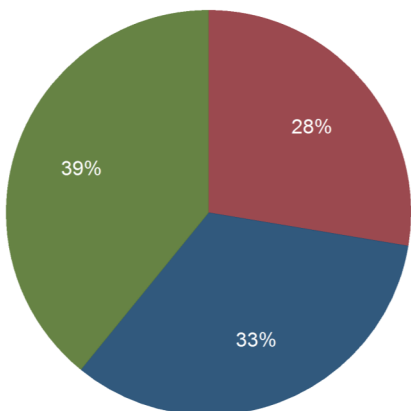
North Carolina Electricity Consumption by Sector, 2013



Industrial Commercial Residential

Kentucky Energy Database, EEC-DEDI, 2014

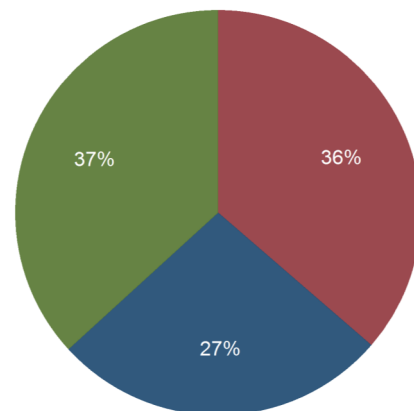
Oklahoma Electricity Consumption by Sector, 2013



Industrial Commercial Residential

Kentucky Energy Database, EEC-DEDI, 2014

South Carolina Electricity Consumption by Sector, 2013

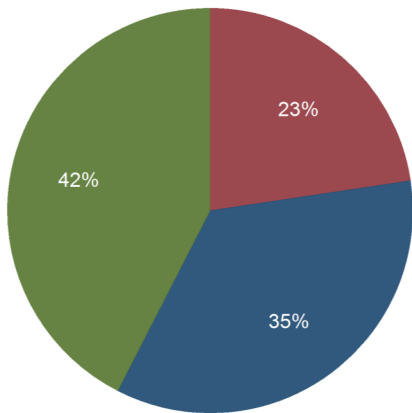


Industrial Commercial Residential

Kentucky Energy Database, EEC-DEDI, 2014

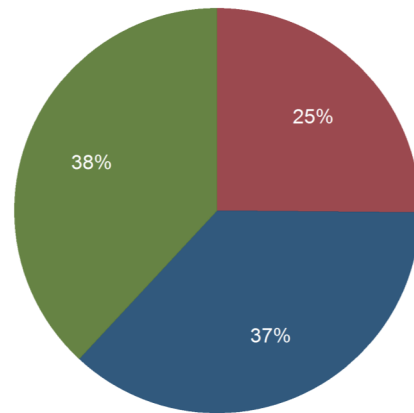
Electricity Consumption by Sector

Tennessee Electricity Consumption by Sector, 2013



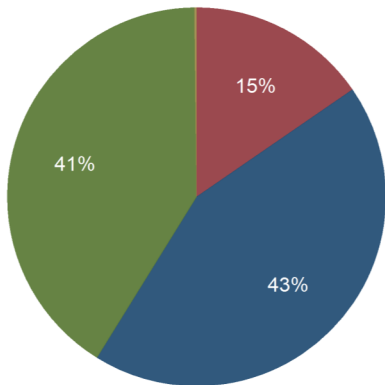
Kentucky Energy Database, EEC-DEDI, 2014

Texas Electricity Consumption by Sector, 2013



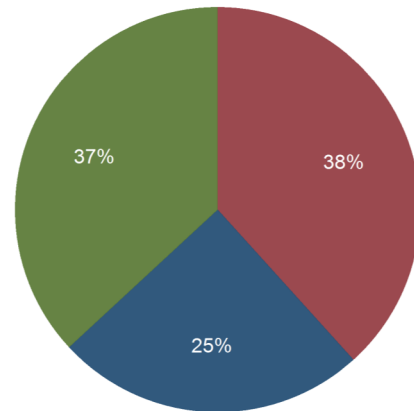
Kentucky Energy Database, EEC-DEDI, 2014

Virginia Electricity Consumption by Sector, 2013



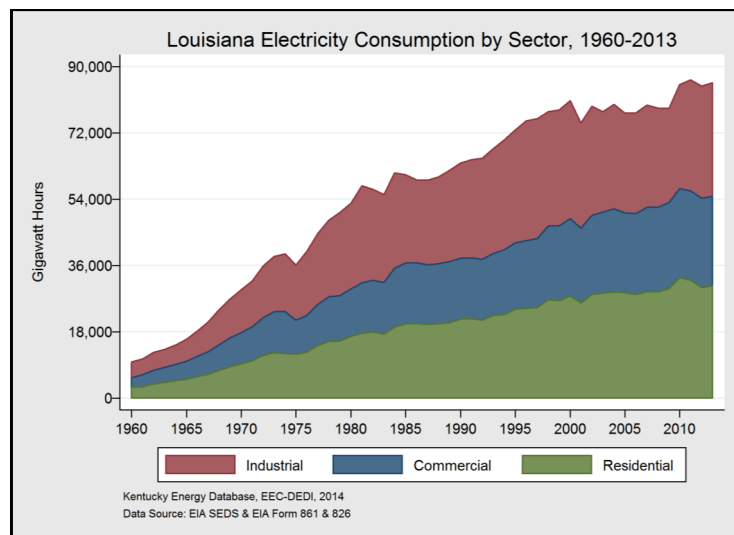
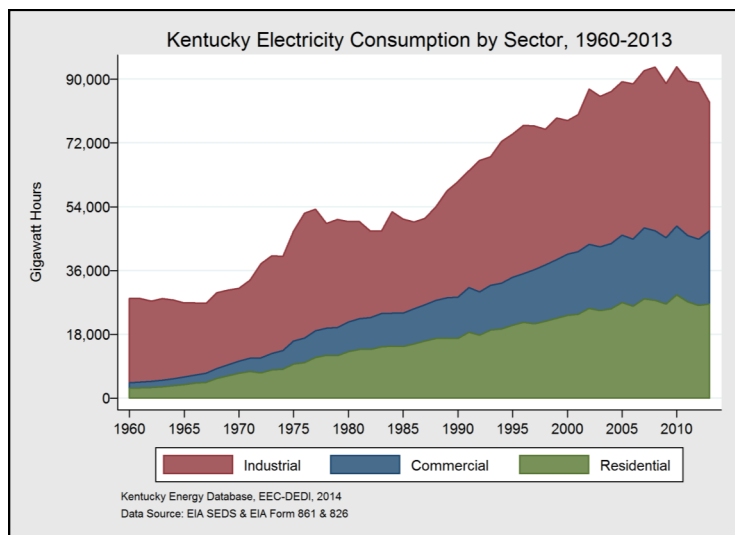
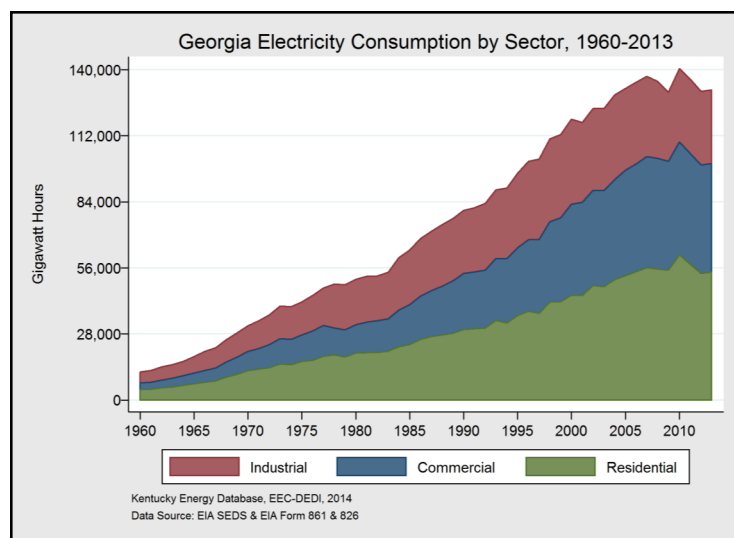
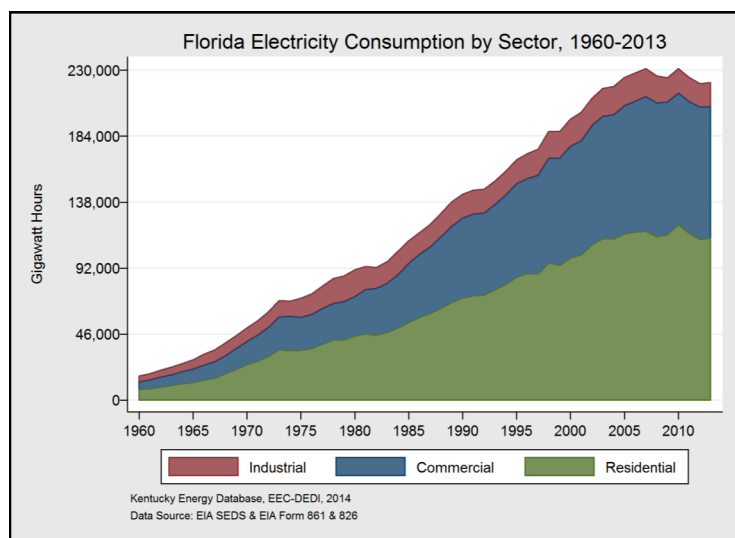
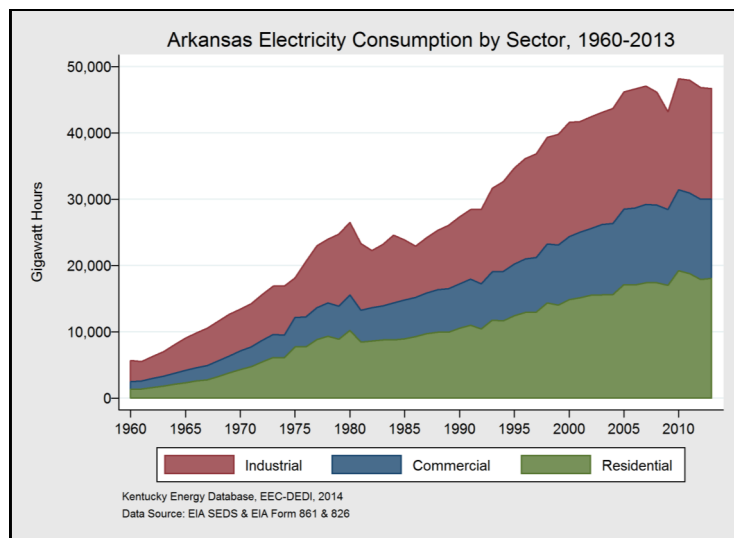
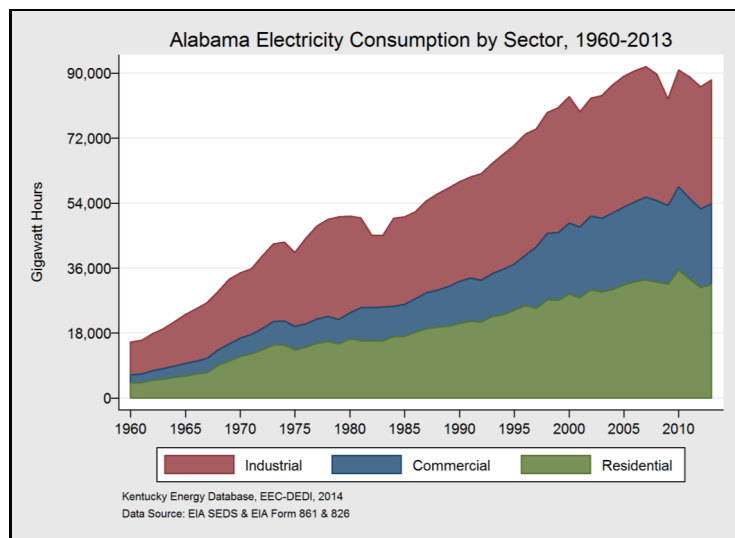
Kentucky Energy Database, EEC-DEDI, 2014

West Virginia Electricity Consumption by Sector, 2013

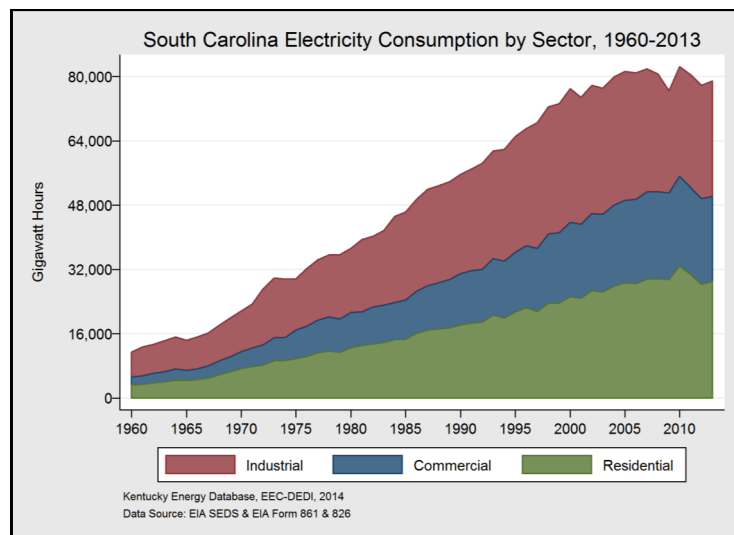
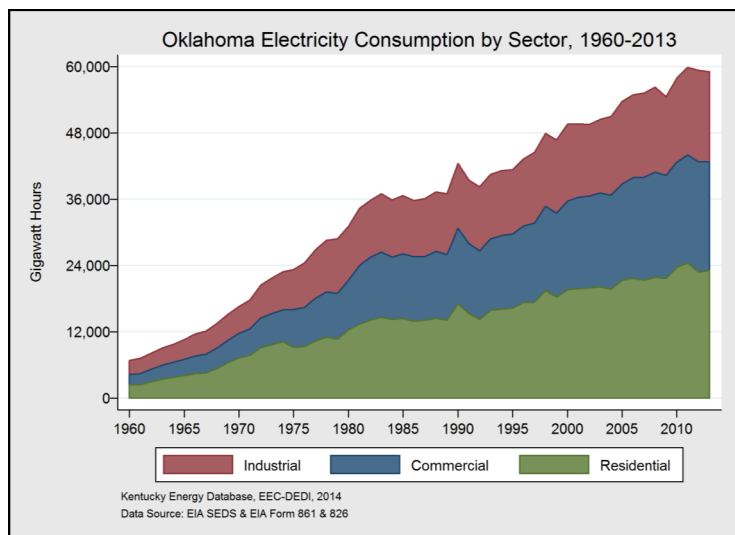
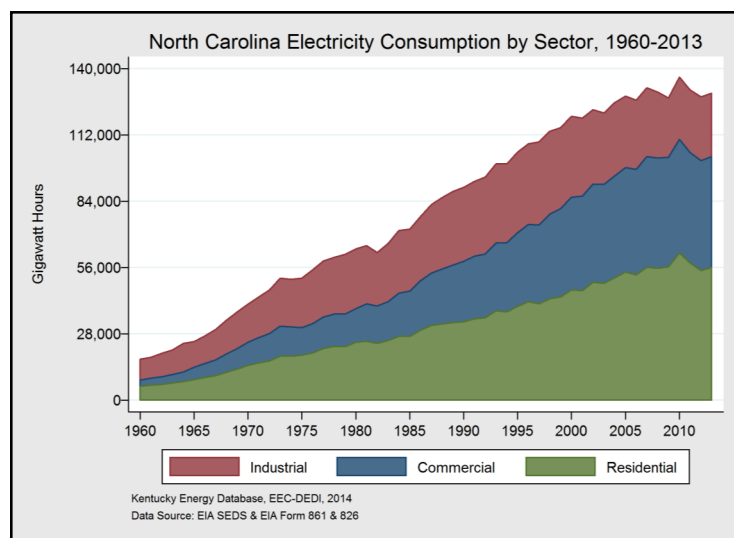
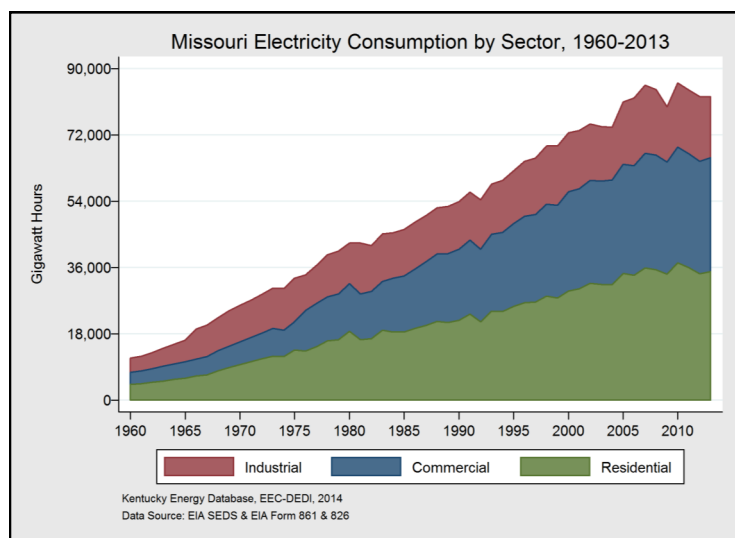
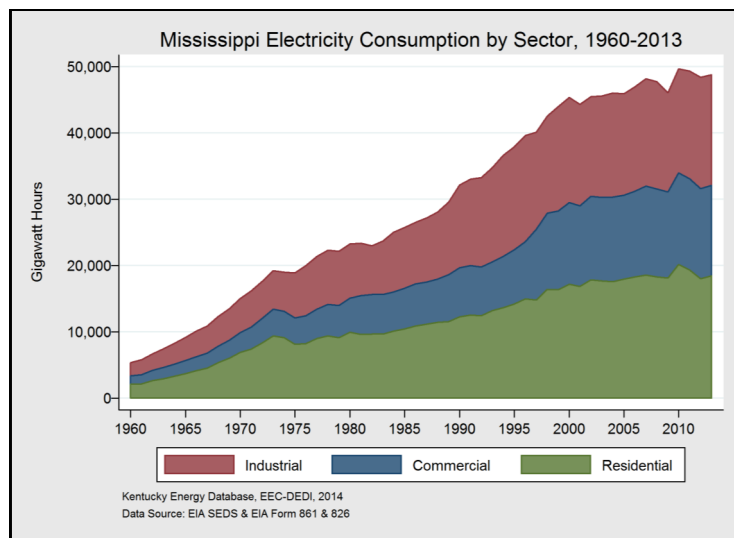
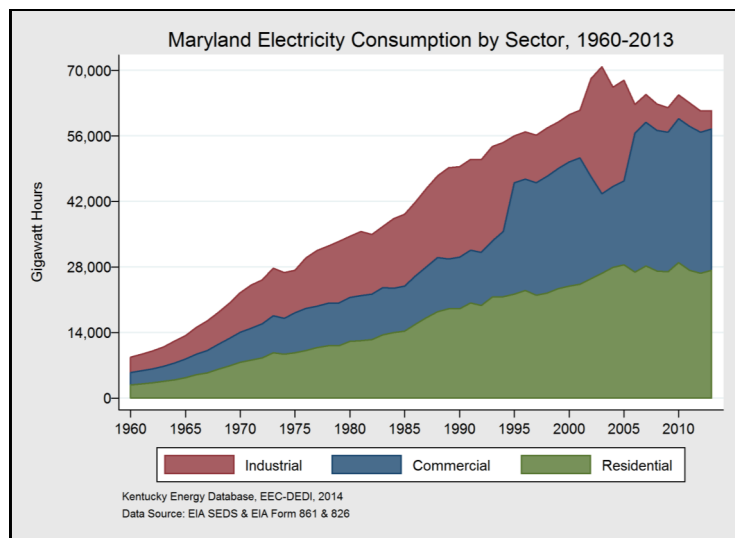


Kentucky Energy Database, EEC-DEDI, 2014

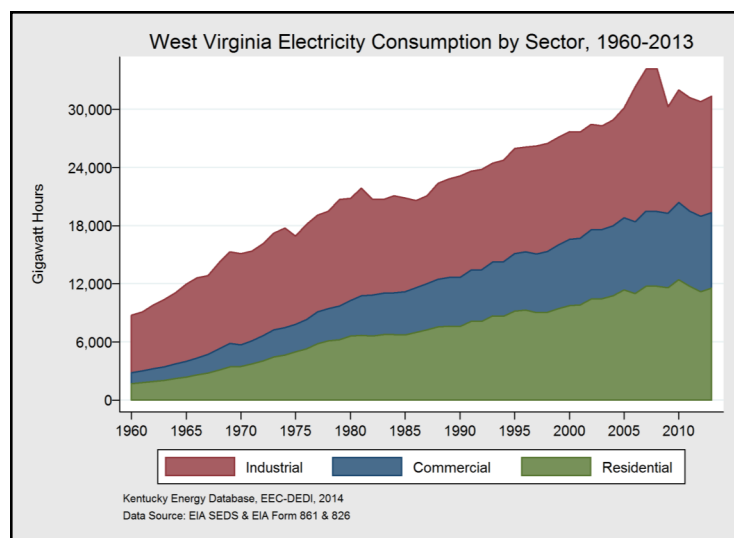
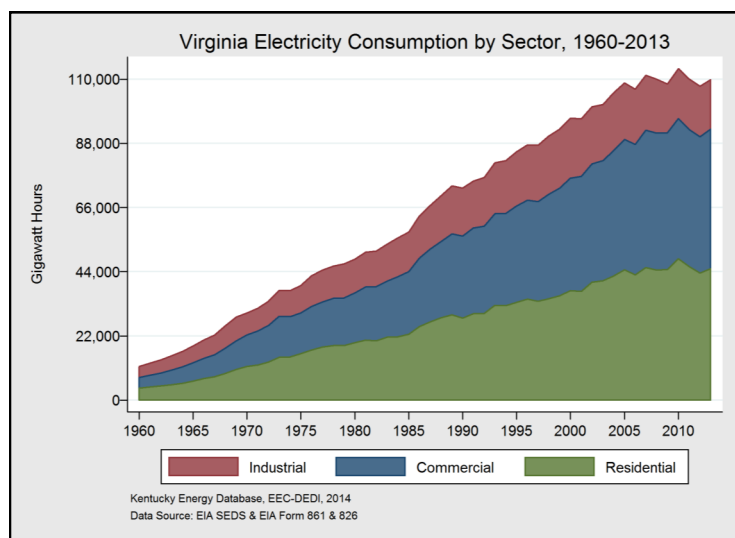
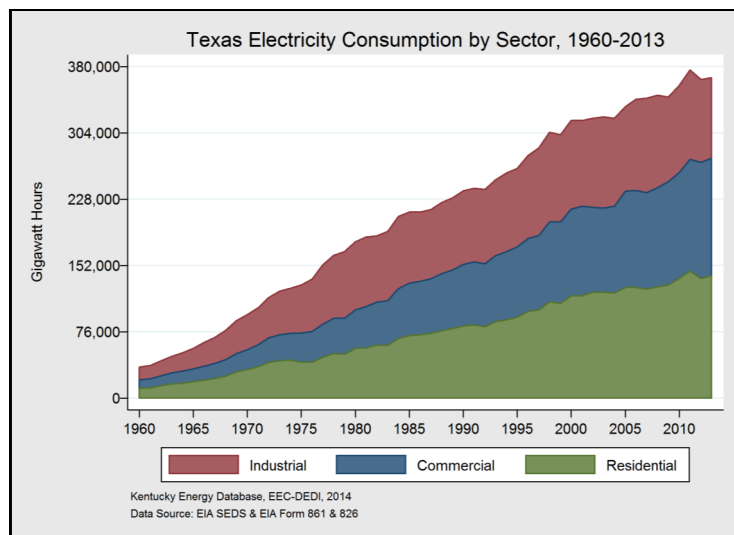
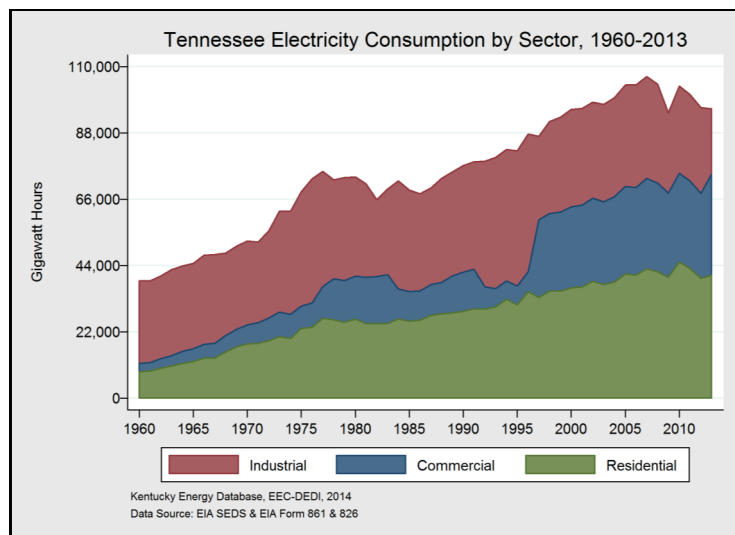
Historical Electricity Consumption by Sector



Historical Electricity Consumption by Sector

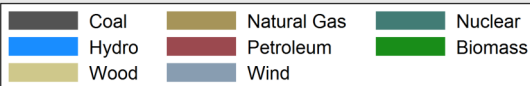
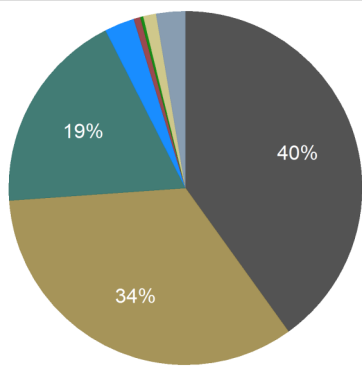


Historical Electricity Consumption by Sector



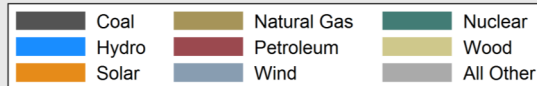
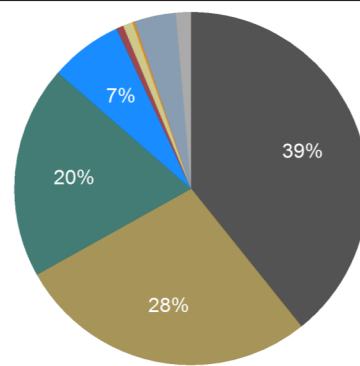
SSEB Region Electricity Generation

SSEB Region Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

United States Electricity Generation by Fuel, 2013

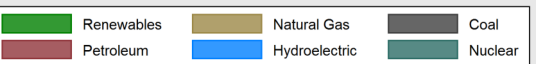
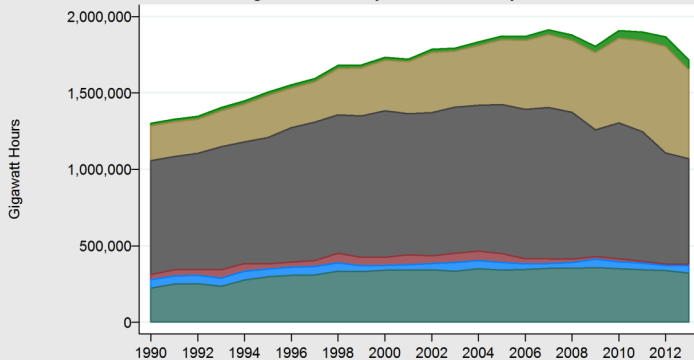


Kentucky Energy Database, EEC-DEDI, 2014

Source Type	Gigawatt-hours	2013 Change
Total	1,730,868	-8.8%
Coal	690,729	-4.9%
Natural Gas	582,113	-16.6%
Nuclear	321,360	-5.0%
Hydroelectric	47,416	+38.8%
Wind	45,909	+6.8%

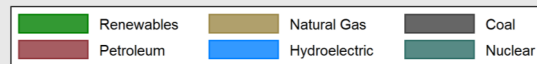
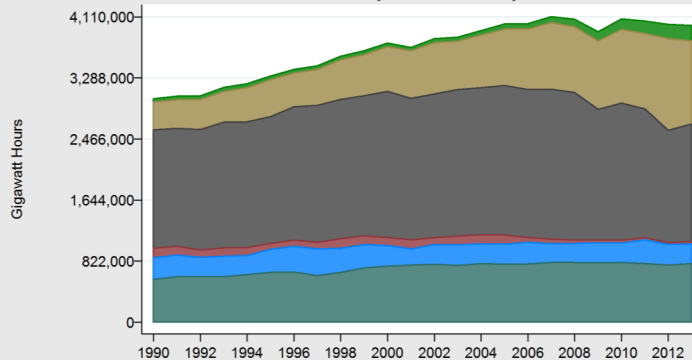
Source Type	Gigawatt Hours	2013 Change
Total	4,059,252	+<0.1%
Coal	1,586,776	+4.6%
Natural Gas	1,116,906	-9.3%
Nuclear	789,009	+2.6%
Hydro	268,908	-2.8%
Wind	153,587	+9.6%

SSEB Region Electricity Generation by Fuel, 1990-2013



Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Electric Power Annual

United States Electricity Generation by Fuel, 1990-2013



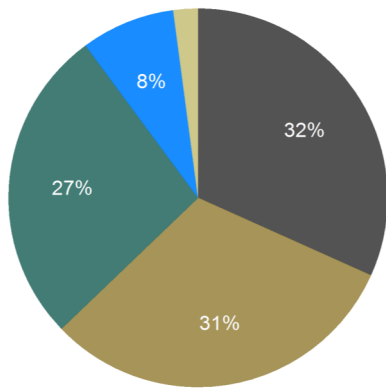
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Electric Power Annual

The electricity generation portfolios of both the SSEB region and the United States as a whole are rapidly changing. Coal-fired electricity generation in the SSEB region has declined by 30 percent since peaking in 2007; however, coal remained the largest source of electricity generation within the SSEB region at 40 percent of total generation. During the same period, natural gas-fired generation has increased by 22 percent and renewable generation has increased by 50 percent.

Total electricity generation in the United States grew by less than a tenth of a percent from the year prior to 4,059 TWh in 2013. Coal fired generation has fallen by 19 percent since 2000—39 percent of 2013 total generation. In contrast, natural gas generation has grown by 86 percent since 2000 to over 1,117 TWh in 2013. Nuclear and hydroelectric generation has remained fairly constant nationally as well as in the SSEB region.

Electricity Generation

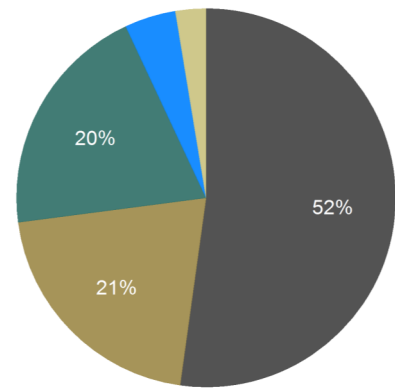
Alabama Electricity Generation by Fuel, 2013



Coal Natural Gas Nuclear
Hydro Wood

Kentucky Energy Database, EEC-DEDI, 2014

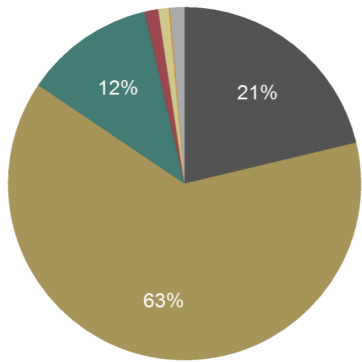
Arkansas Electricity Generation by Fuel, 2013



Coal Natural Gas Nuclear
Hydro Wood

Kentucky Energy Database, EEC-DEDI, 2014

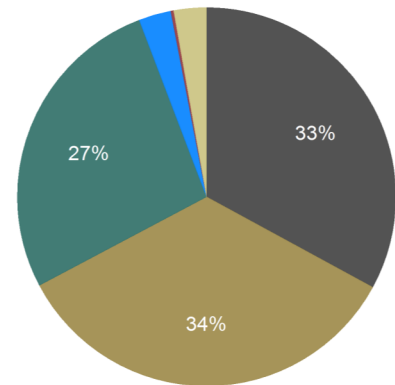
Florida Electricity Generation by Fuel, 2013



Coal Natural Gas Nuclear
Petroleum Wood Solar
All Other

Kentucky Energy Database, EEC-DEDI, 2014

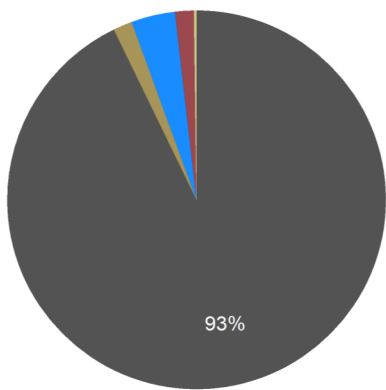
Georgia Electricity Generation by Fuel, 2013



Coal Natural Gas Nuclear
Hydro Petroleum Wood

Kentucky Energy Database, EEC-DEDI, 2014

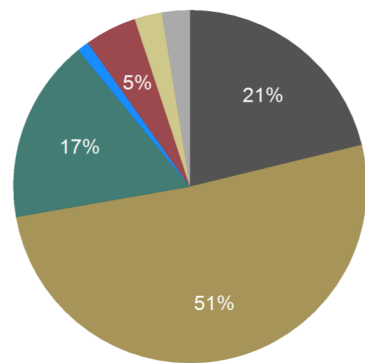
Kentucky Electricity Generation by Fuel, 2013



Coal Natural Gas Hydro
Petroleum Wood

Kentucky Energy Database, EEC-DEDI, 2014

Louisiana Electricity Generation by Fuel, 2013

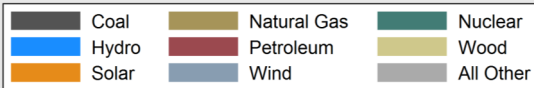
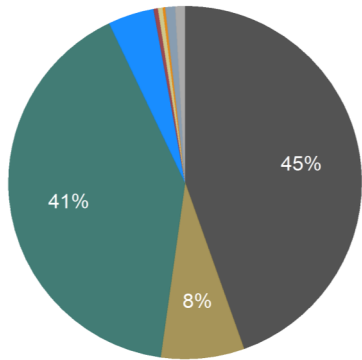


Coal Natural Gas Nuclear
Hydro Petroleum Wood
All Other

Kentucky Energy Database, EEC-DEDI, 2014

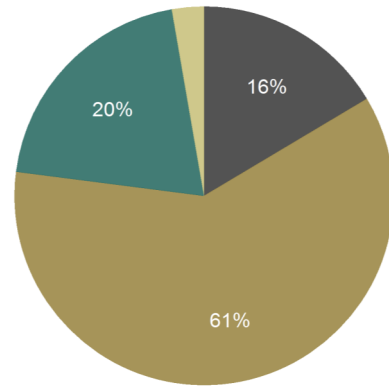
Electricity Generation

Maryland Electricity Generation by Fuel, 2013



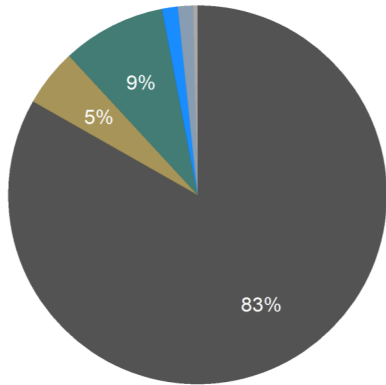
Kentucky Energy Database, EEC-DEDI, 2014

Mississippi Electricity Generation by Fuel, 2013



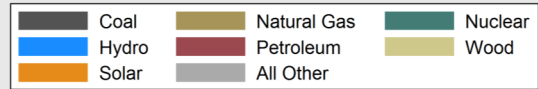
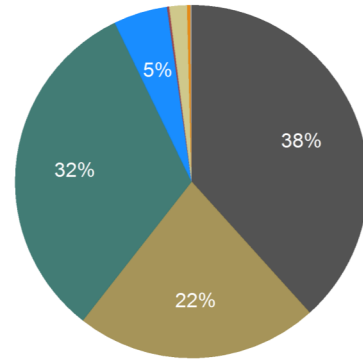
Kentucky Energy Database, EEC-DEDI, 2014

Missouri Electricity Generation by Fuel, 2013



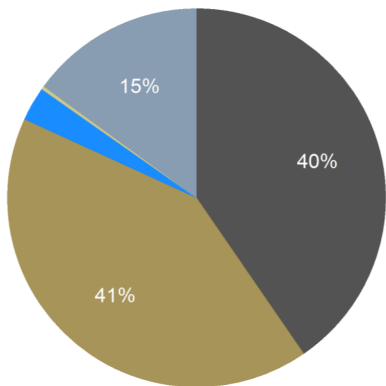
Kentucky Energy Database, EEC-DEDI, 2014

North Carolina Electricity Generation by Fuel, 2013



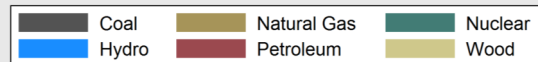
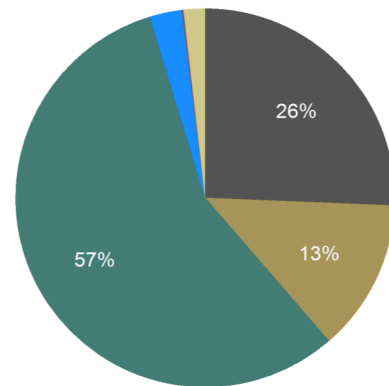
Kentucky Energy Database, EEC-DEDI, 2014

Oklahoma Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

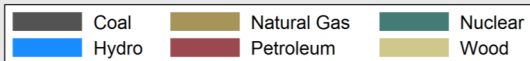
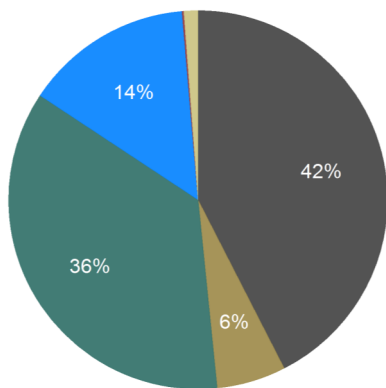
South Carolina Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

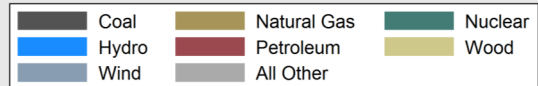
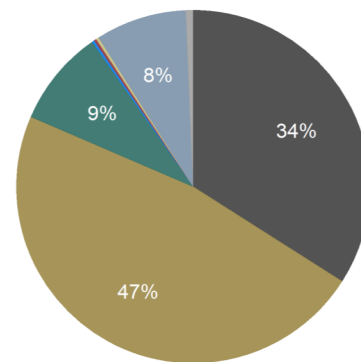
Electricity Generation

Tennessee Electricity Generation by Fuel, 2013



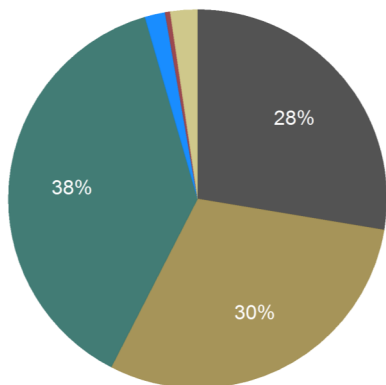
Kentucky Energy Database, EEC-DEDI, 2014

Texas Electricity Generation by Fuel, 2013



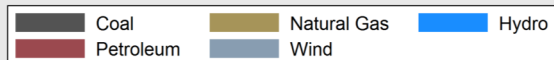
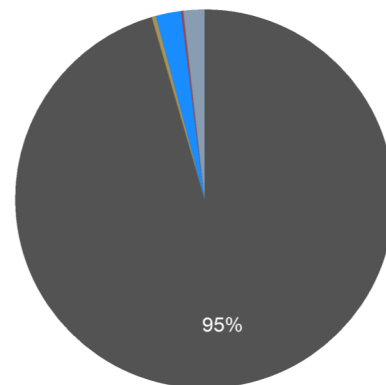
Kentucky Energy Database, EEC-DEDI, 2014

Virginia Electricity Generation by Fuel, 2013



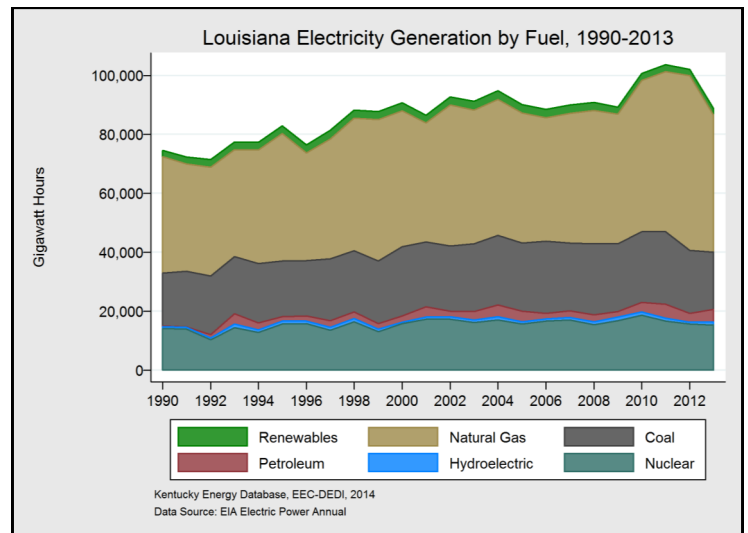
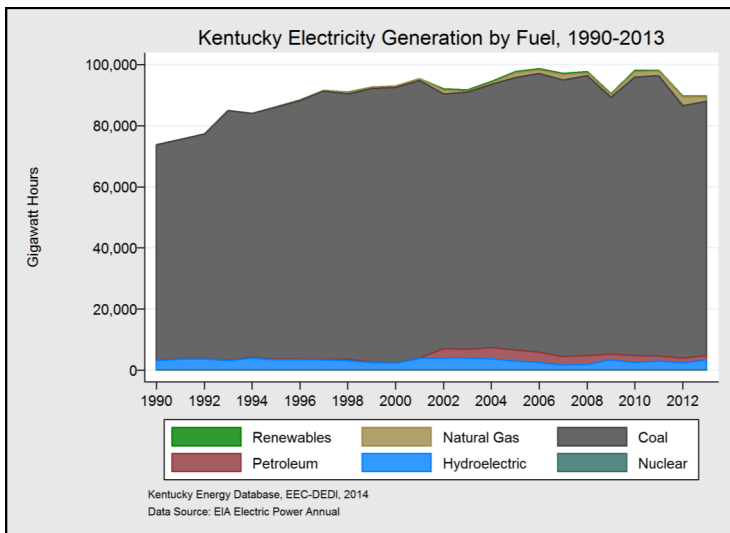
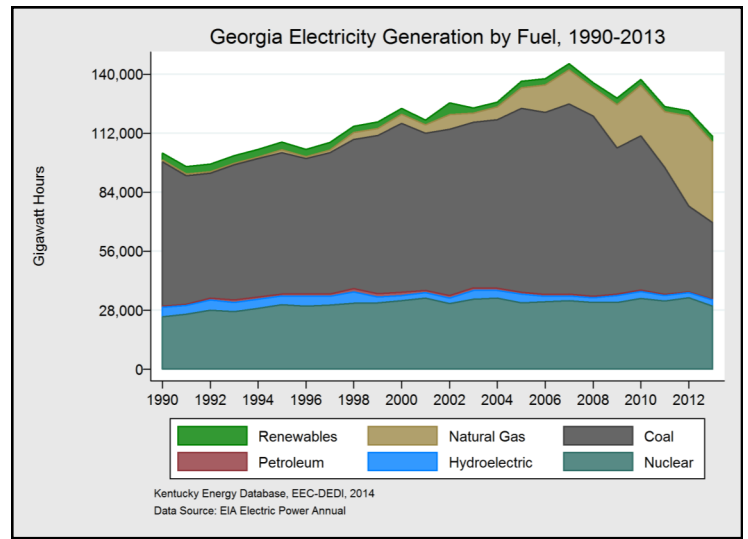
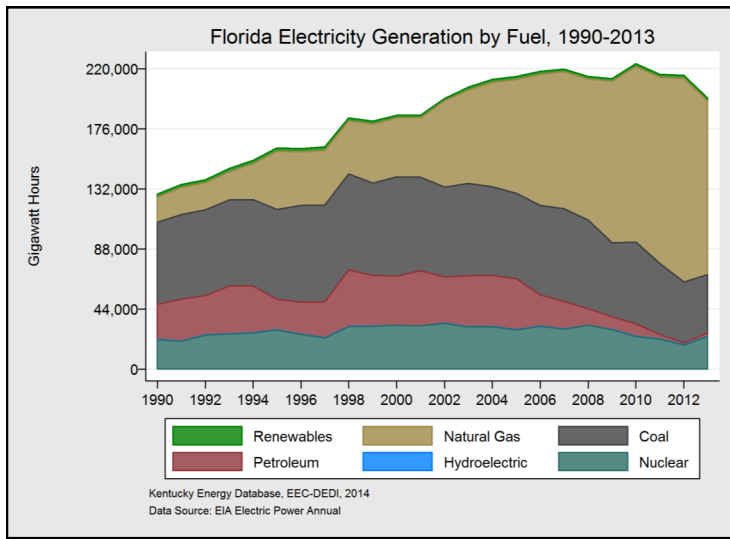
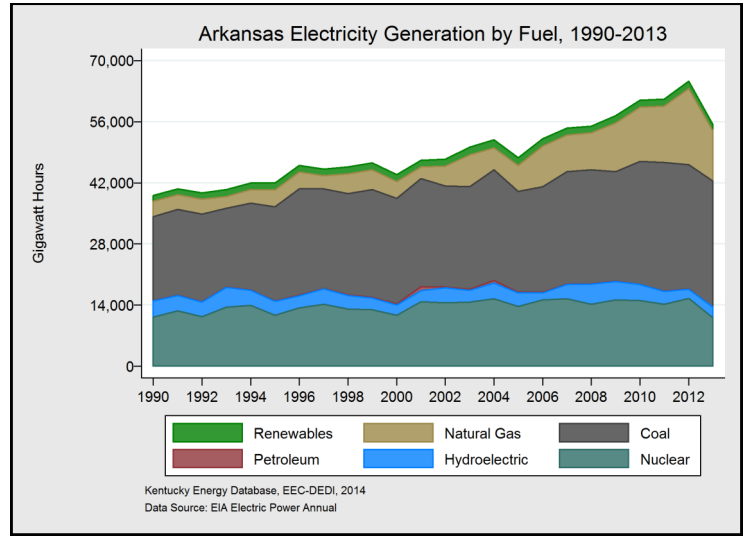
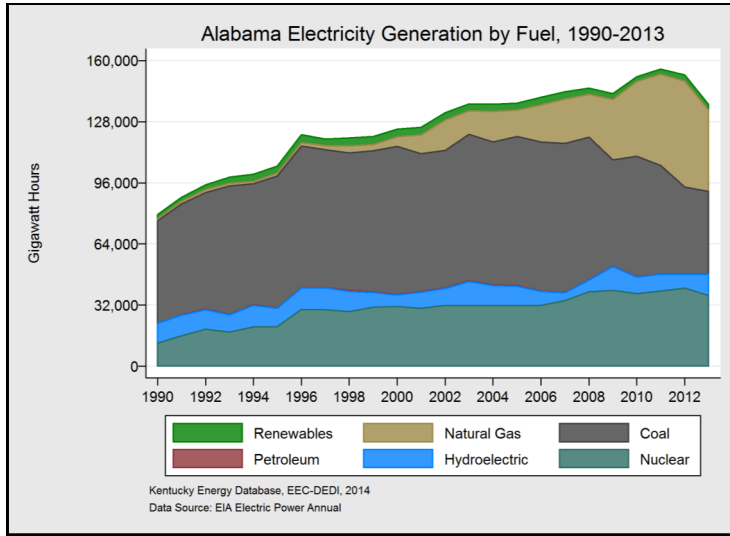
Kentucky Energy Database, EEC-DEDI, 2014

West Virginia Electricity Generation by Fuel, 2013

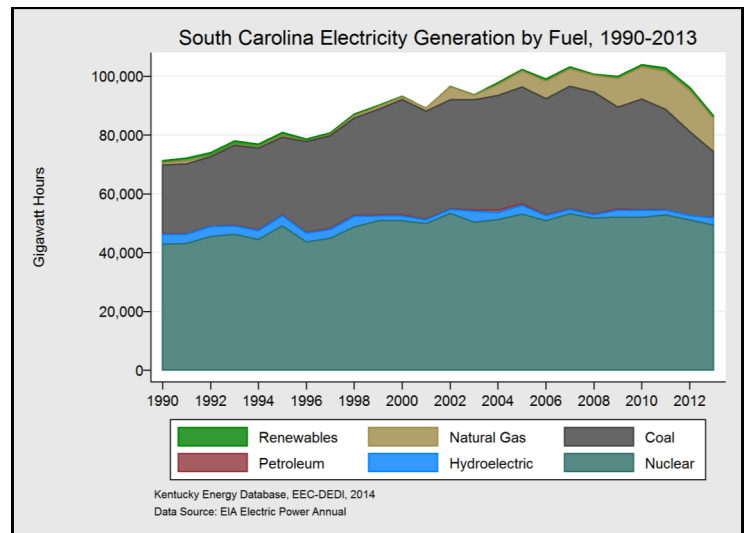
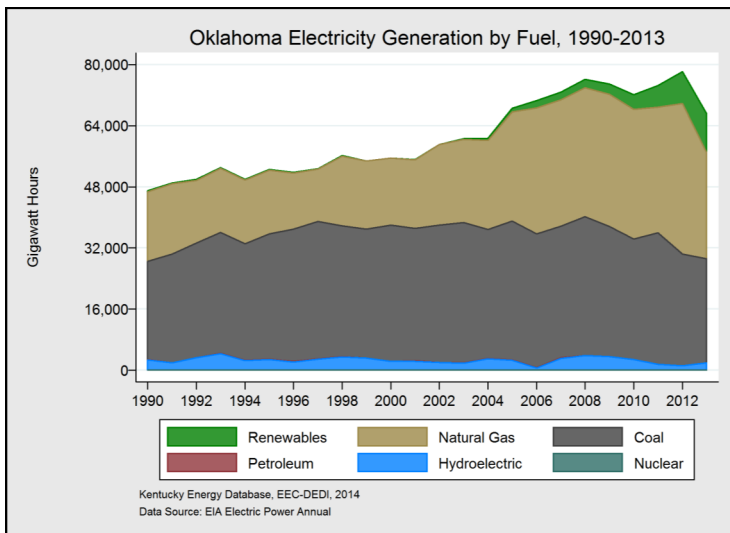
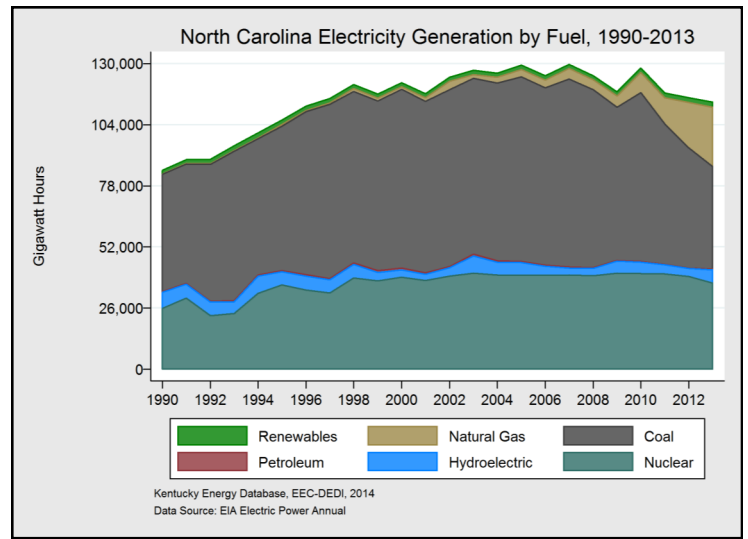
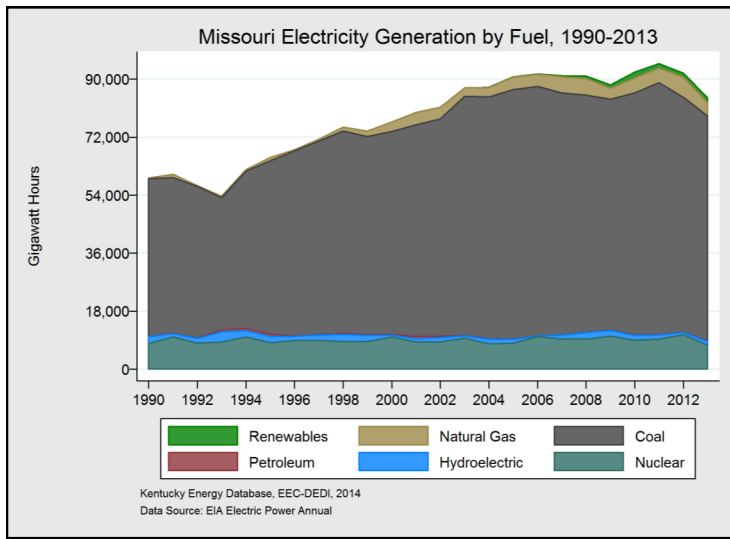
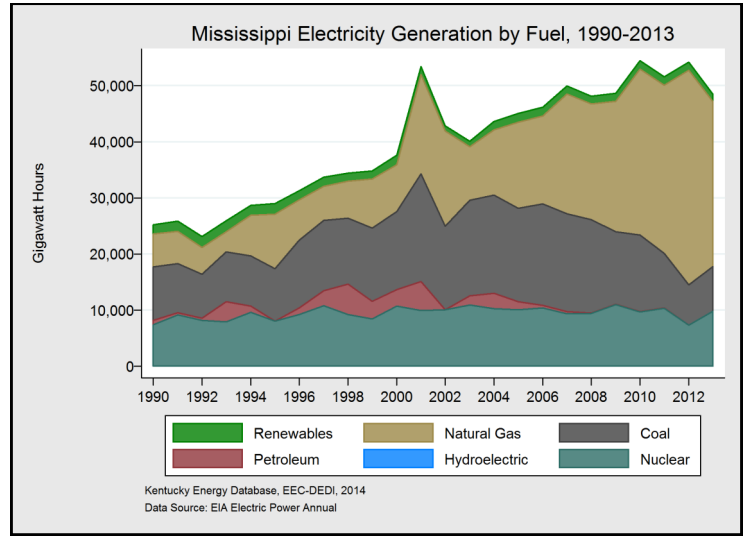
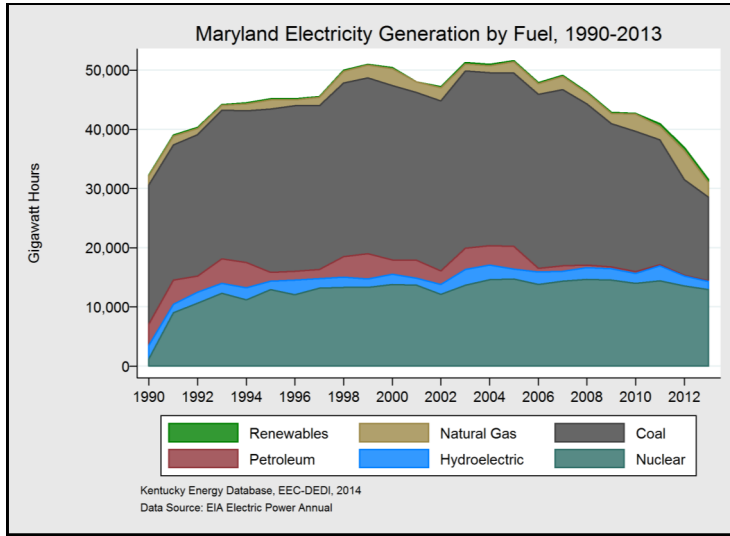


Kentucky Energy Database, EEC-DEDI, 2014

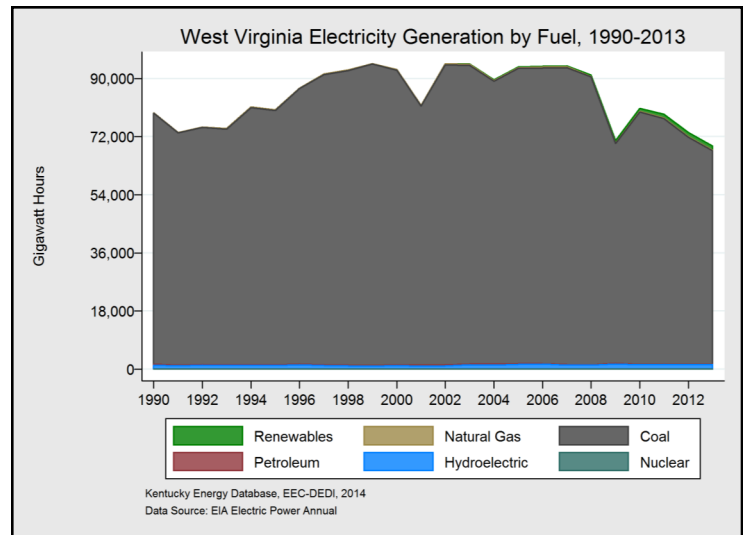
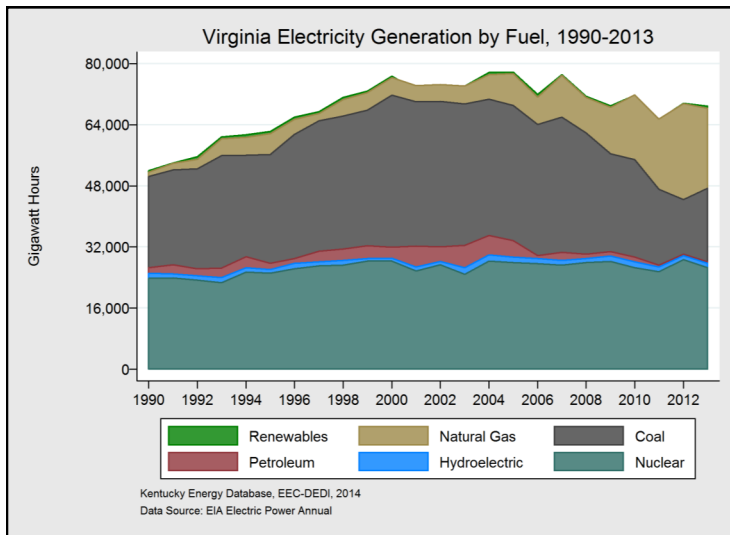
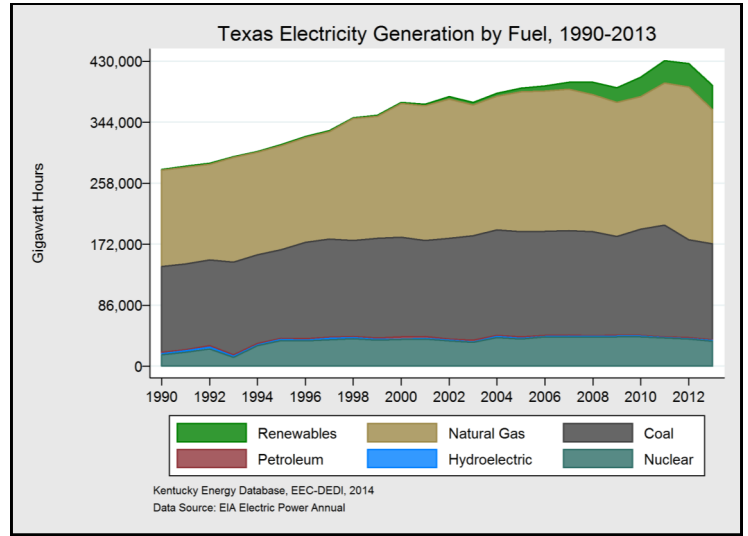
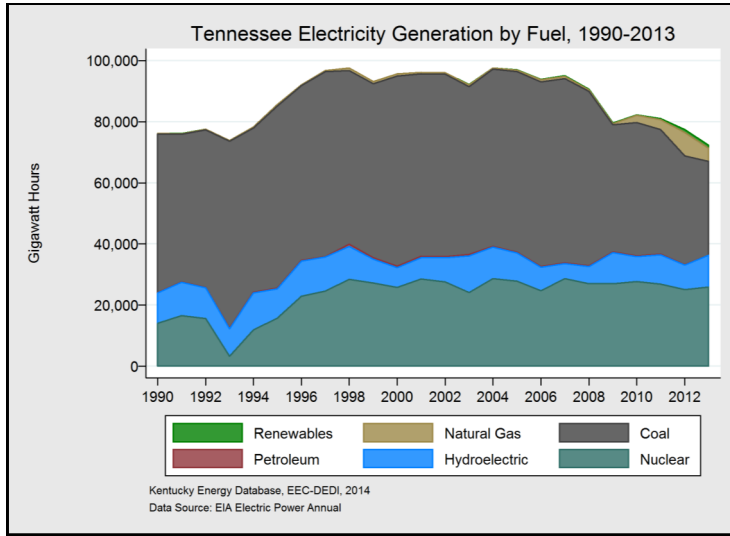
Historical Electricity Generation



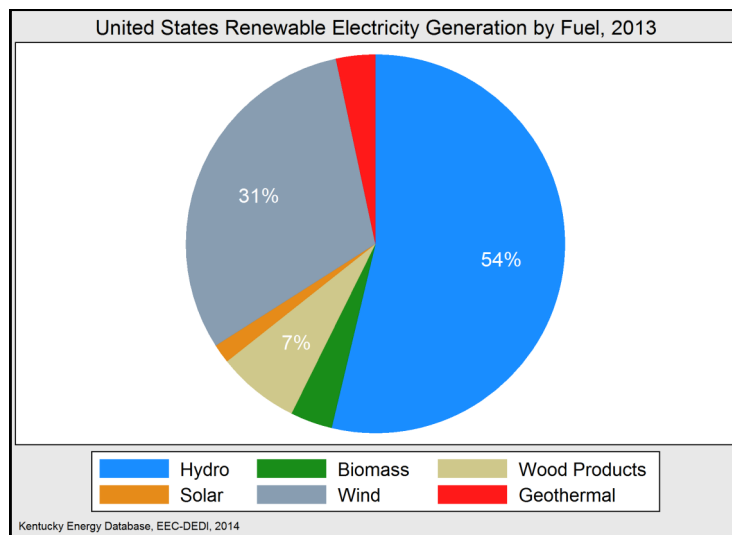
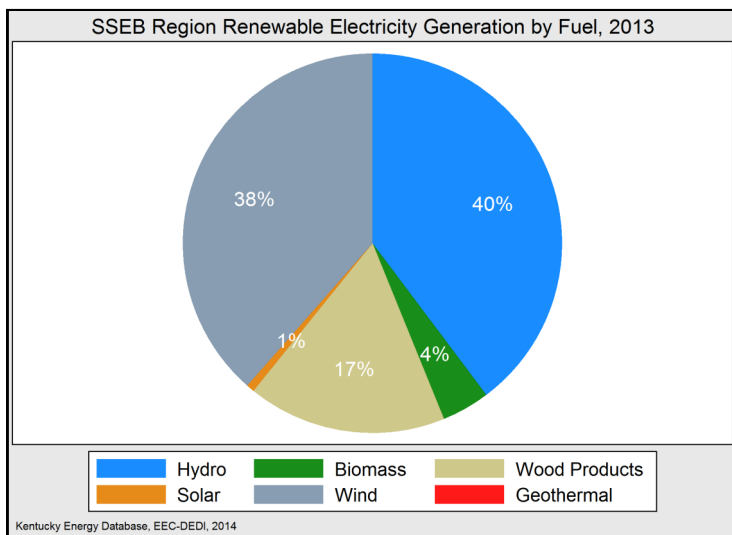
Historical Electricity Generation



Historical Electricity Generation

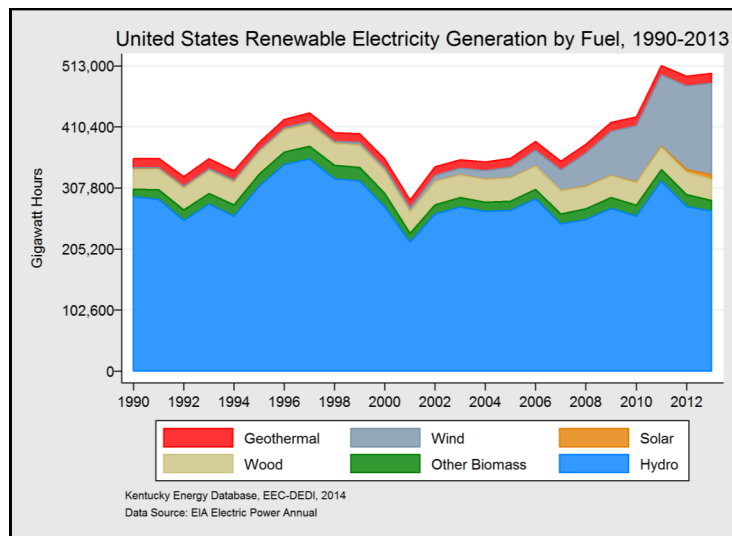
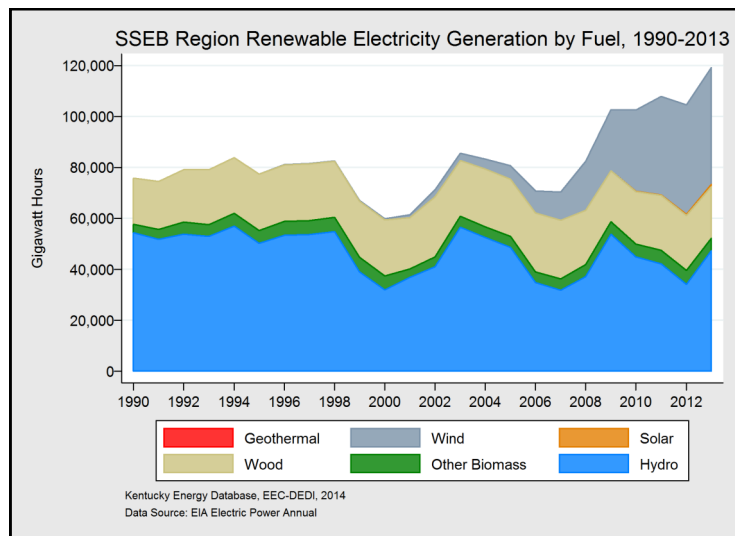


SSEB Renewable Electricity Generation



Fuel Type	Gigawatt-hours	2013 Change
Total	119,280	+14%
Hydroelectric	47,416	+38.8%
Wind	45,910	+6.8%
Wood Products	20,258	-6.4%
Biomass	4,874	-9.2%
Solar	823	+90%

Fuel Type	Gigawatt-hours	2013 Change
Total	500,517	+1.1%
Hydroelectric	268,908	-2.8%
Wind	153,587	+9.6%
Wood Products	35,141	-6.4%
Biomass	17,955	-10.3%
Geothermal	16,803	+<0.1%

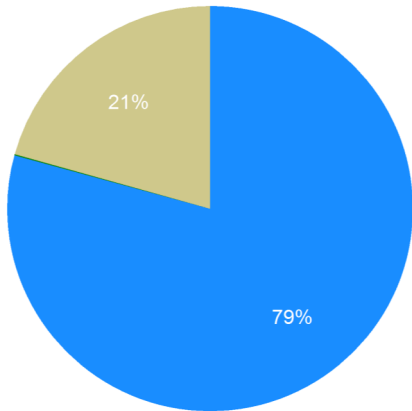


Renewable electricity generation increased by 14 percent in the SSEB region in 2013. Wind power is the fastest growing renewable technology by electricity output in the SSEB region, generating nearly 46 TWh in 2013. Hydroelectric generation remains the largest source of renewable electricity, 40 percent, although generation varies substantially from year to year with fluctuations in rainfall and temperature. The combustion of wood and other biomass make up the region's third and fourth largest renewable energy resources.

Renewable electricity generation in the United States has risen by 31 percent since 2008 to 501 TWh in 2013—13.6 percent of total generation. Although hydroelectric energy constitutes 54 percent of renewable energy, wind generation is the fastest growing, producing 154 TWh in 2013, or 31 percent of renewables. Wood and other biomass accounted for 11 percent of total renewables. Solar electricity generation grew by 87 percent from 2012, producing 8.1 TWh in 2013, or 1.6 percent of all renewables.

Renewable Electricity Generation

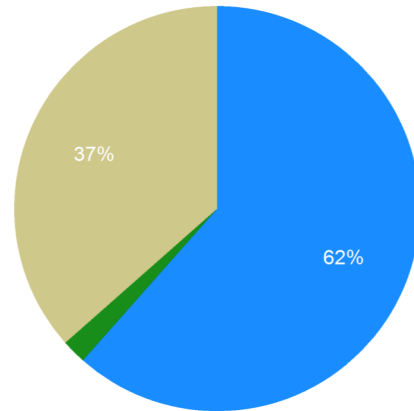
Alabama Renewable Electricity Generation by Fuel, 2013



Hydro Biomass Wood Products

Kentucky Energy Database, EEC-DEDI, 2014

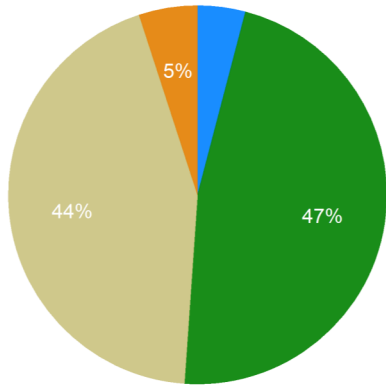
Arkansas Renewable Electricity Generation by Fuel, 2013



Hydro Biomass Wood Products

Kentucky Energy Database, EEC-DEDI, 2014

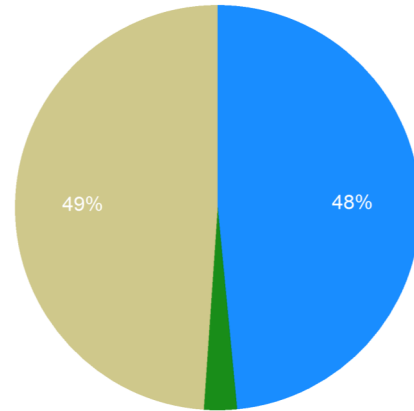
Florida Renewable Electricity Generation by Fuel, 2013



Hydro Biomass Wood Products Solar

Kentucky Energy Database, EEC-DEDI, 2014

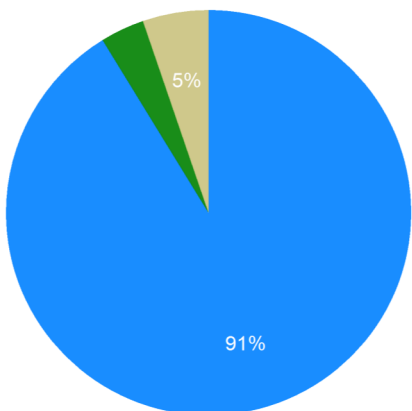
Georgia Renewable Electricity Generation by Fuel, 2013



Hydro Biomass Wood Products

Kentucky Energy Database, EEC-DEDI, 2014

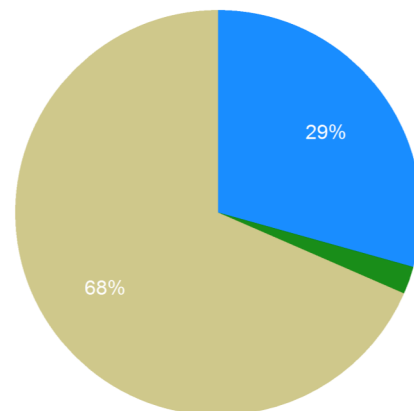
Kentucky Renewable Electricity Generation by Fuel, 2013



Hydro Biomass Wood Products

Kentucky Energy Database, EEC-DEDI, 2014

Louisiana Renewable Electricity Generation by Fuel, 2013

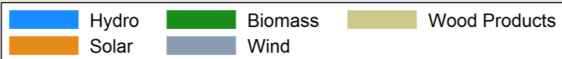
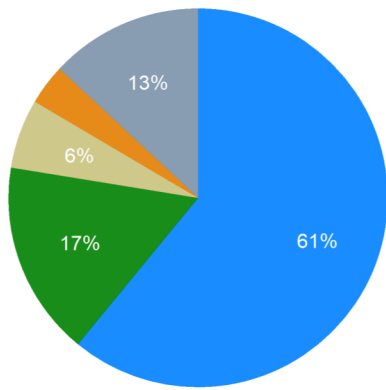


Hydro Biomass Wood Products

Kentucky Energy Database, EEC-DEDI, 2014

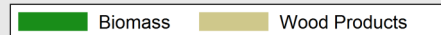
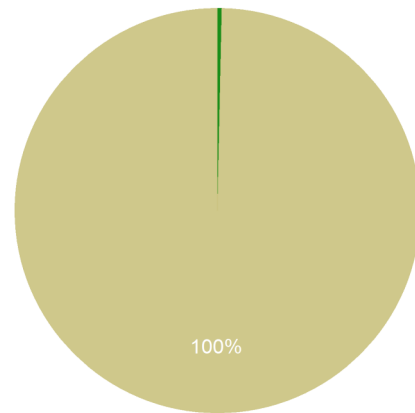
Renewable Electricity Generation

Maryland Renewable Electricity Generation by Fuel, 2013



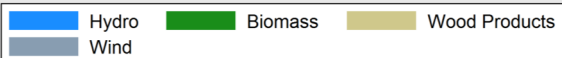
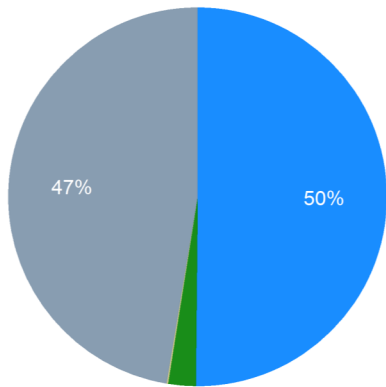
Kentucky Energy Database, EEC-DEDI, 2014

Mississippi Renewable Electricity Generation by Fuel, 2013



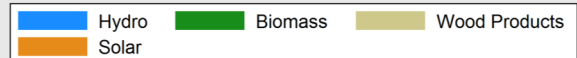
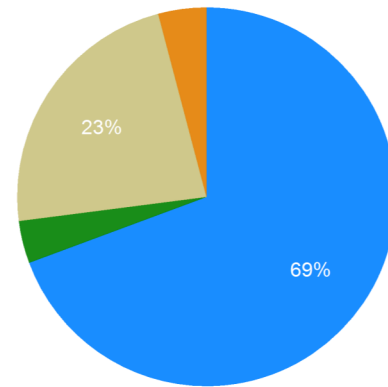
Kentucky Energy Database, EEC-DEDI, 2014

Missouri Renewable Electricity Generation by Fuel, 2013



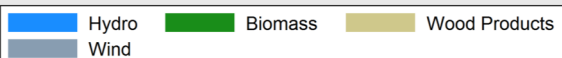
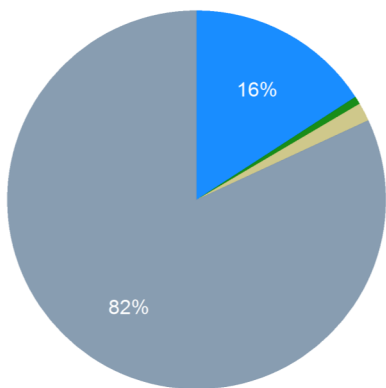
Kentucky Energy Database, EEC-DEDI, 2014

North Carolina Renewable Electricity Generation by Fuel, 2013



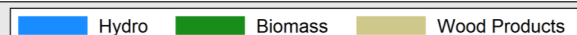
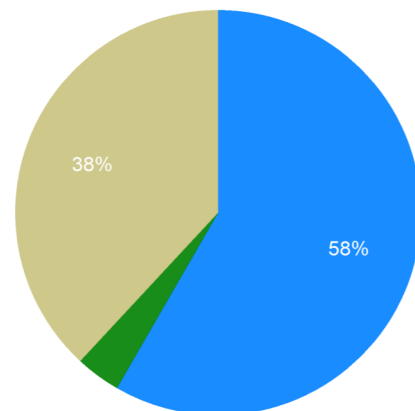
Kentucky Energy Database, EEC-DEDI, 2014

Oklahoma Renewable Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

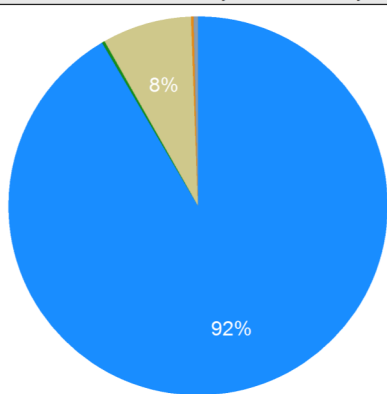
South Carolina Renewable Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

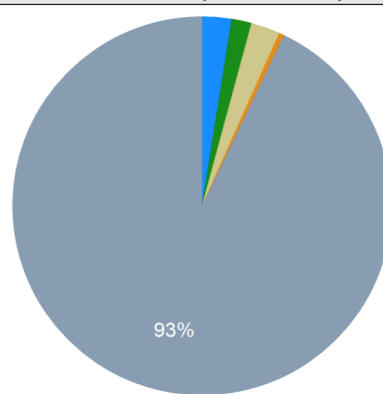
Renewable Electricity Generation

Tennessee Renewable Electricity Generation by Fuel, 2013



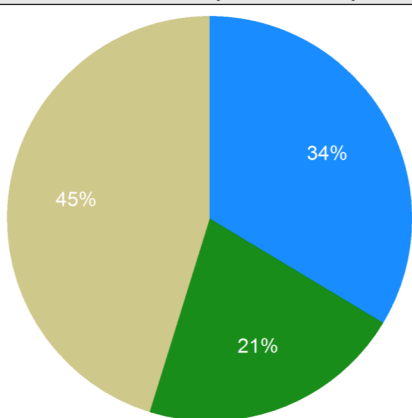
Kentucky Energy Database, EEC-DEDI, 2014

Texas Renewable Electricity Generation by Fuel, 2013



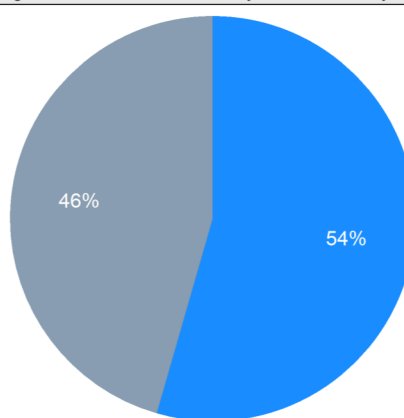
Kentucky Energy Database, EEC-DEDI, 2014

Virginia Renewable Electricity Generation by Fuel, 2013



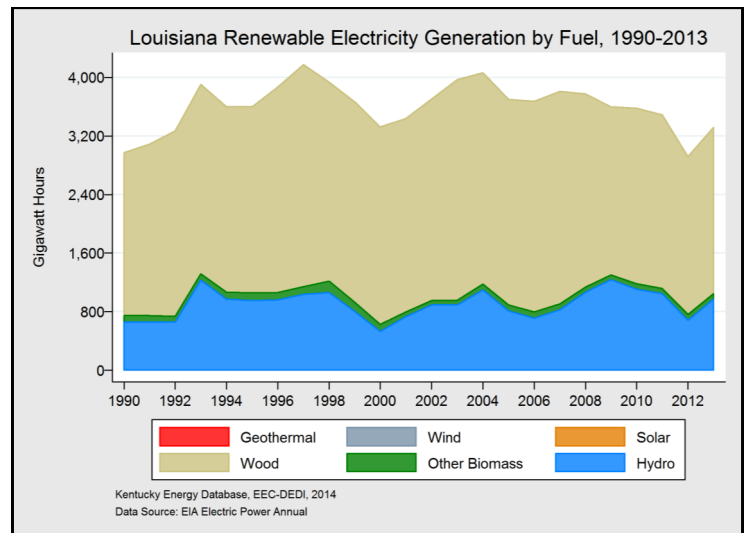
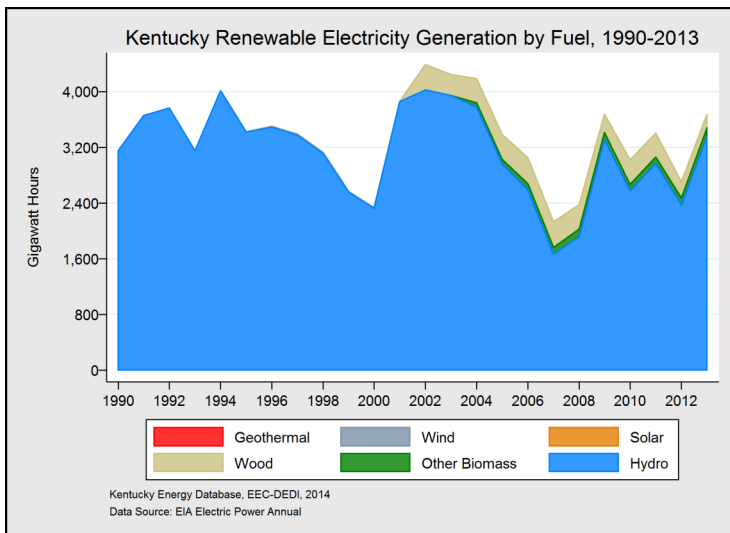
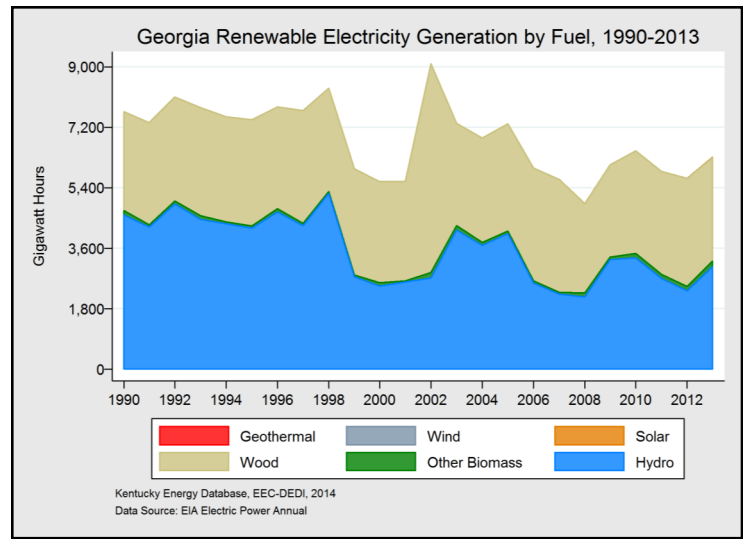
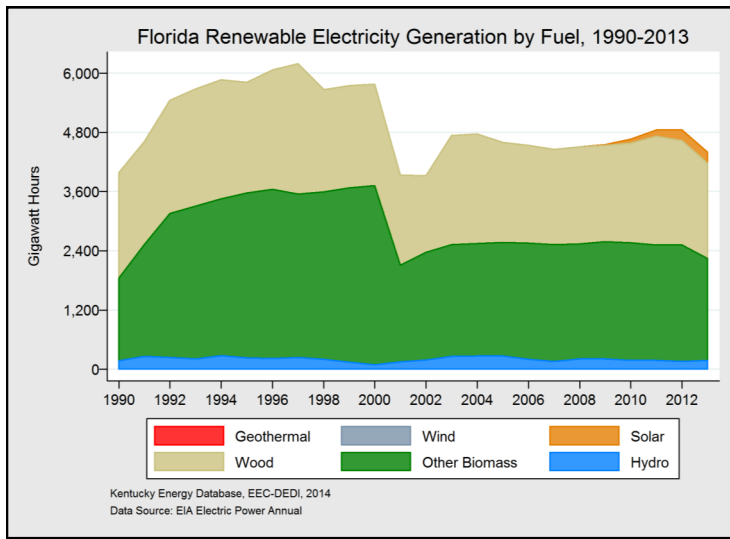
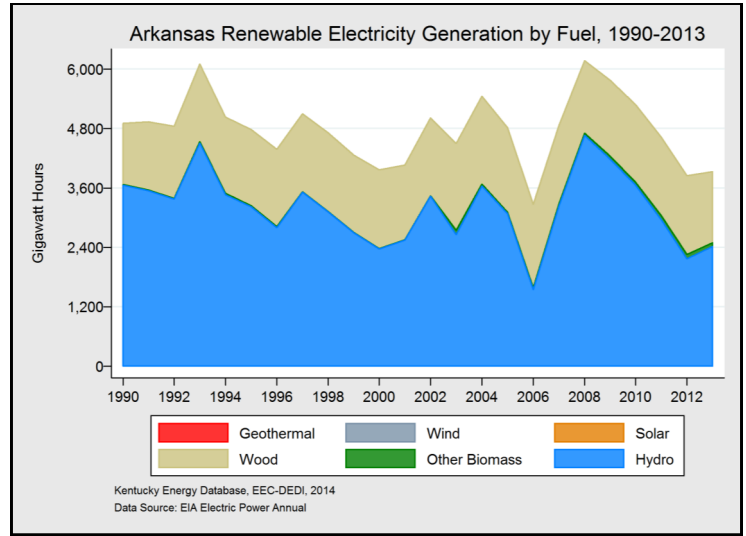
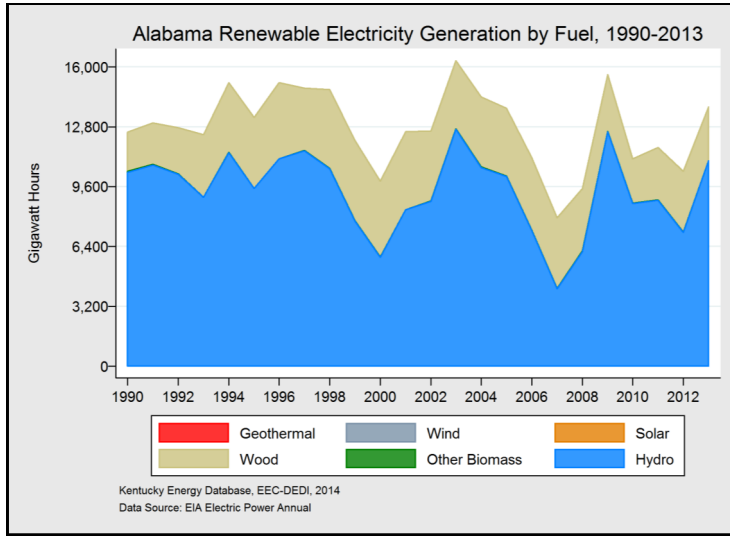
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West Virginia Renewable Electricity Generation by Fuel, 2013

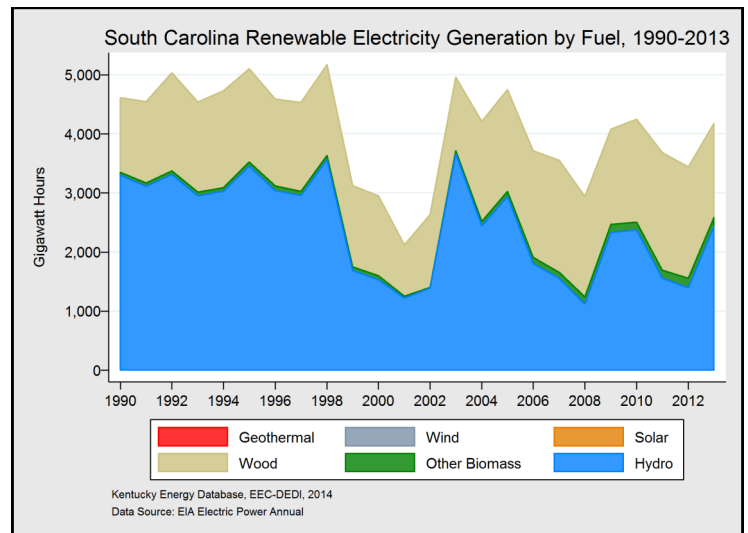
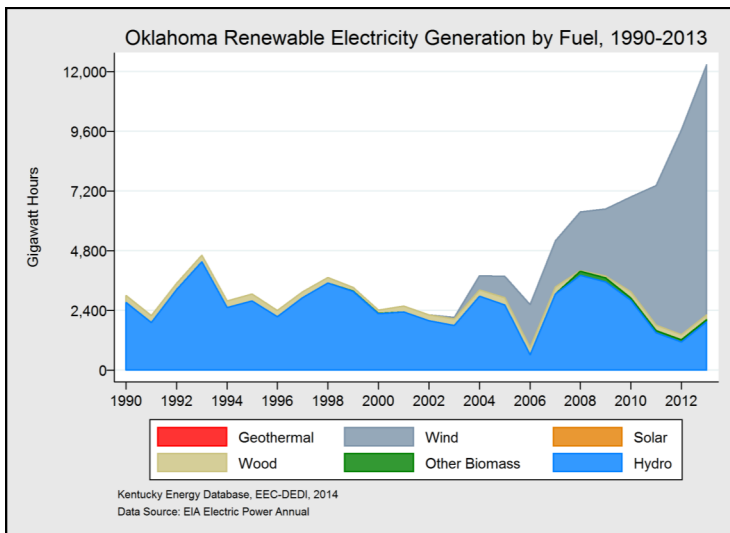
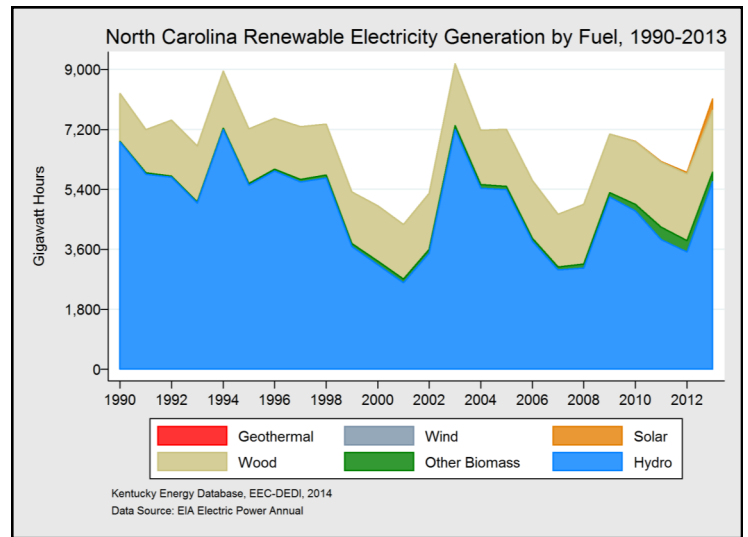
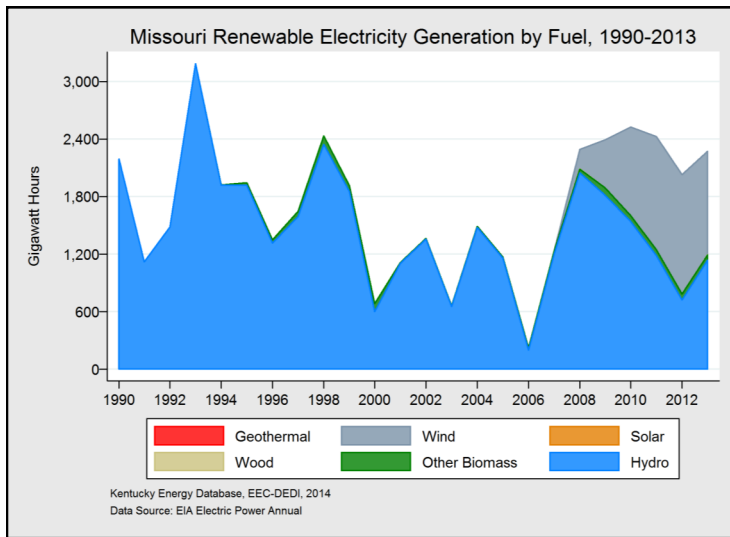
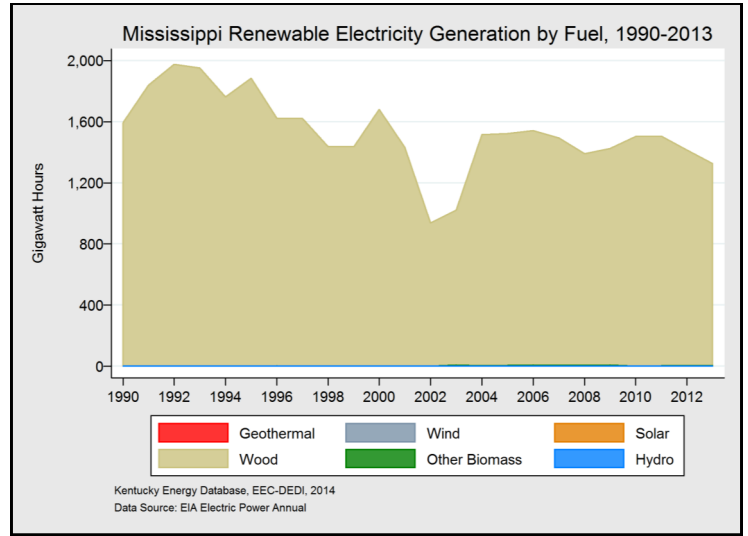
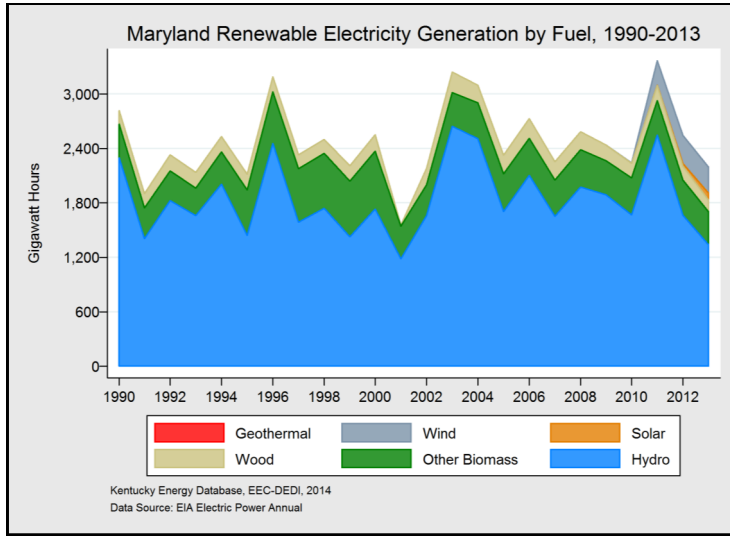


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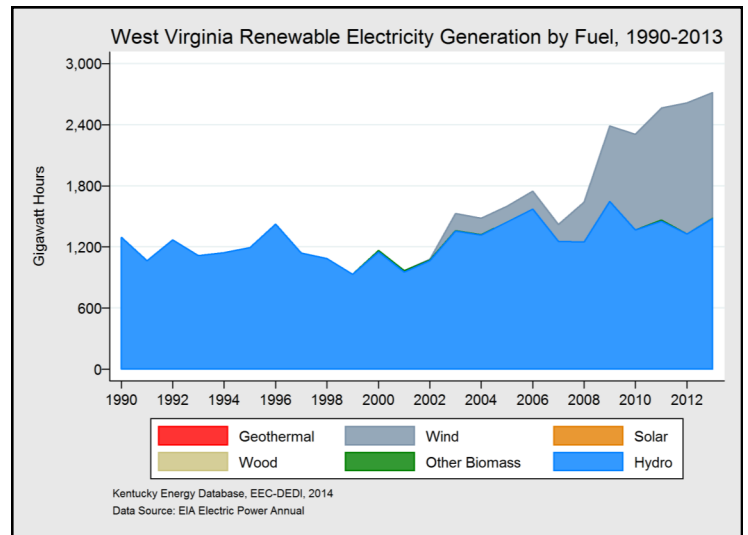
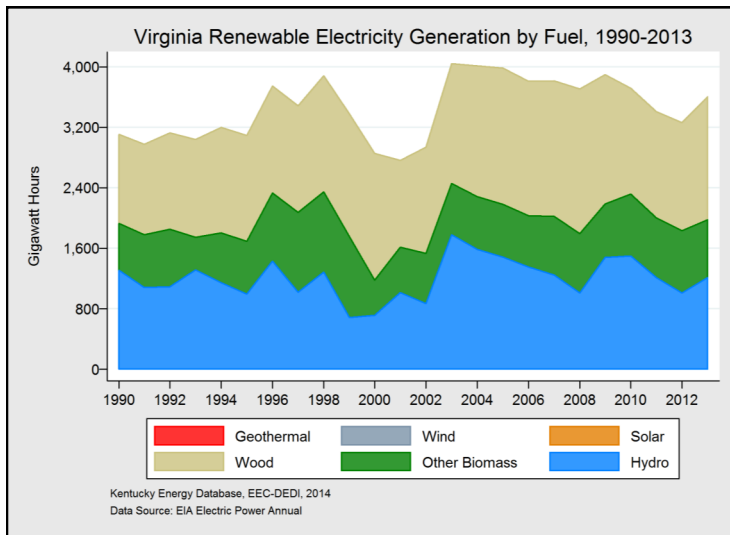
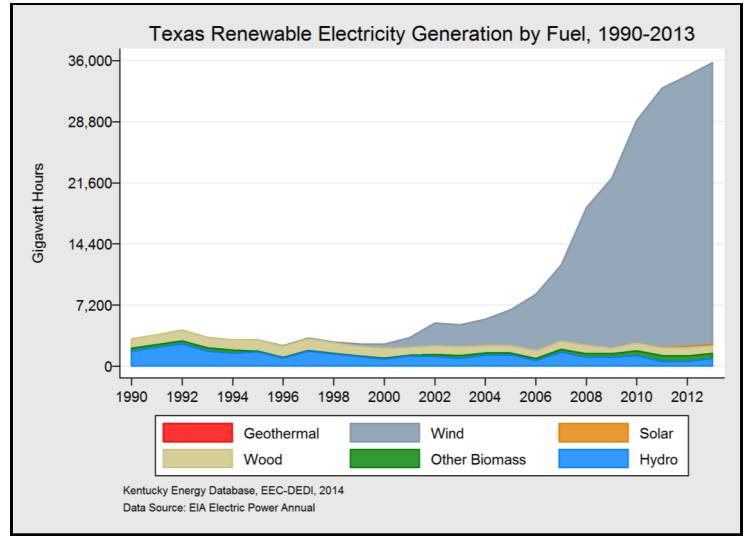
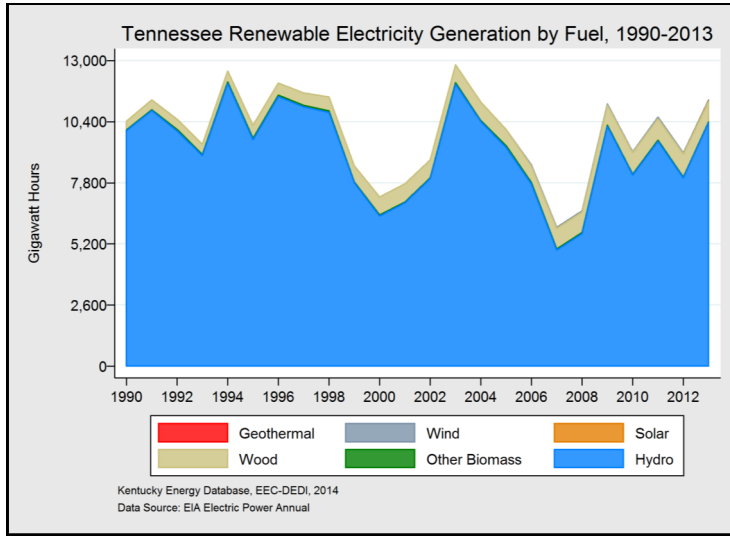
Historical Renewable Electricity Generation



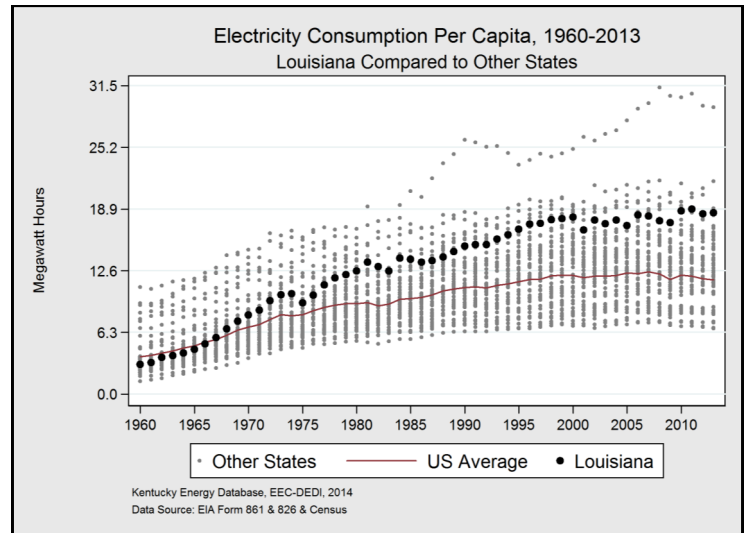
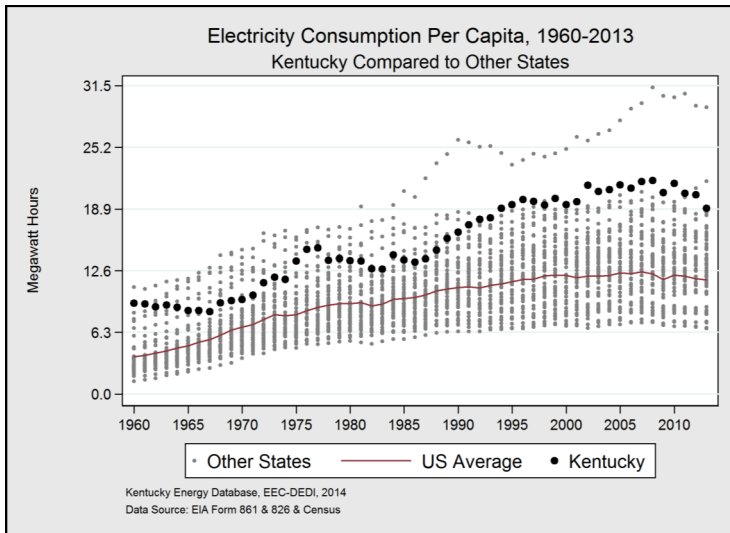
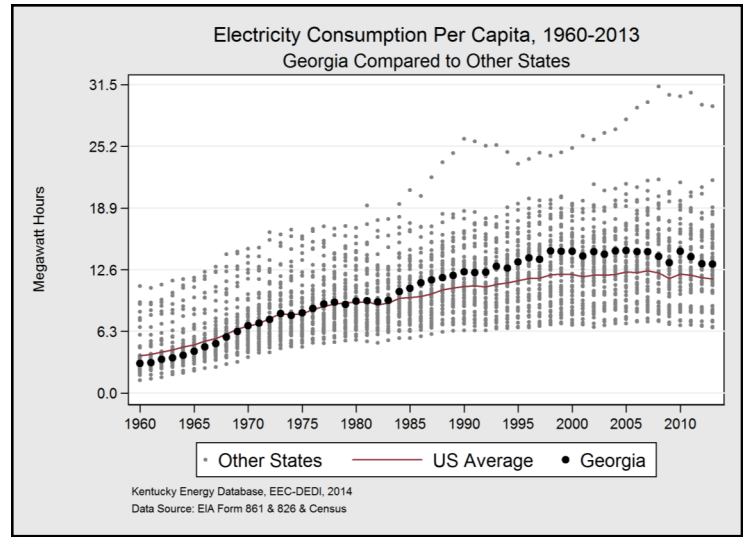
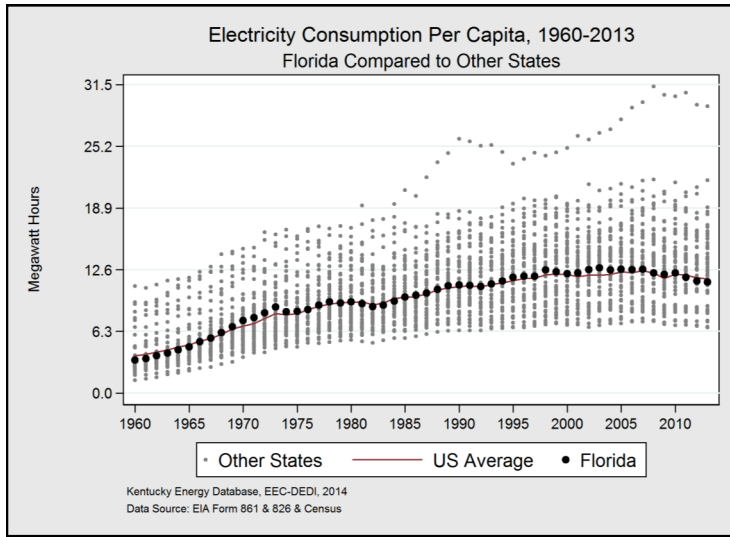
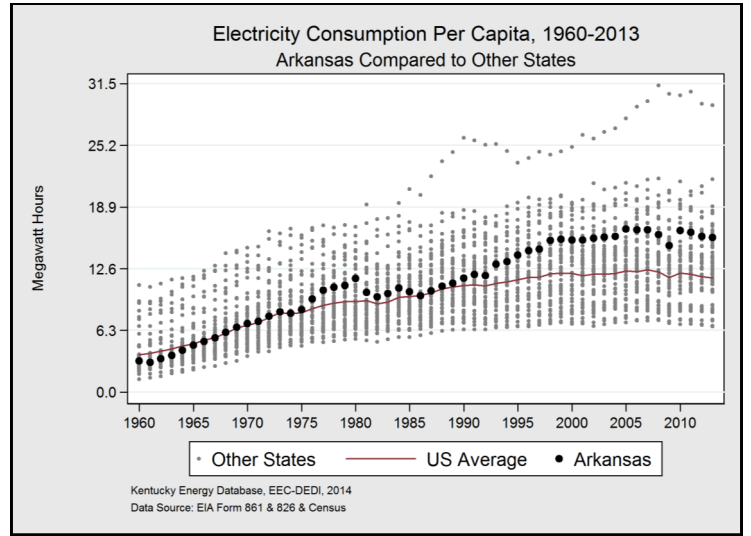
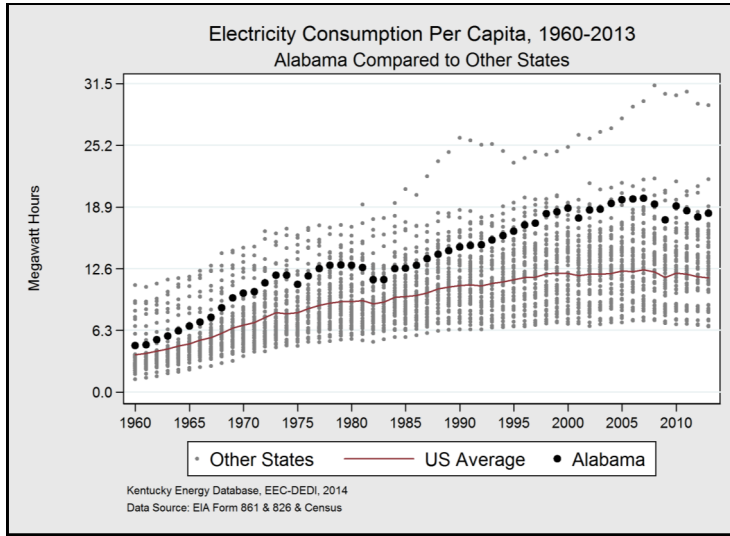
Historical Renewable Electricity Generation



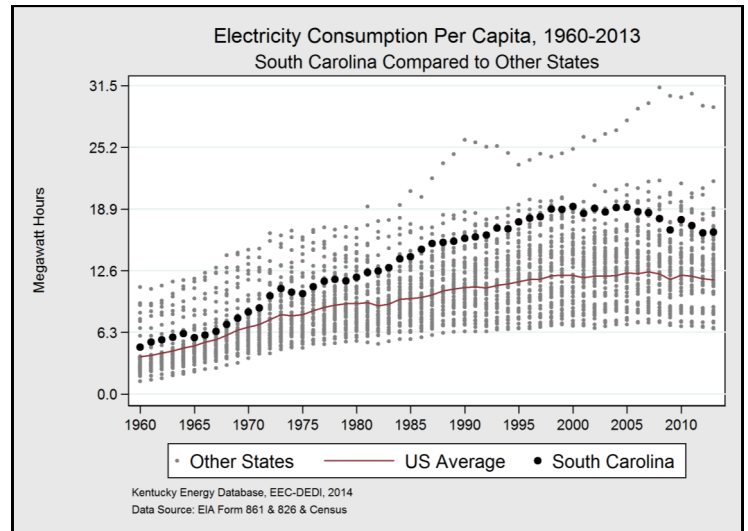
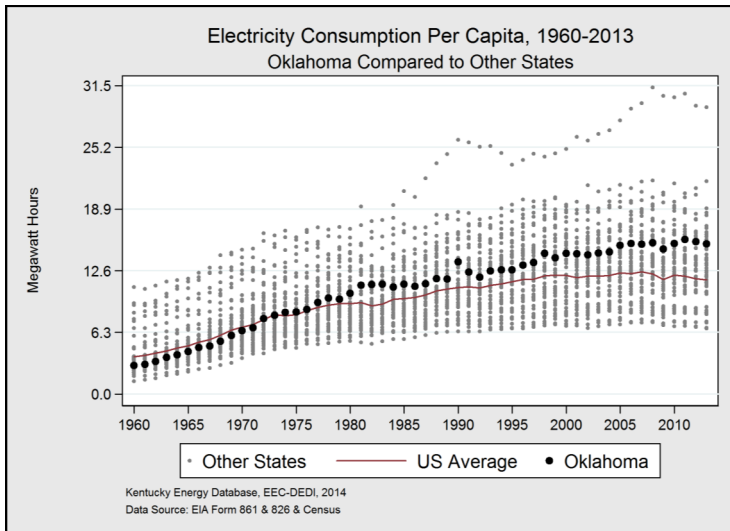
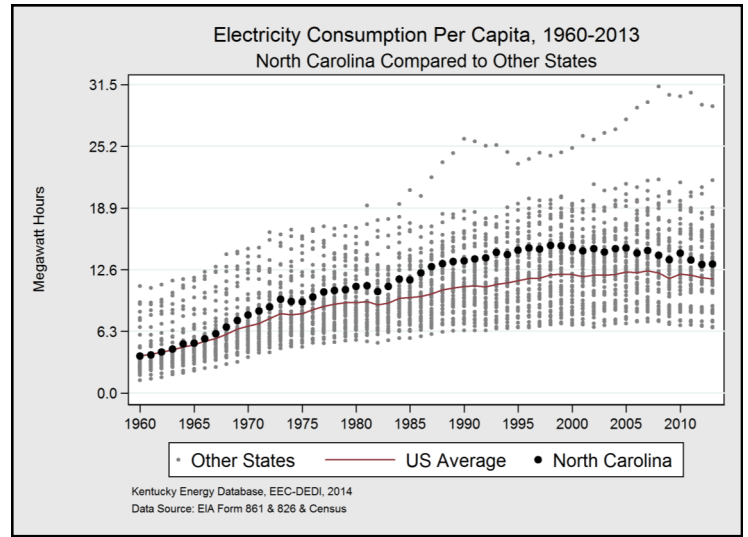
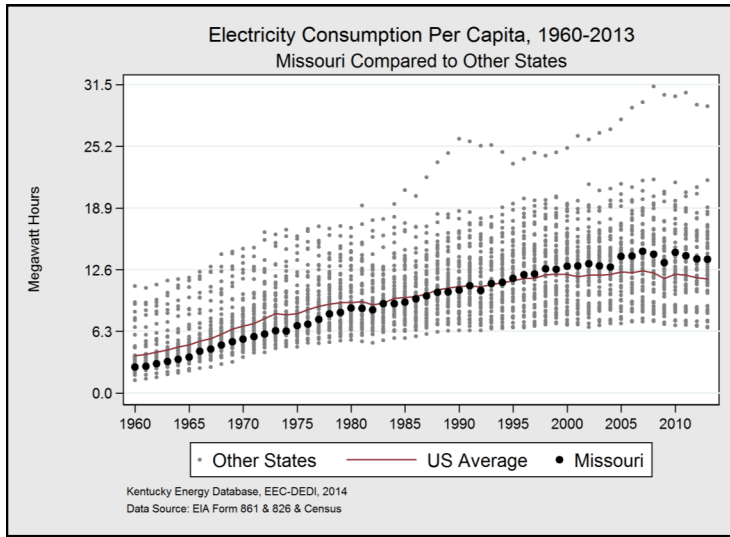
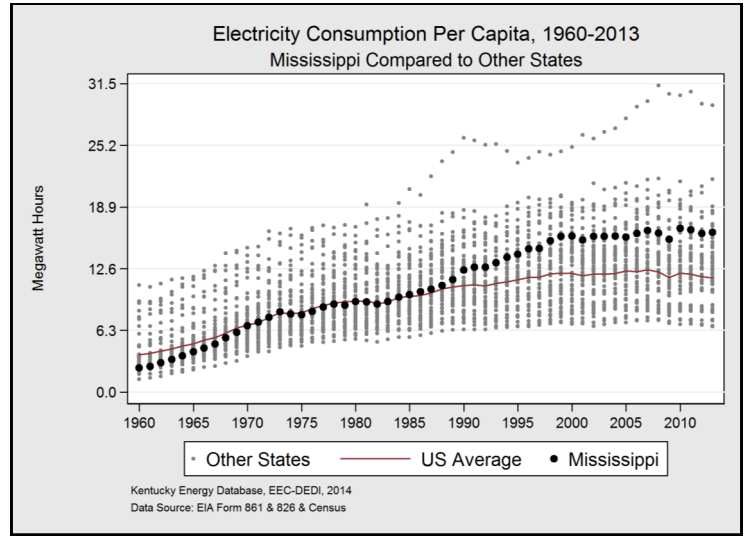
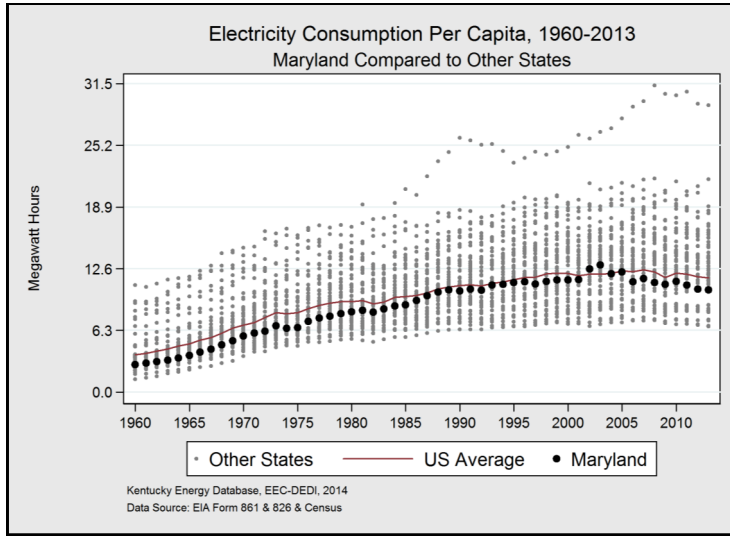
Historical Renewable Electricity Generation



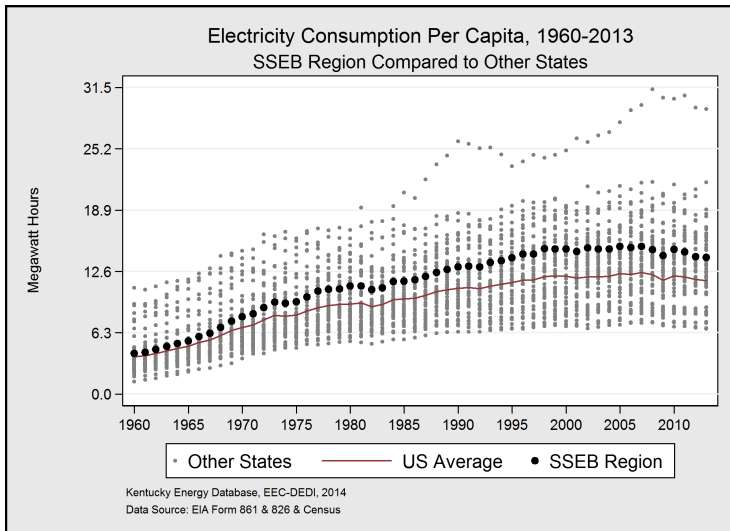
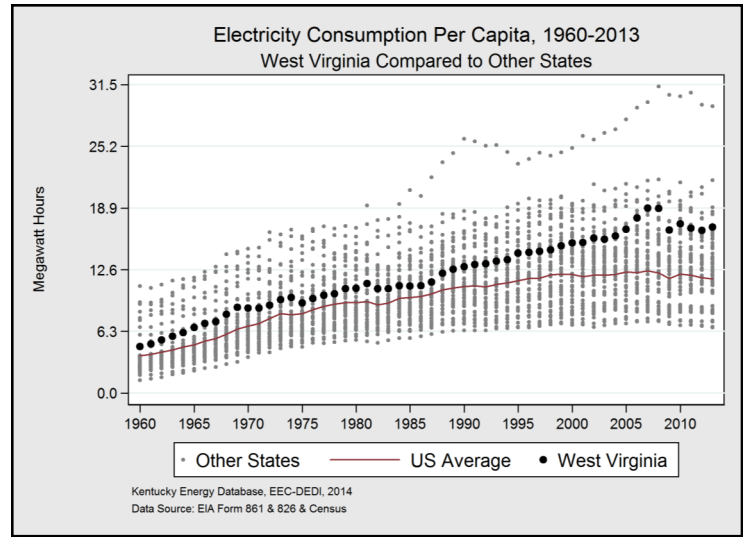
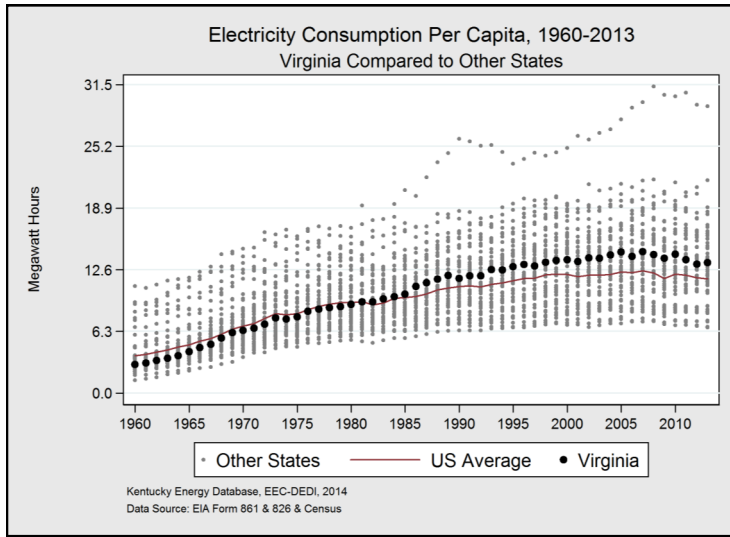
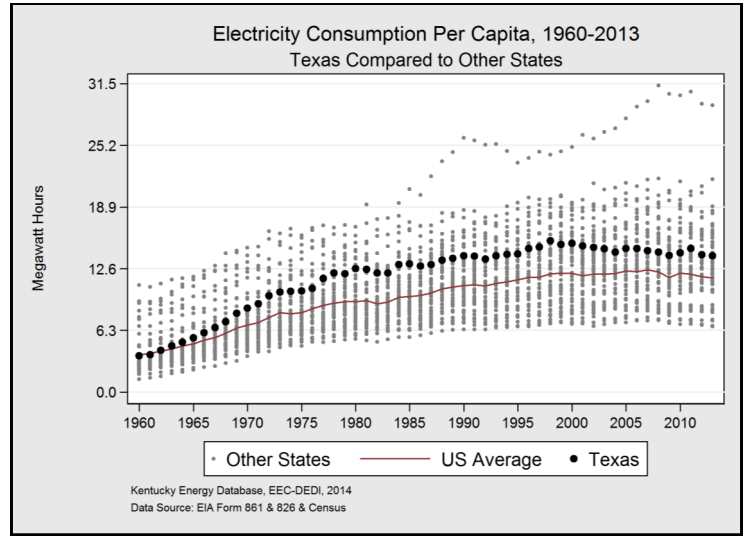
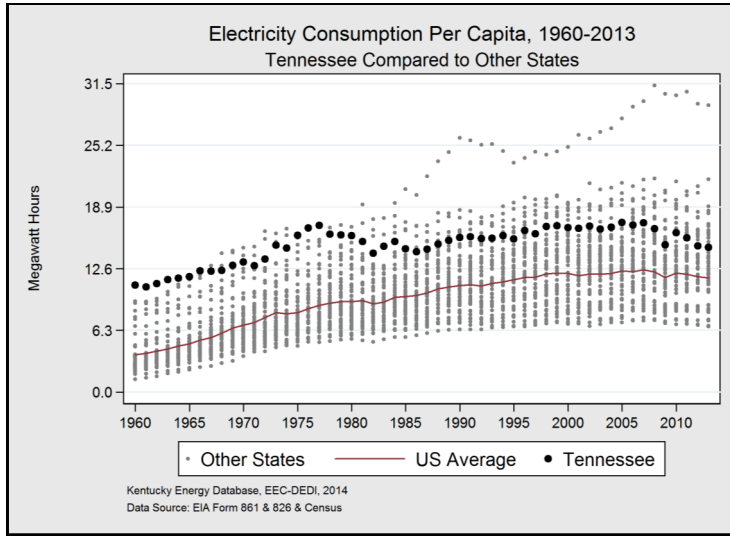
Historical Electricity Use per Capita



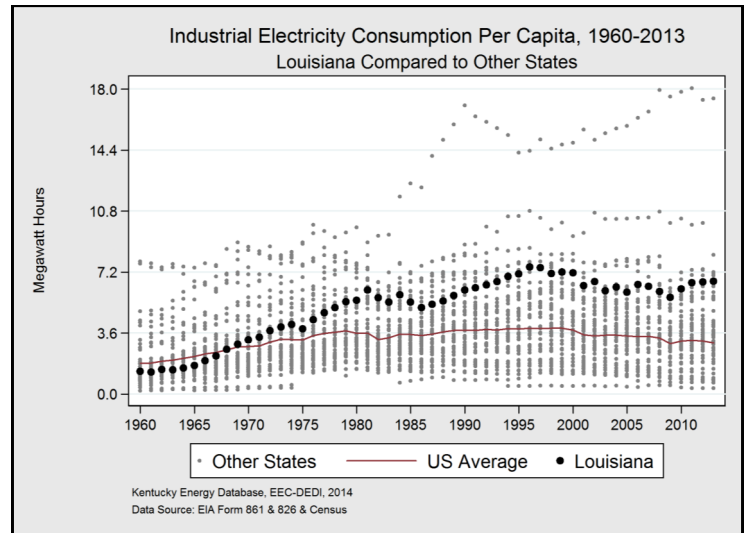
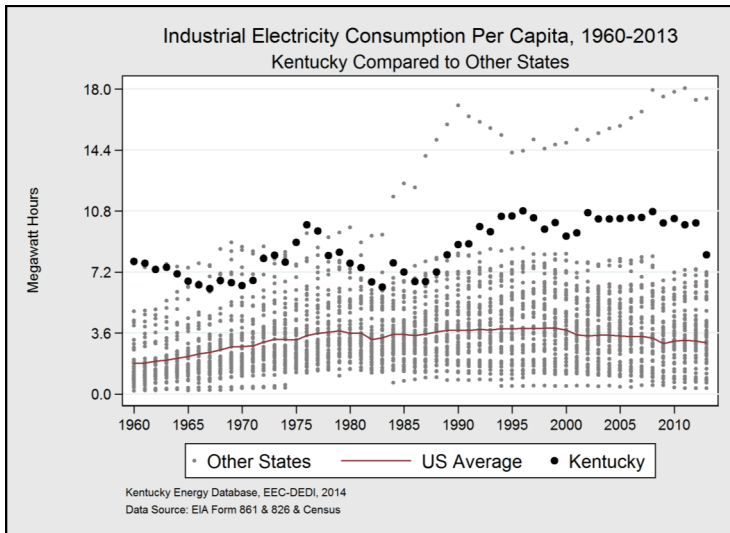
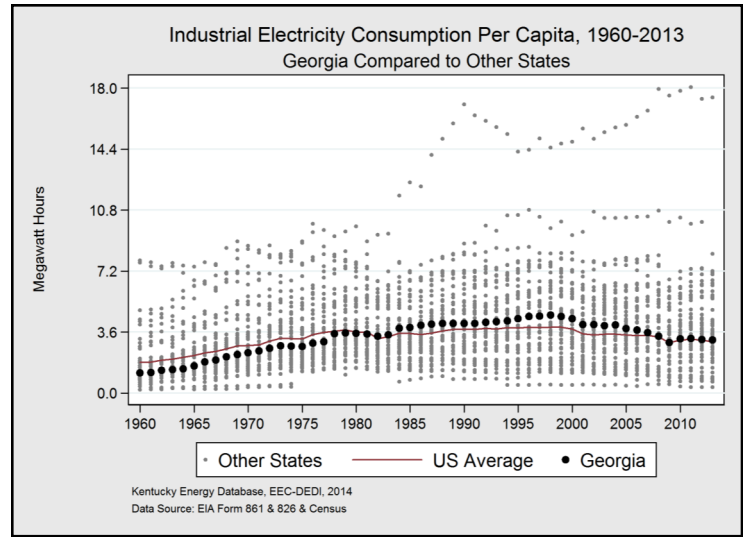
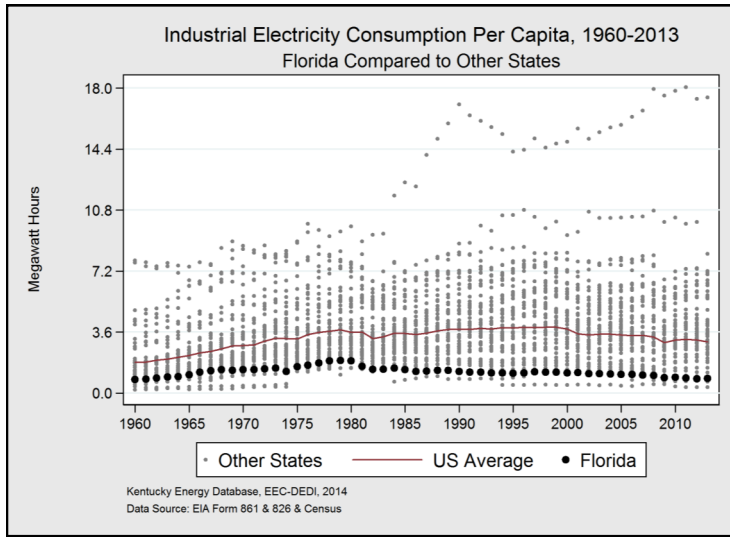
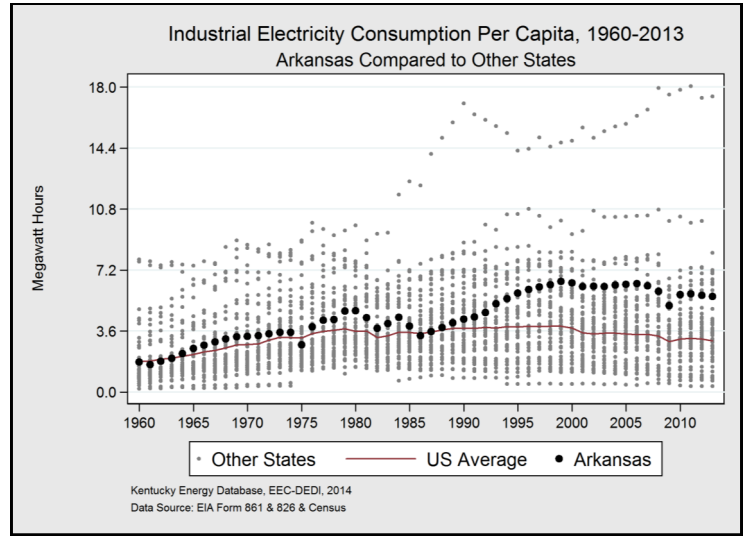
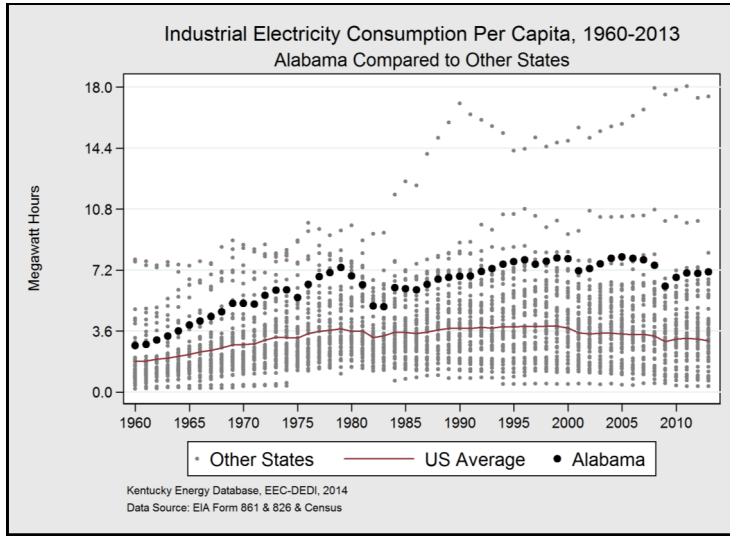
Historical Electricity Use per Capita



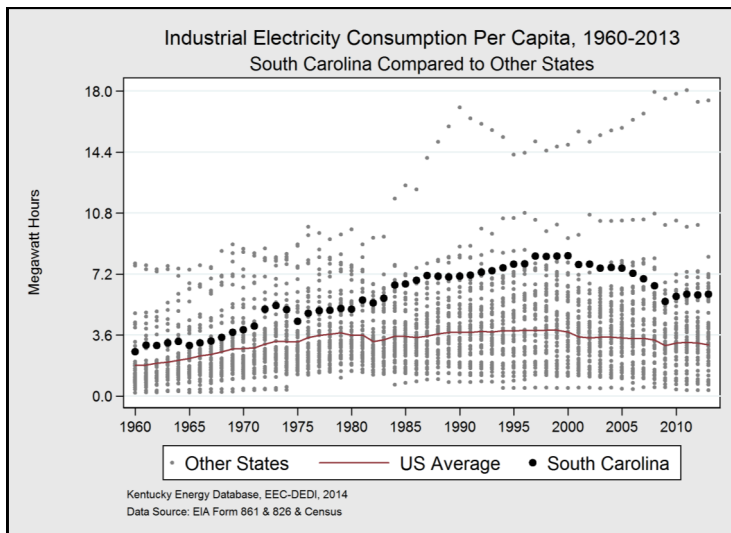
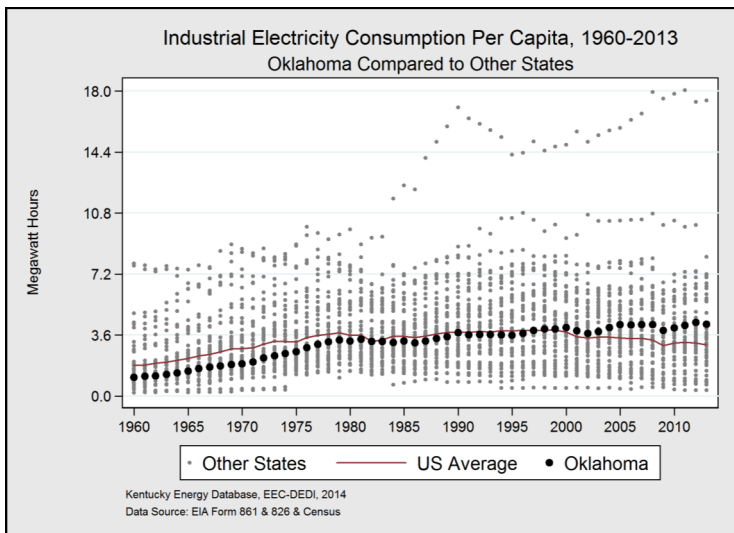
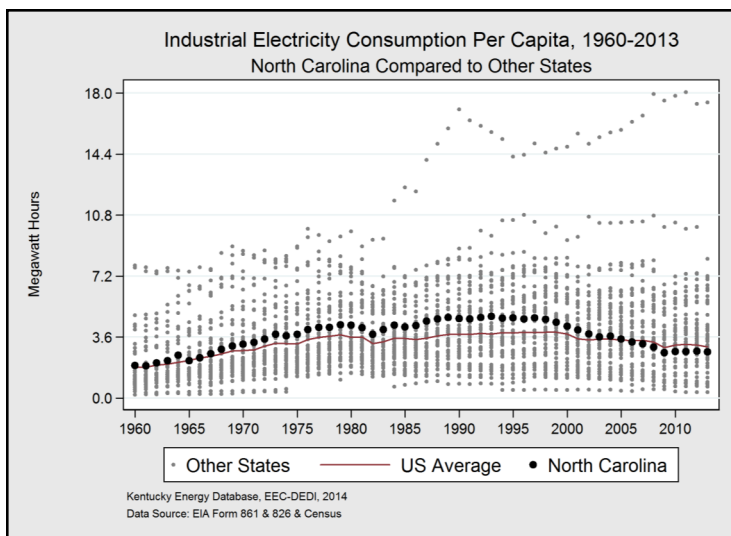
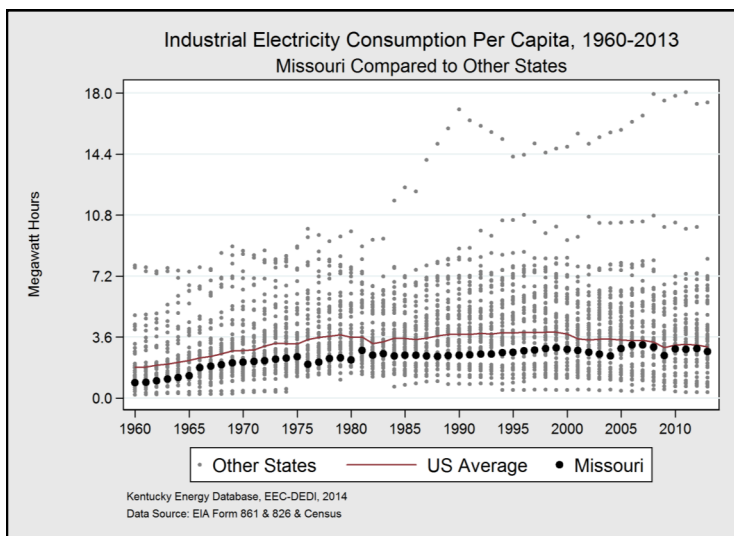
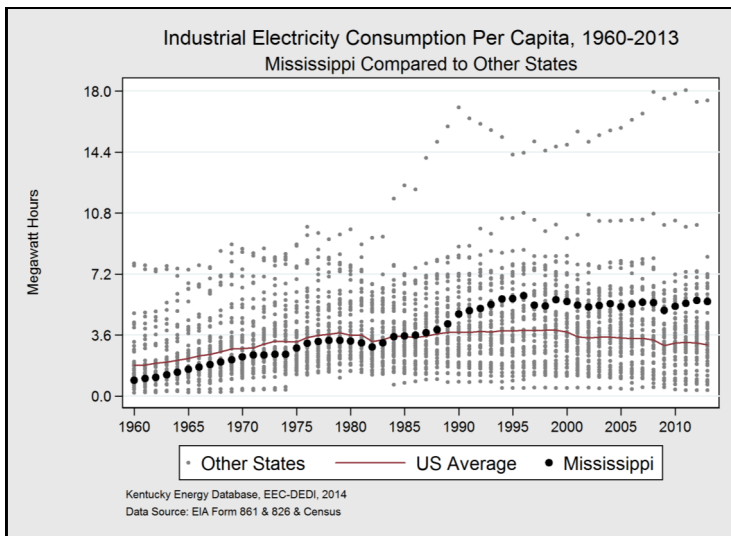
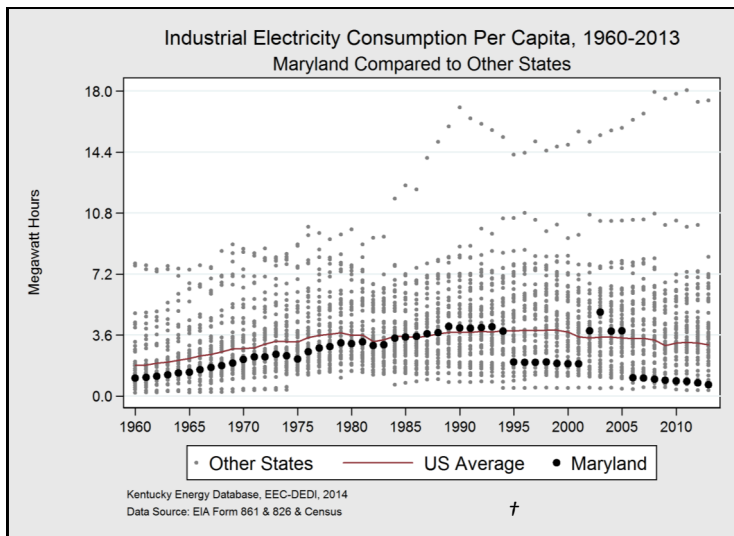
Historical Electricity Use per Capita



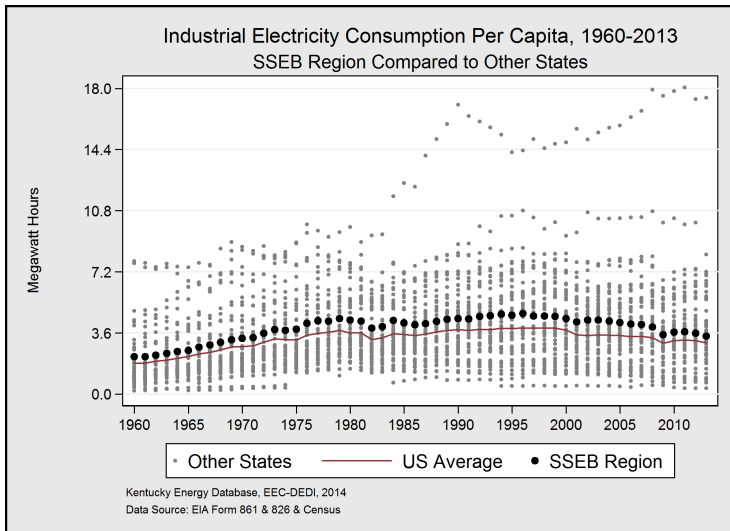
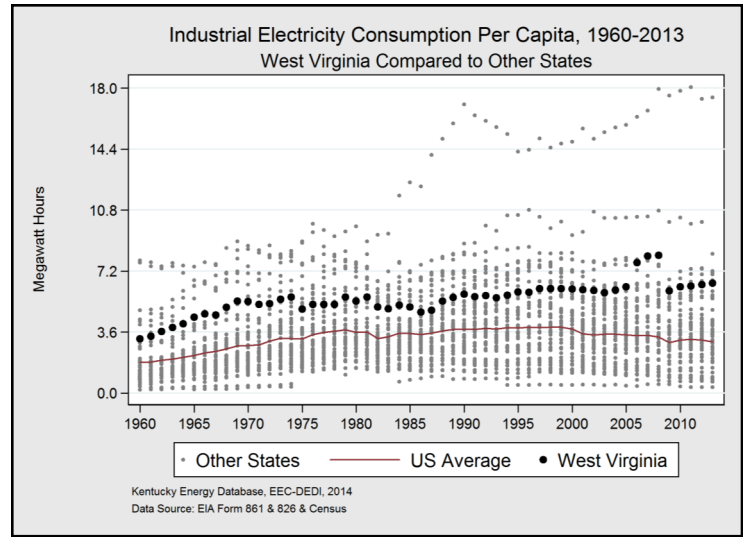
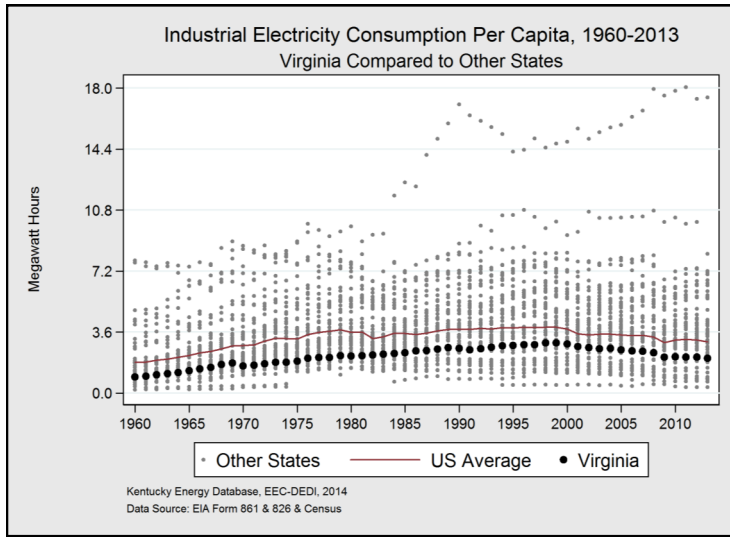
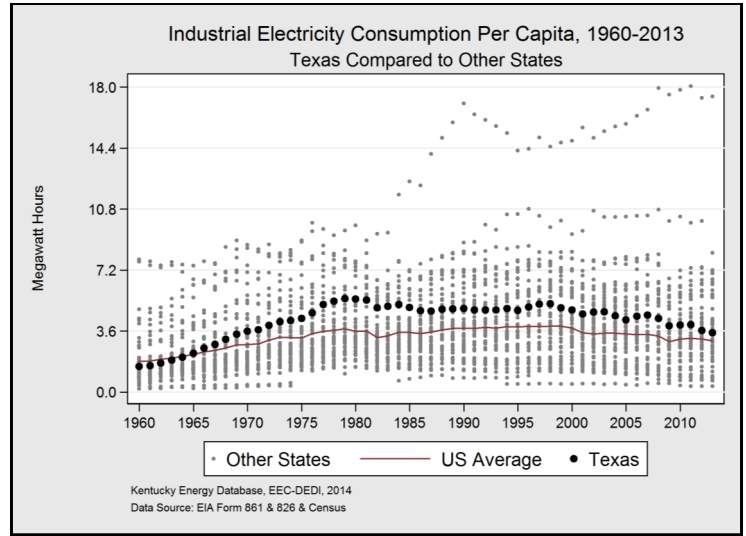
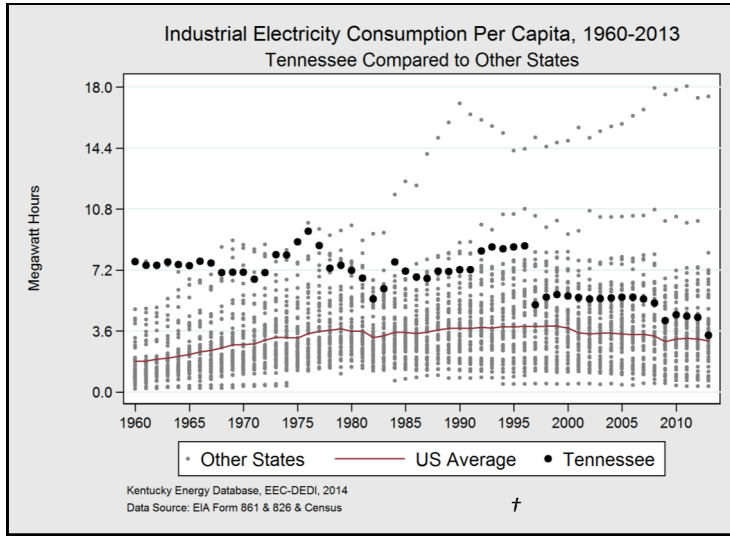
Historical Industrial Electricity Use per Capita



Historical Industrial Electricity Use per Capita

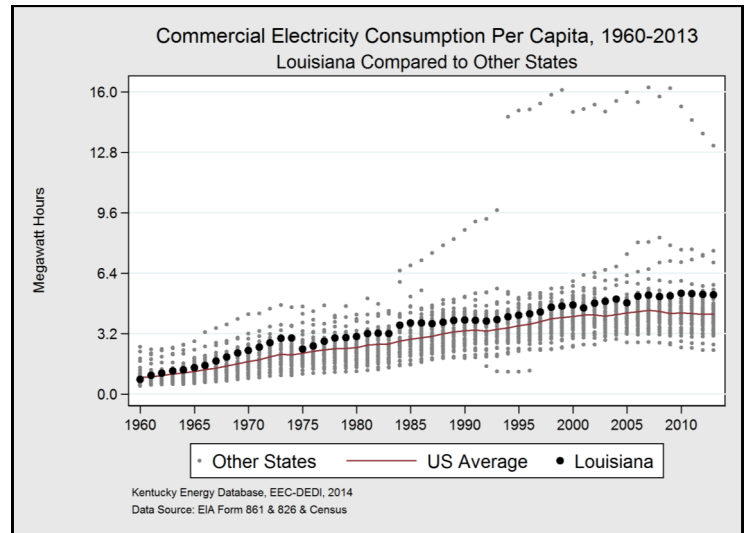
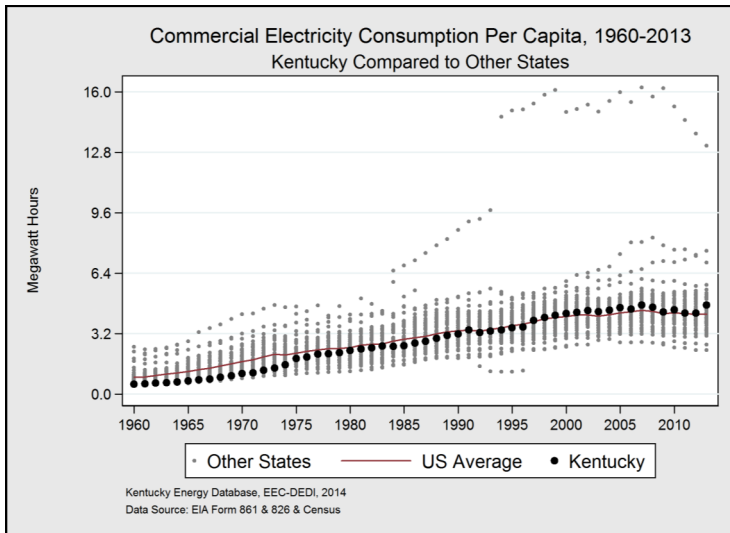
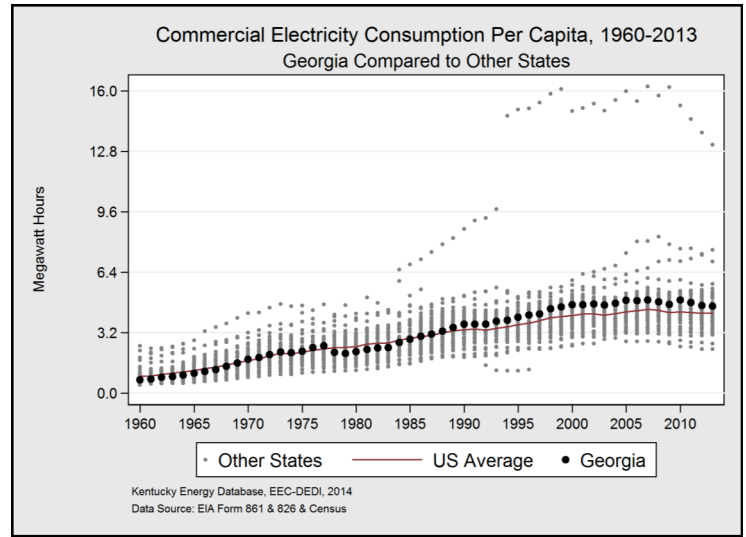
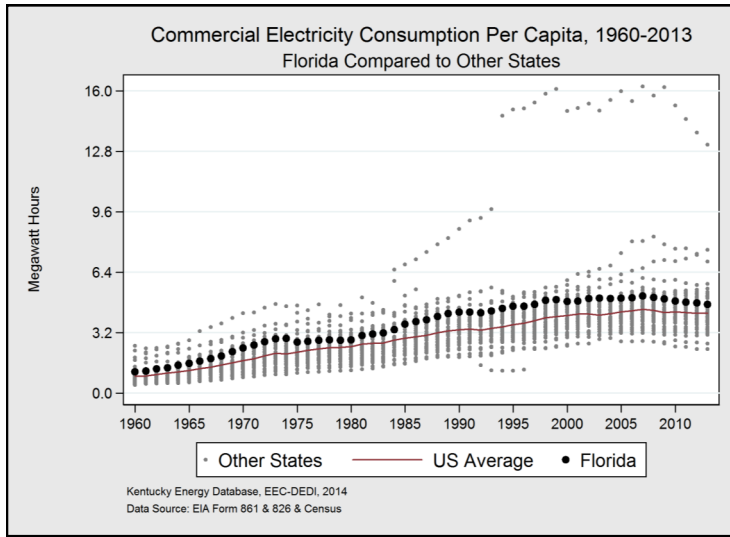
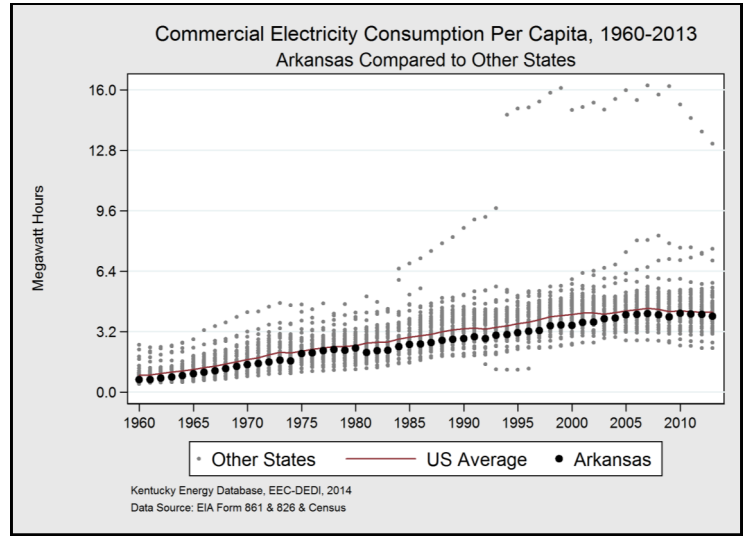
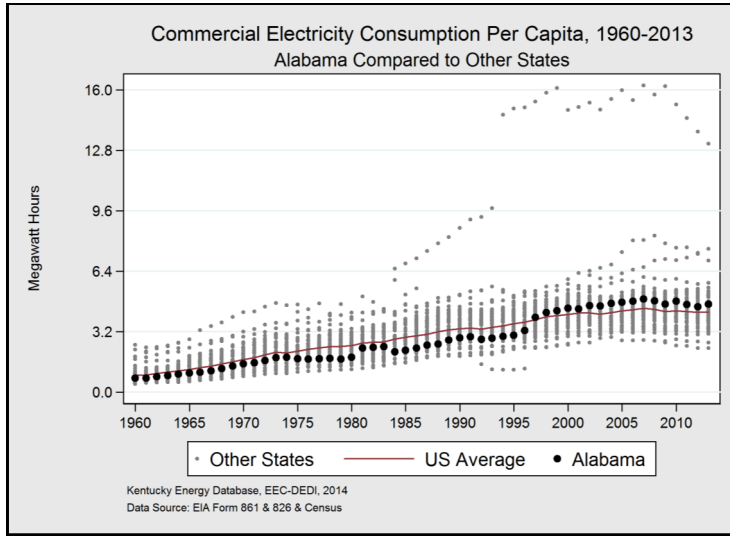


Historical Industrial Electricity Use per Capita

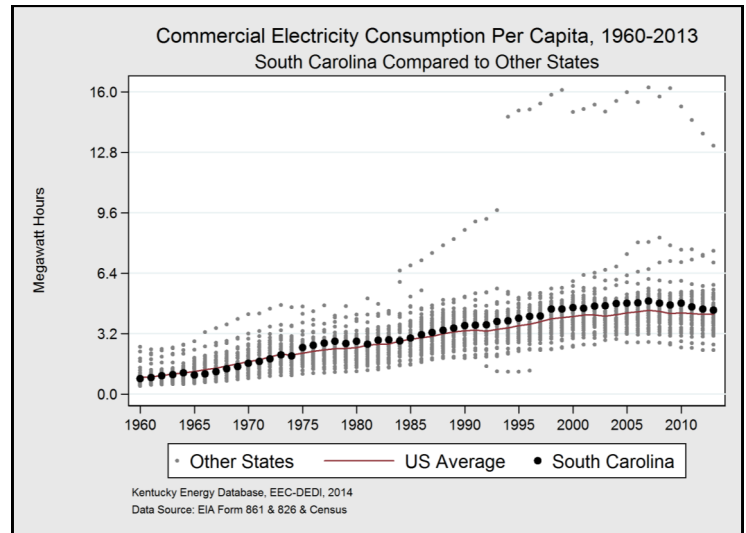
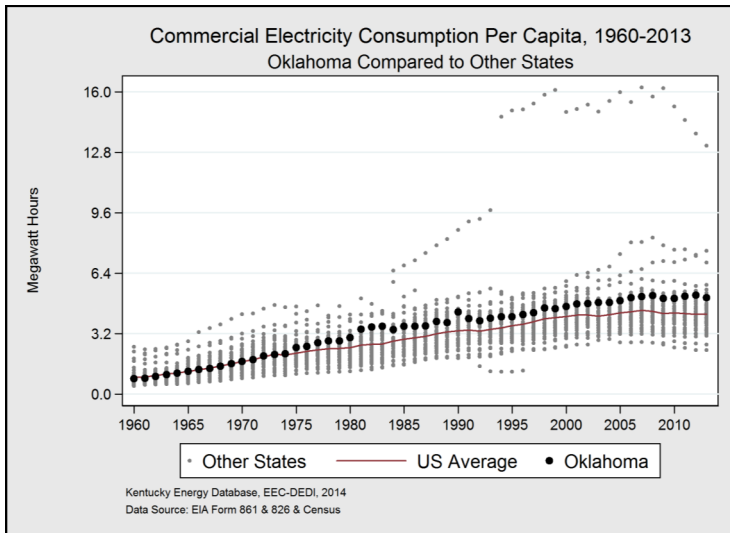
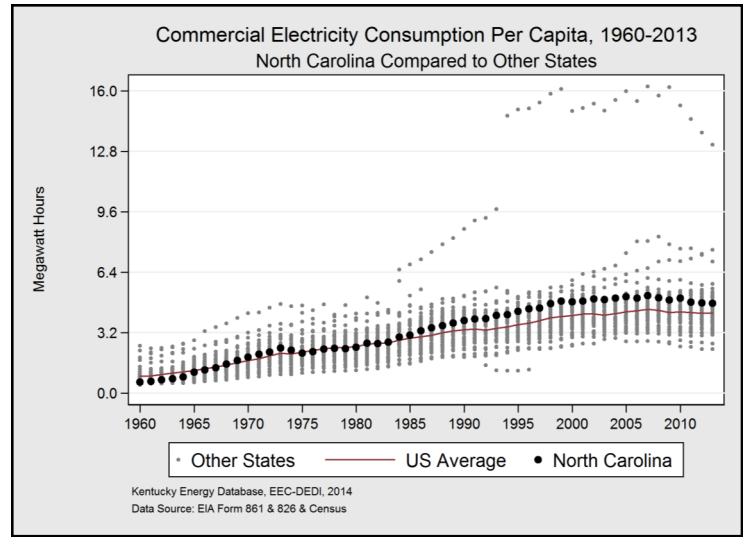
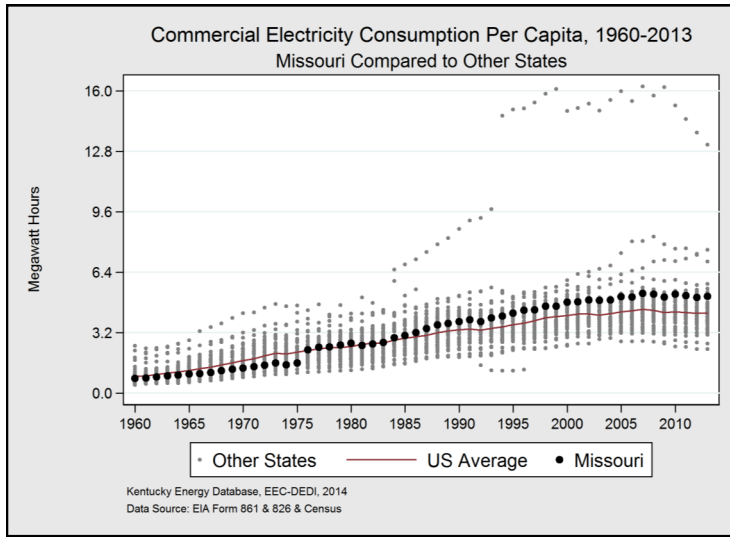
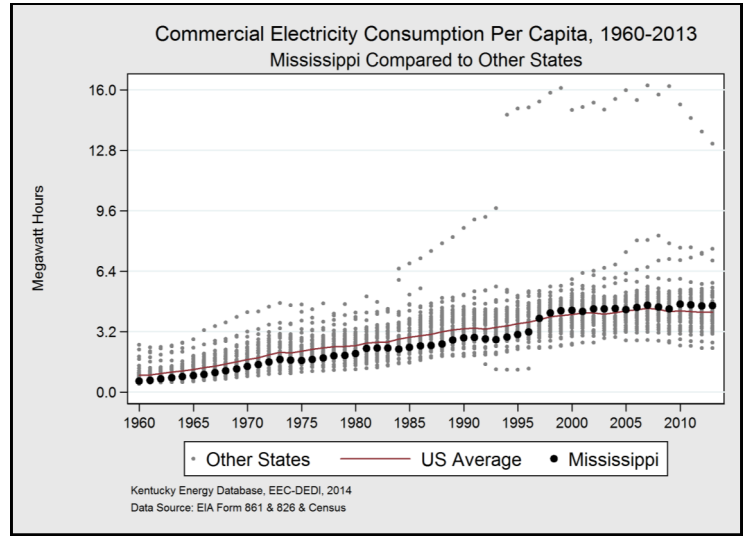
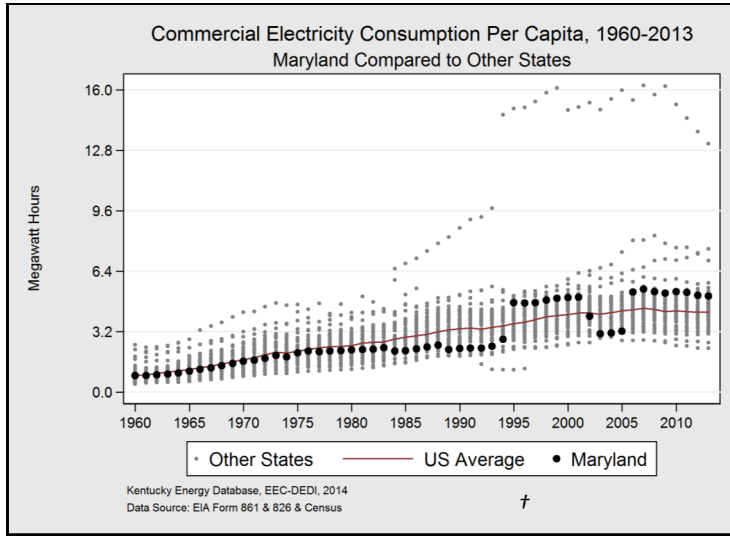


† Maryland and Tennessee show substantial fluctuation in per capita industrial electricity consumption due to the reclassification of certain industrial processes as commercial during this timeseries.

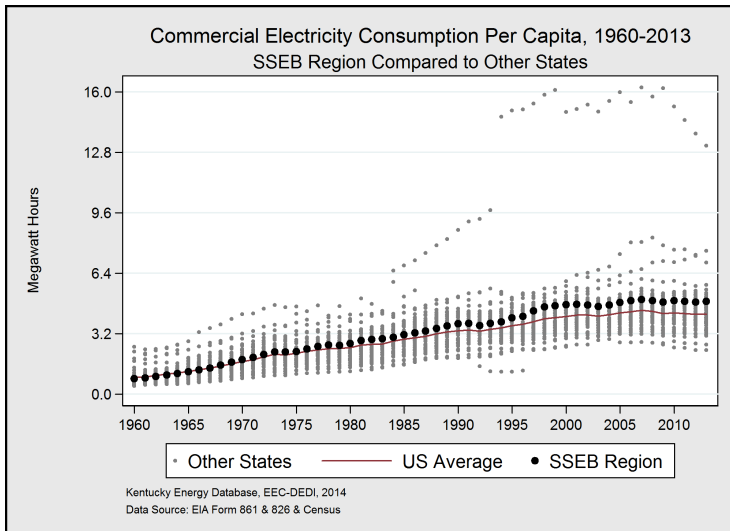
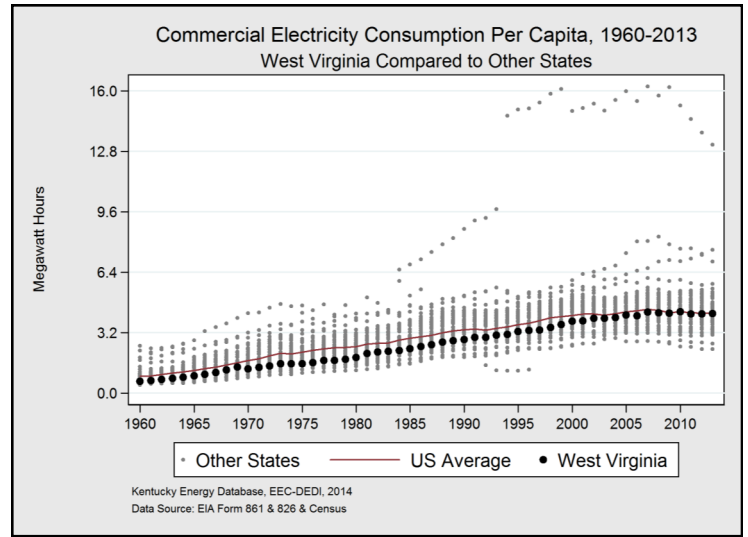
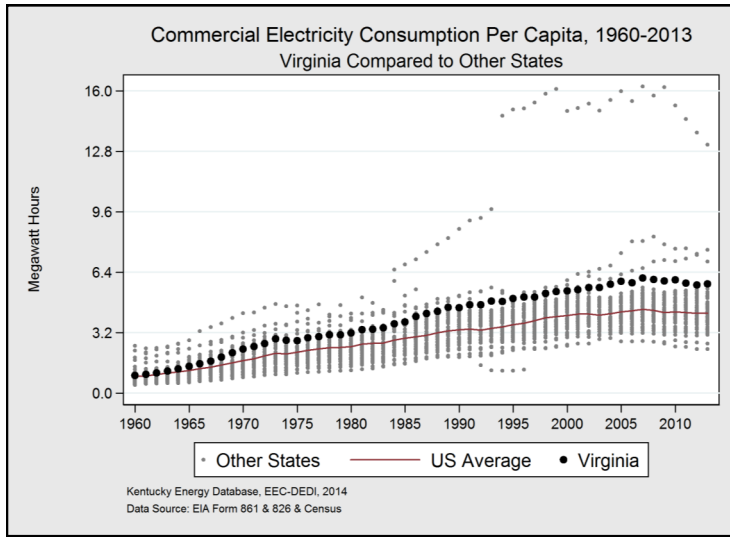
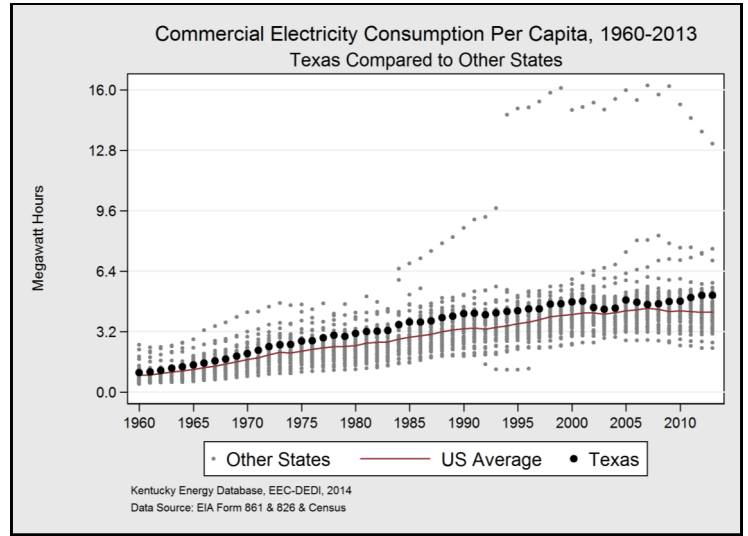
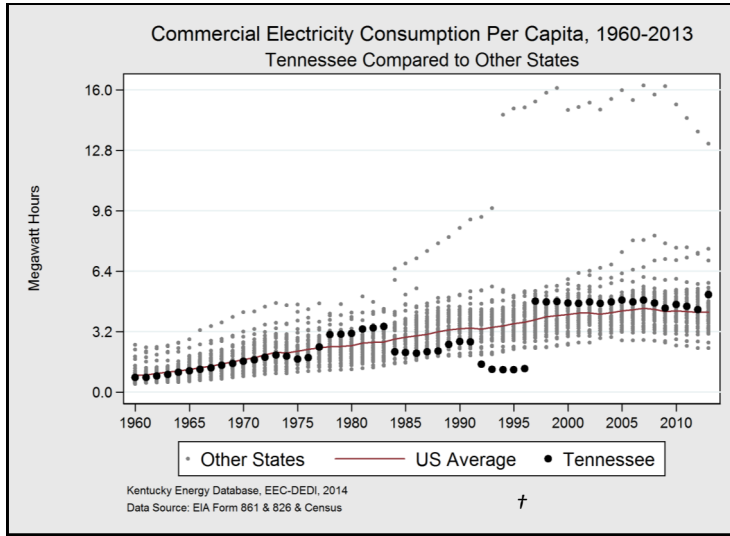
Historical Commercial Electricity Use per Capita



Historical Commercial Electricity Use per Capita

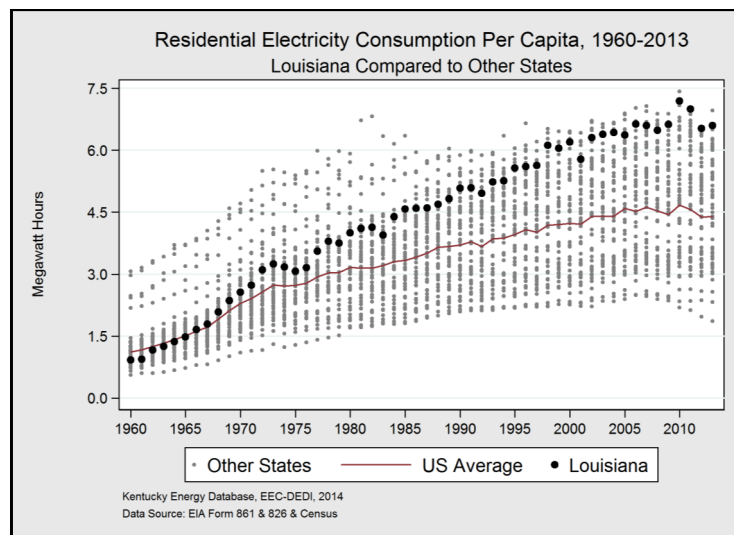
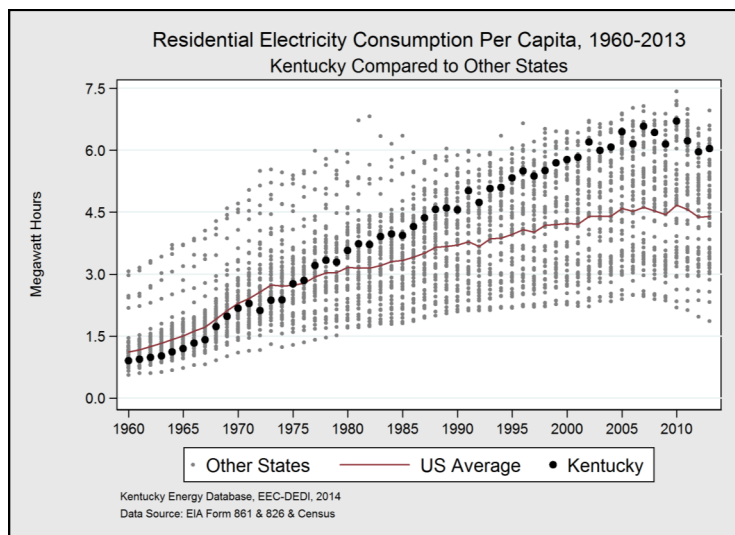
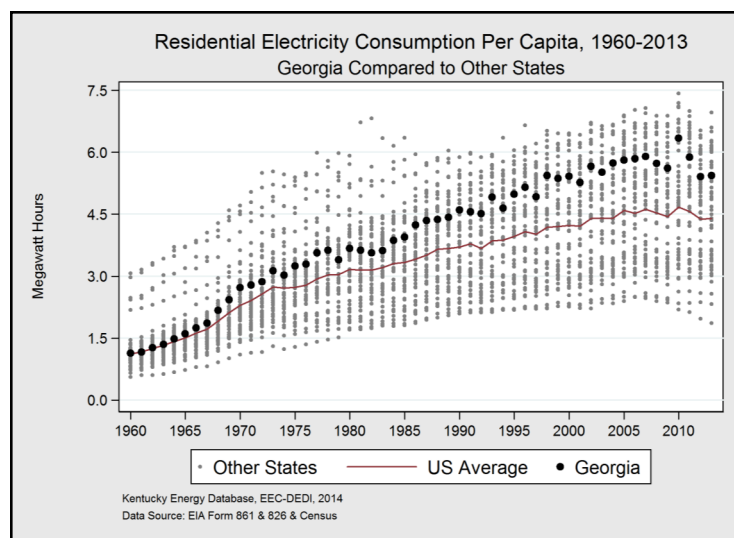
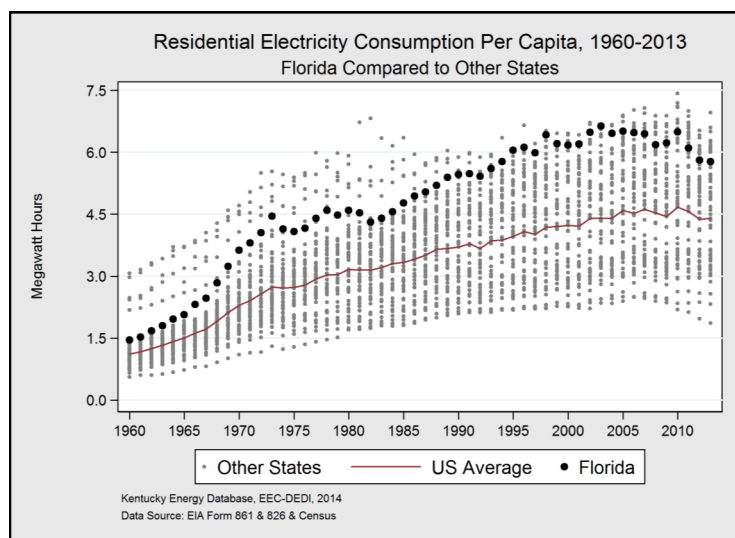
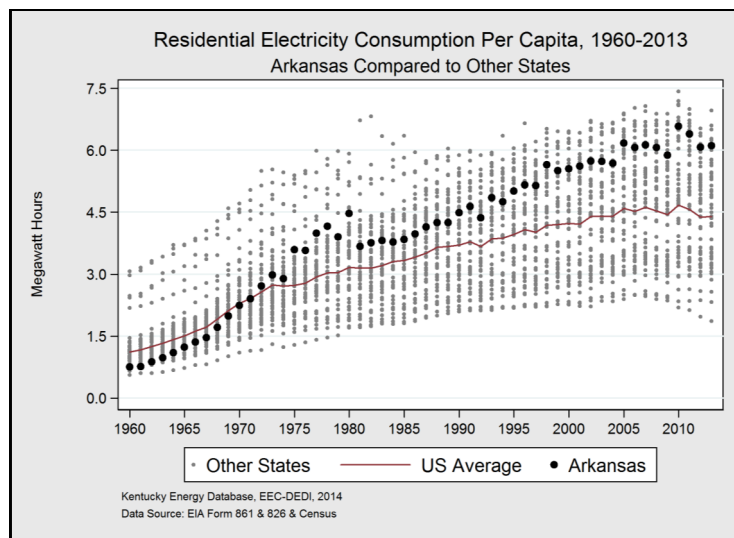
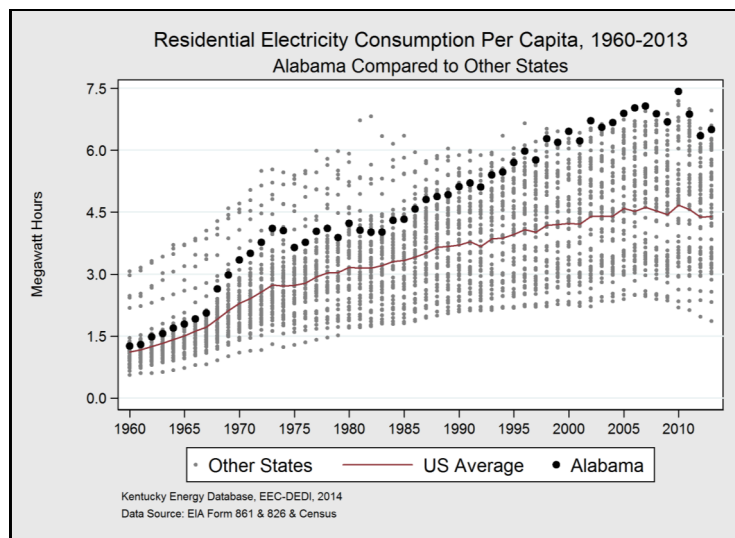


Historical Commercial Electricity Use per Capita

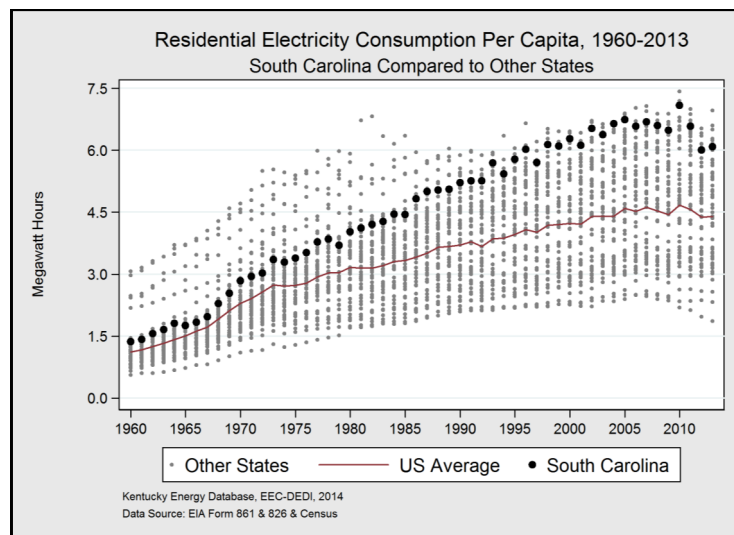
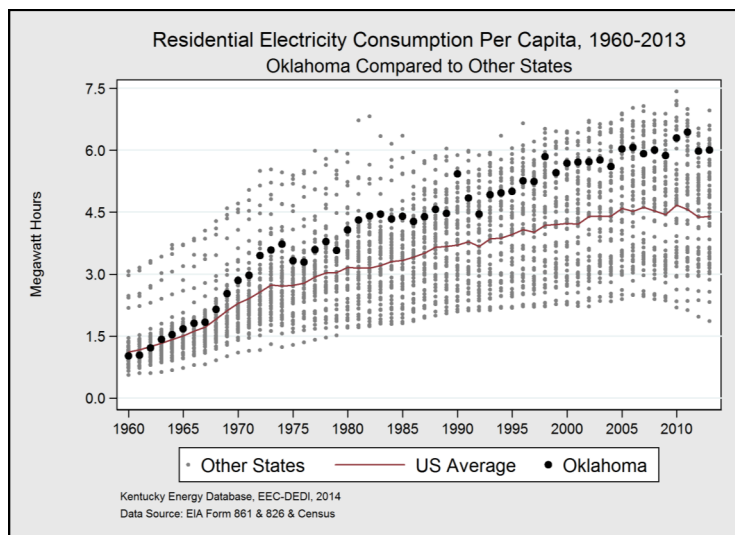
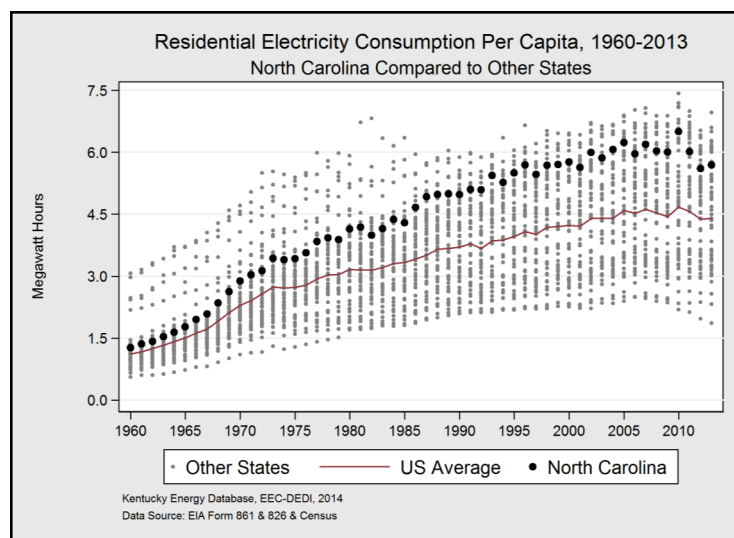
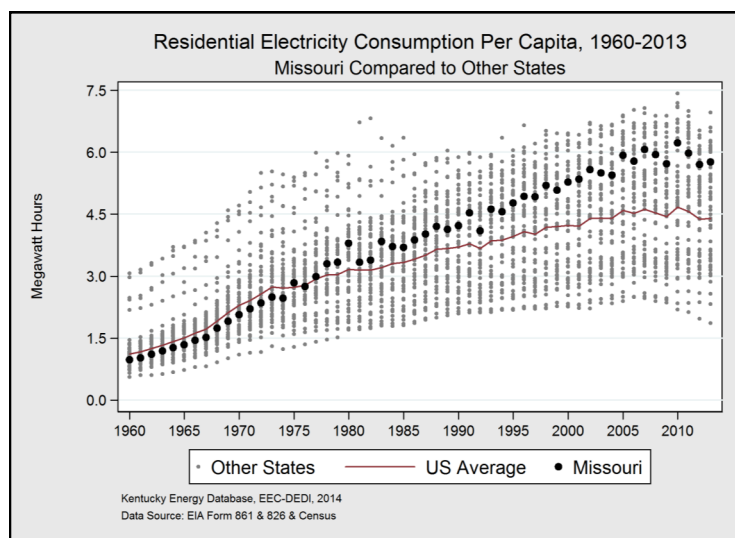
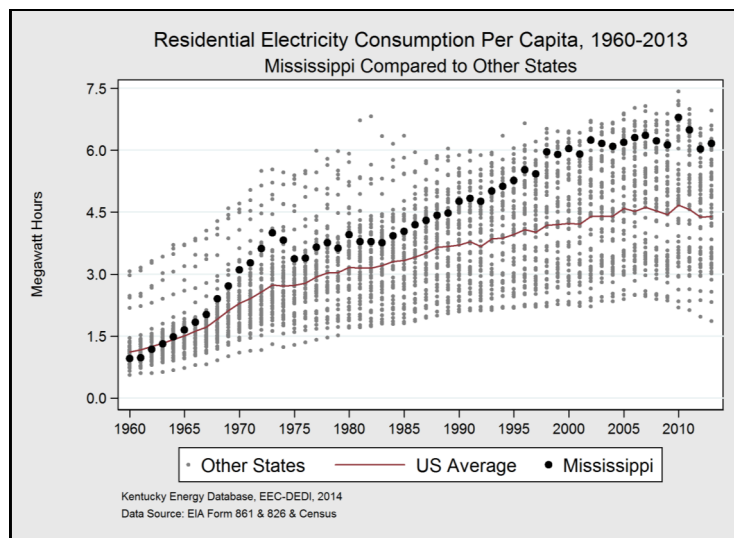
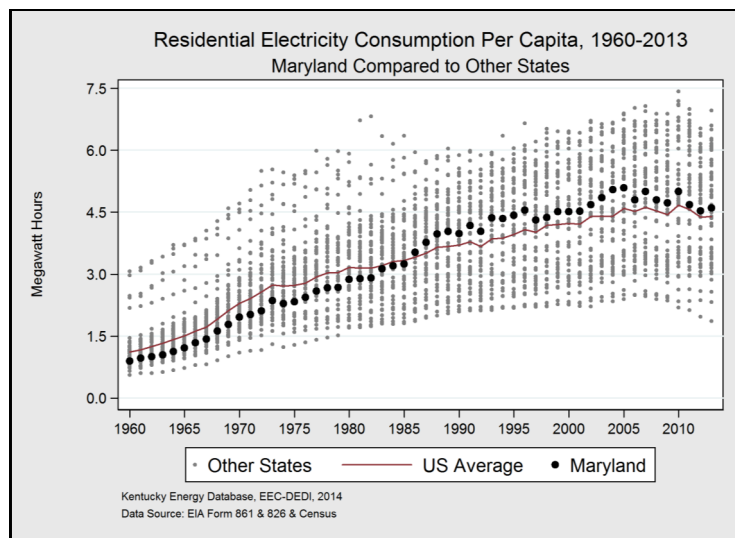


† Maryland and Tennessee show substantial fluctuation in per capita commercial electricity consumption due to the reclassification of certain industrial processes as commercial during this timeseries.

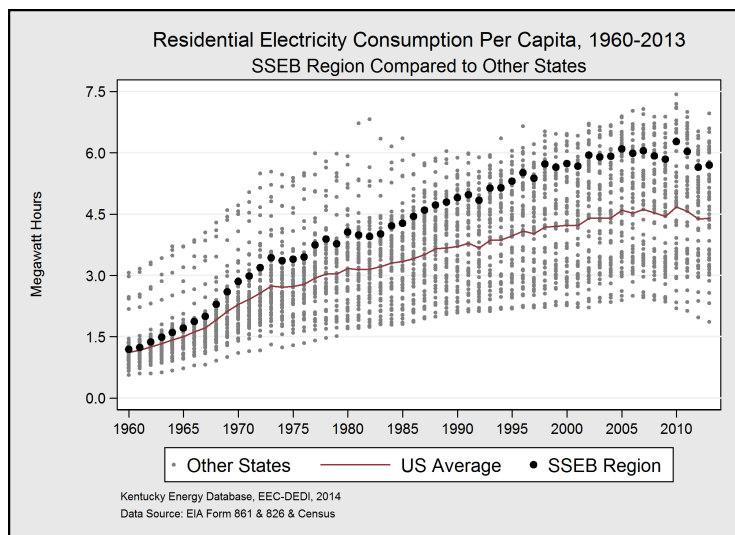
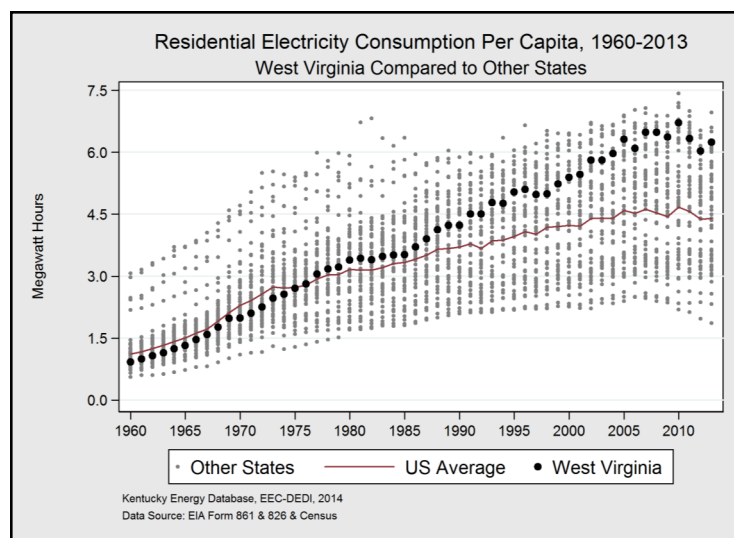
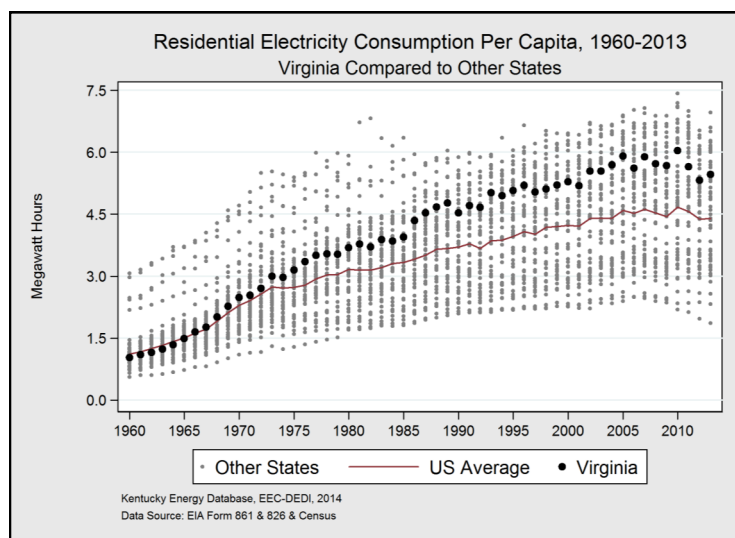
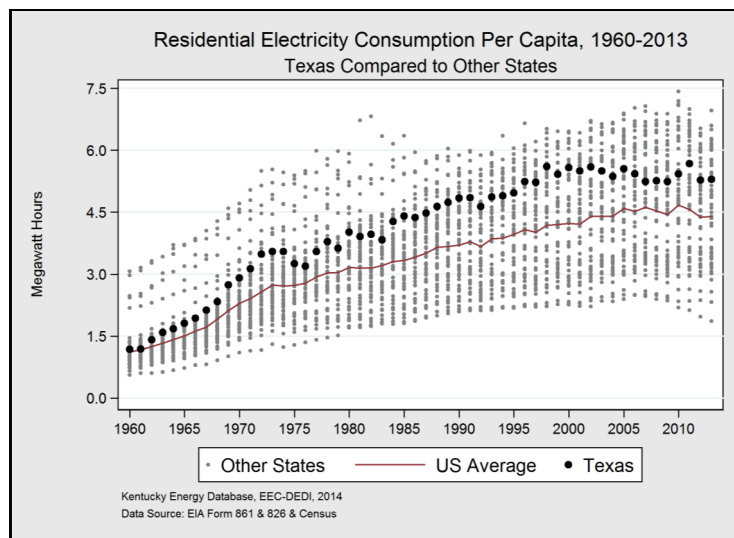
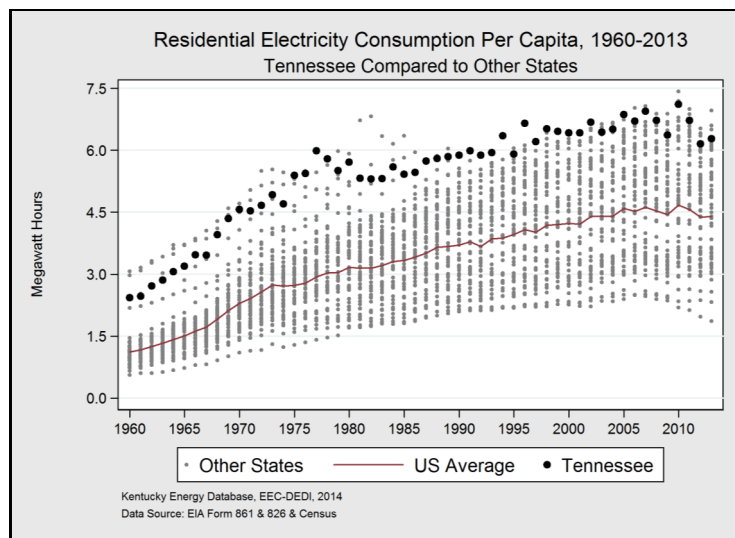
Historical Residential Electricity Use per Capita



Historical Residential Electricity Use per Capita

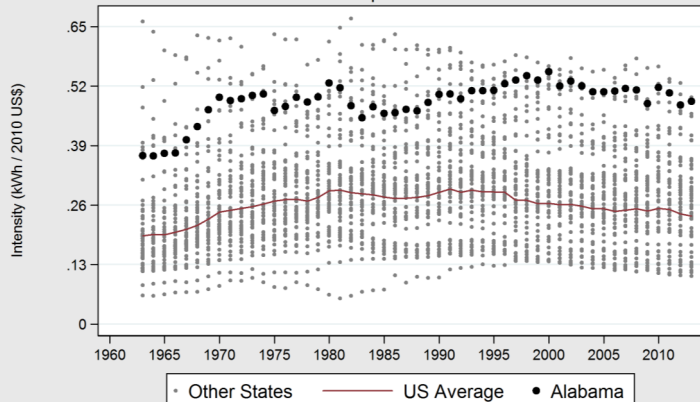


Historical Residential Electricity Use per Capita



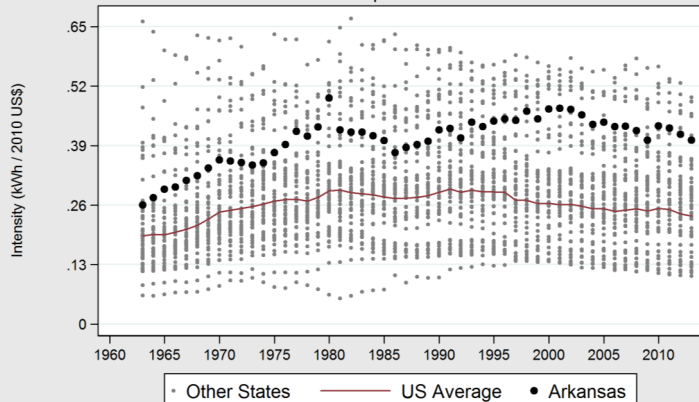
Historical Electricity Intensity per GDP Dollar

Electricity Consumption per State GDP Dollar, 1963-2013
Alabama Compared to Other States



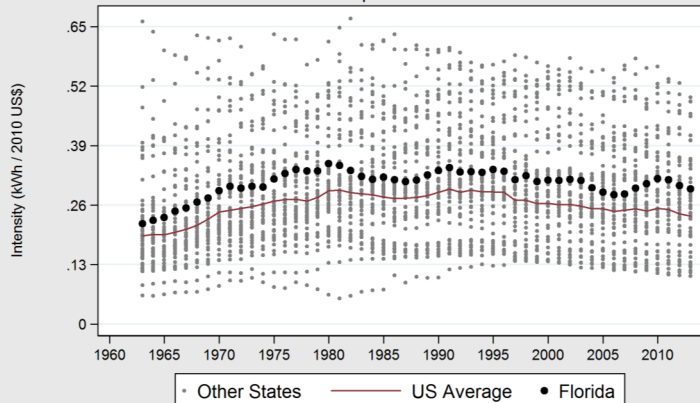
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Arkansas Compared to Other States



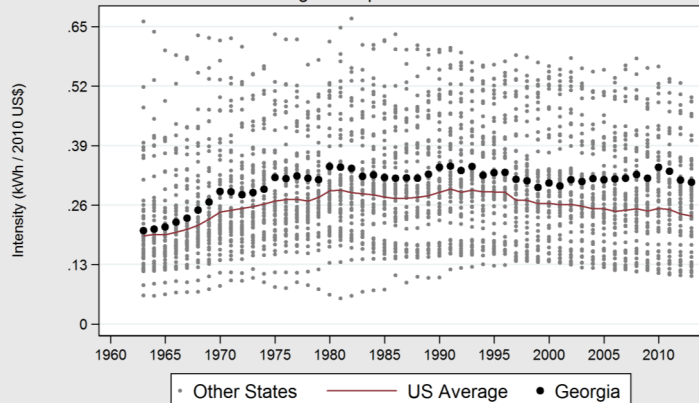
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Florida Compared to Other States



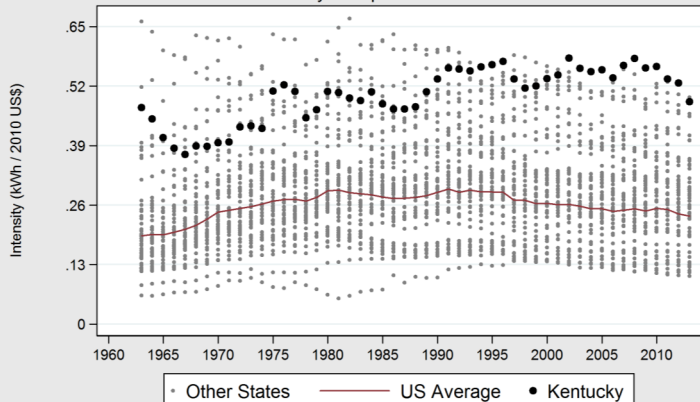
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Georgia Compared to Other States



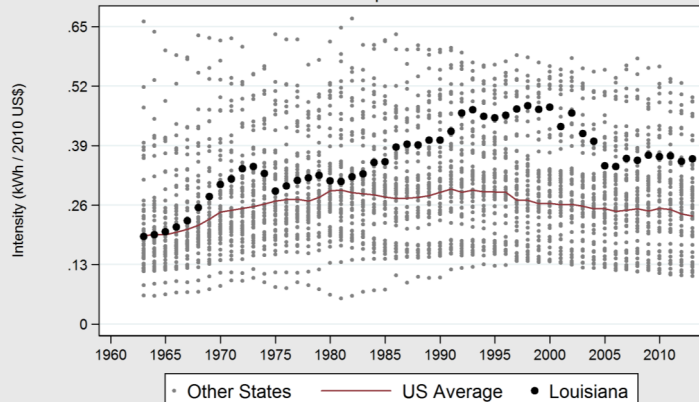
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Kentucky Compared to Other States



Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

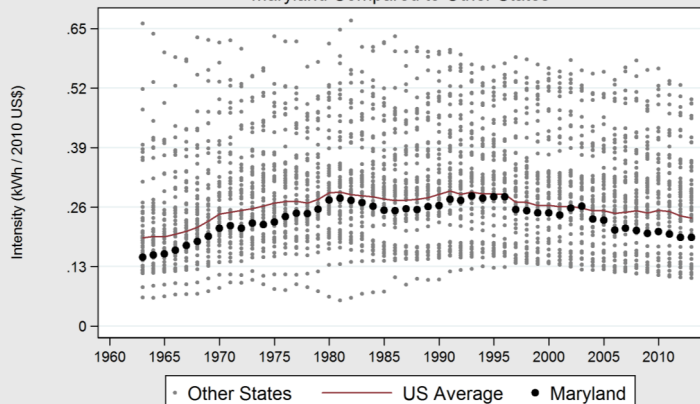
Electricity Consumption per State GDP Dollar, 1963-2013
Louisiana Compared to Other States



Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

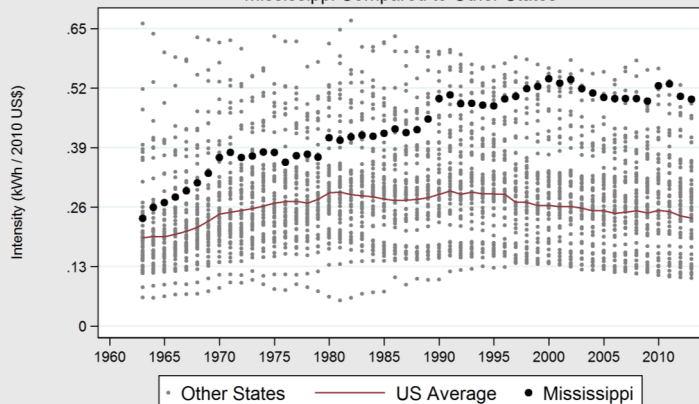
Historical Electricity Intensity per GDP Dollar

Electricity Consumption per State GDP Dollar, 1963-2013
Maryland Compared to Other States



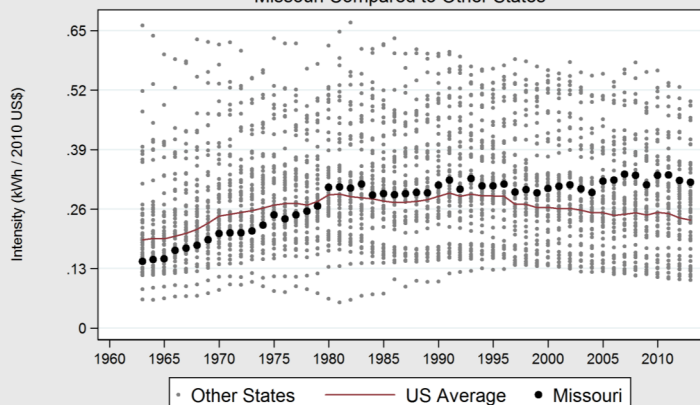
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Mississippi Compared to Other States



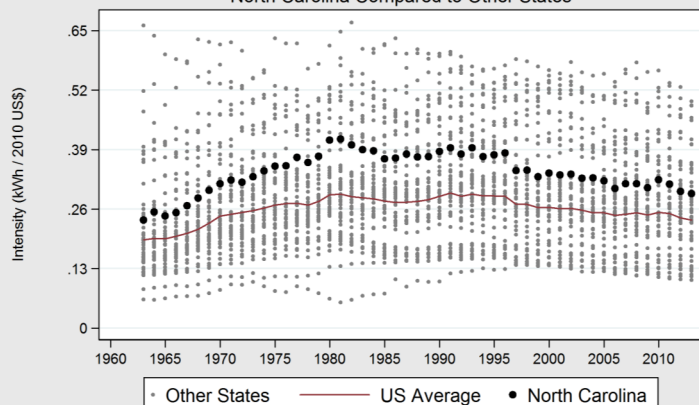
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Missouri Compared to Other States



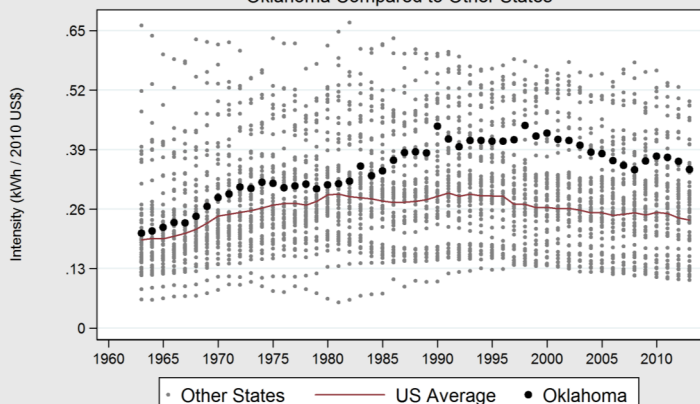
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
North Carolina Compared to Other States



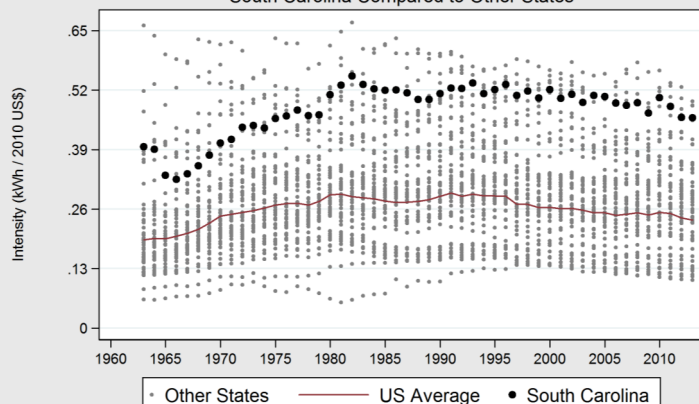
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
Oklahoma Compared to Other States



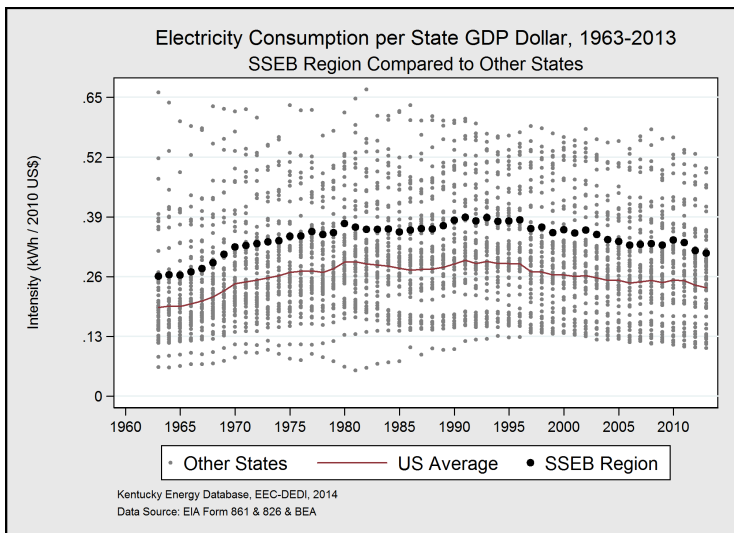
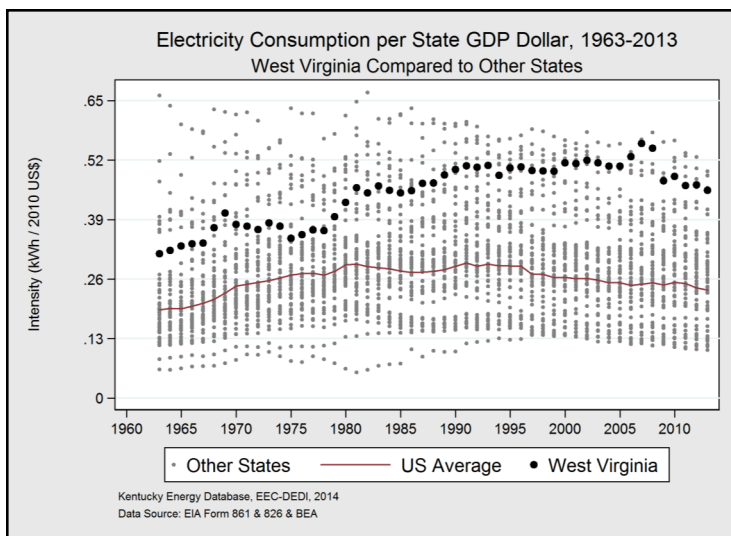
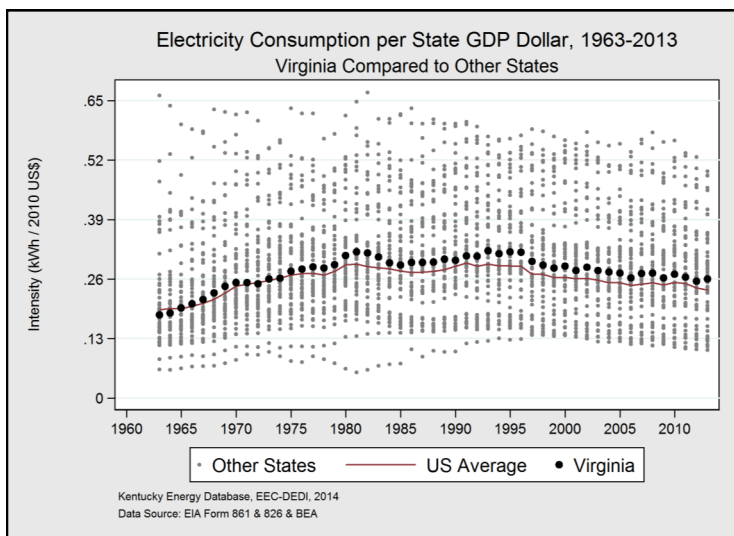
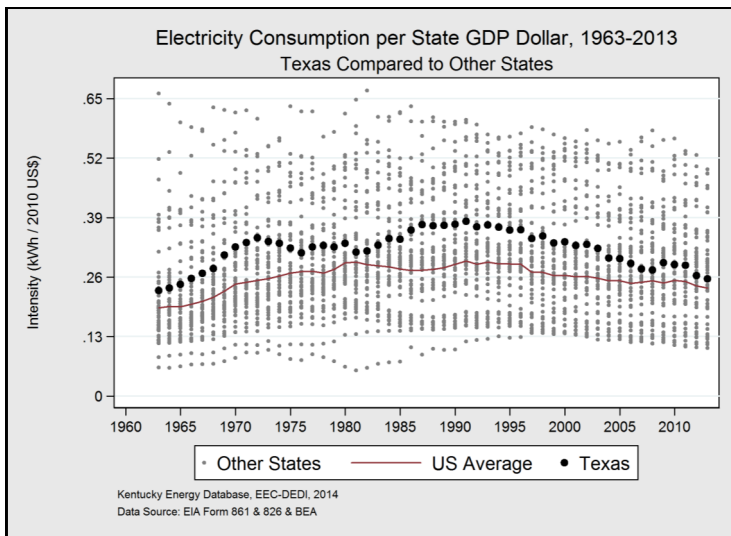
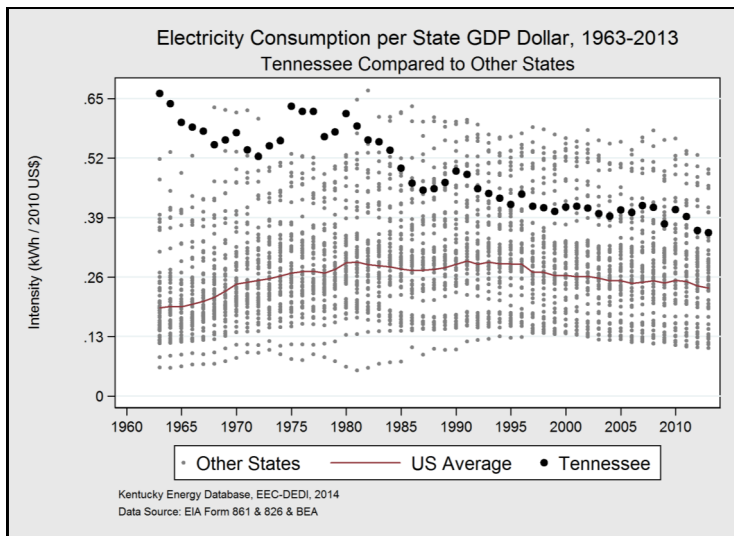
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Electricity Consumption per State GDP Dollar, 1963-2013
South Carolina Compared to Other States

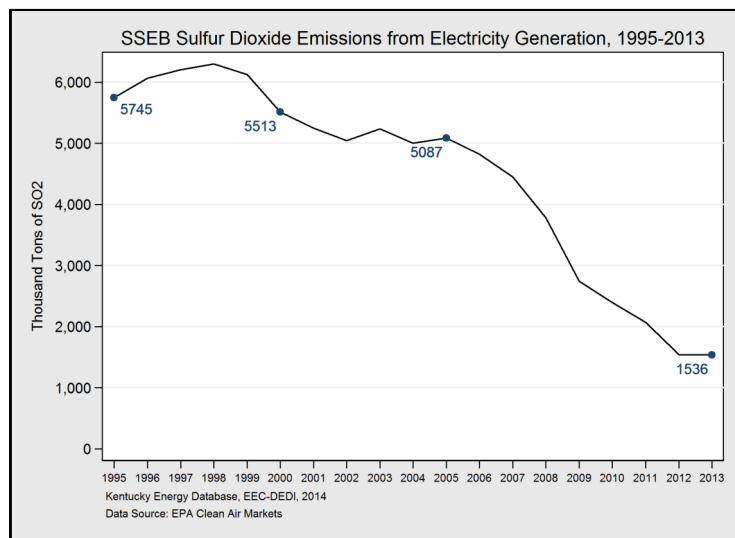


Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Form 861 & 826 & BEA

Historical Electricity Intensity per GDP Dollar

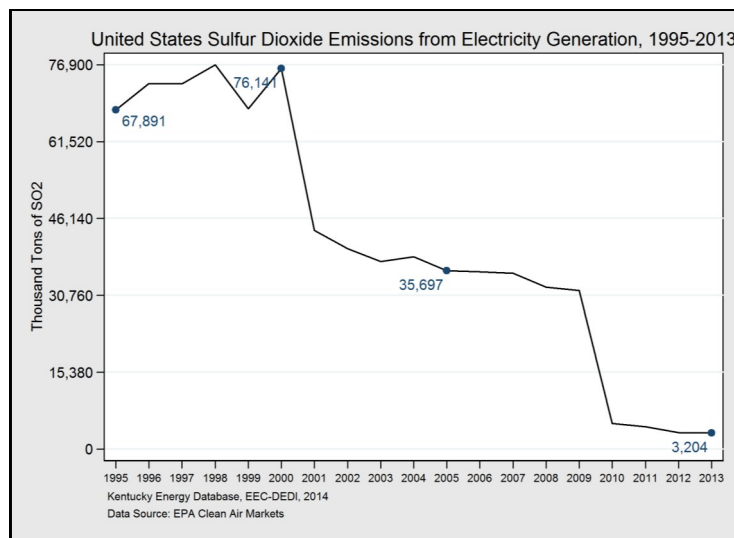


SSEB Region Electric Power Emissions



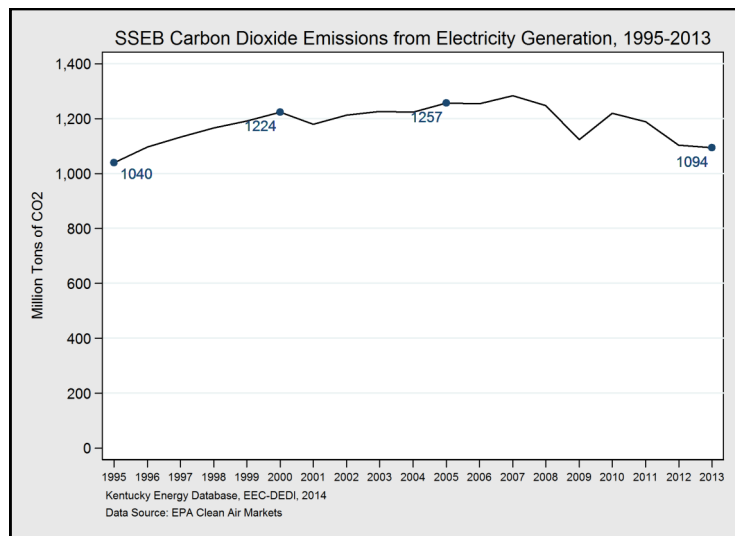
Emission	Short Tons	Since 2005
Sulfur Dioxide	1,536,000	-69.8%

Emission	Short Tons	Since 2005
Carbon Dioxide	1,094,001,043	-13%

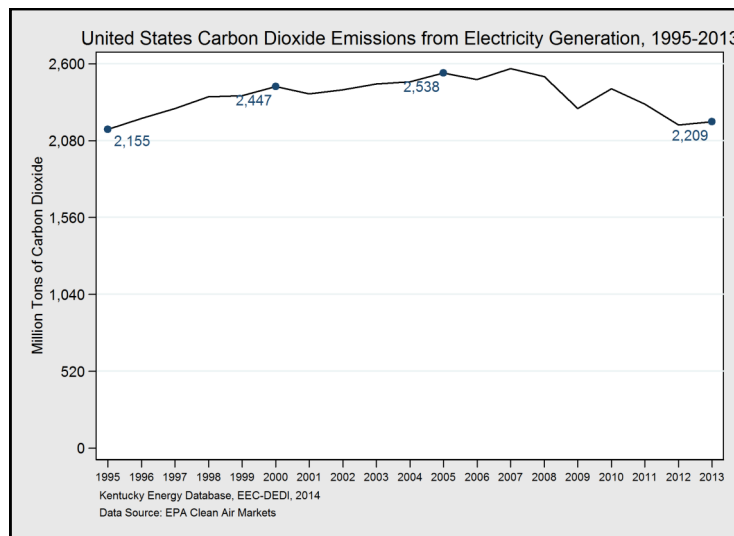


Emission	Short Tons	Since 2005
Sulfur Dioxide	3,204,106	-91%

Emission	Short Tons	Since 2005
Carbon Dioxide	2,210,369,280	-13%



Since 1995, sulfur dioxide (SO₂) emissions have fallen by 95.3 percent across the United States despite a 23 percent increase in electricity consumption. At the same time, the SSEB region decreased its SO₂ emissions by 73.3 percent while increasing its electricity consumption by 28.6 percent. This decrease was achieved through pollution mitigation measures at power plants, including the use of lower-sulfur coal and the installation of desulfurization equipment.



Since 1995, Carbon dioxide (CO₂) emissions for the generation of electrical power have risen by 5.4 percent in the SSEB region and 2.5 percent in the United States. However, the 2008-2009 recession abated this trend. Since 2008, CO₂ emissions have fallen by 12.2 percent nationally due to decreased electricity consumption, increased renewable generation, as well as decreased coal-fired generation—the nation's leading source of carbon emissions.

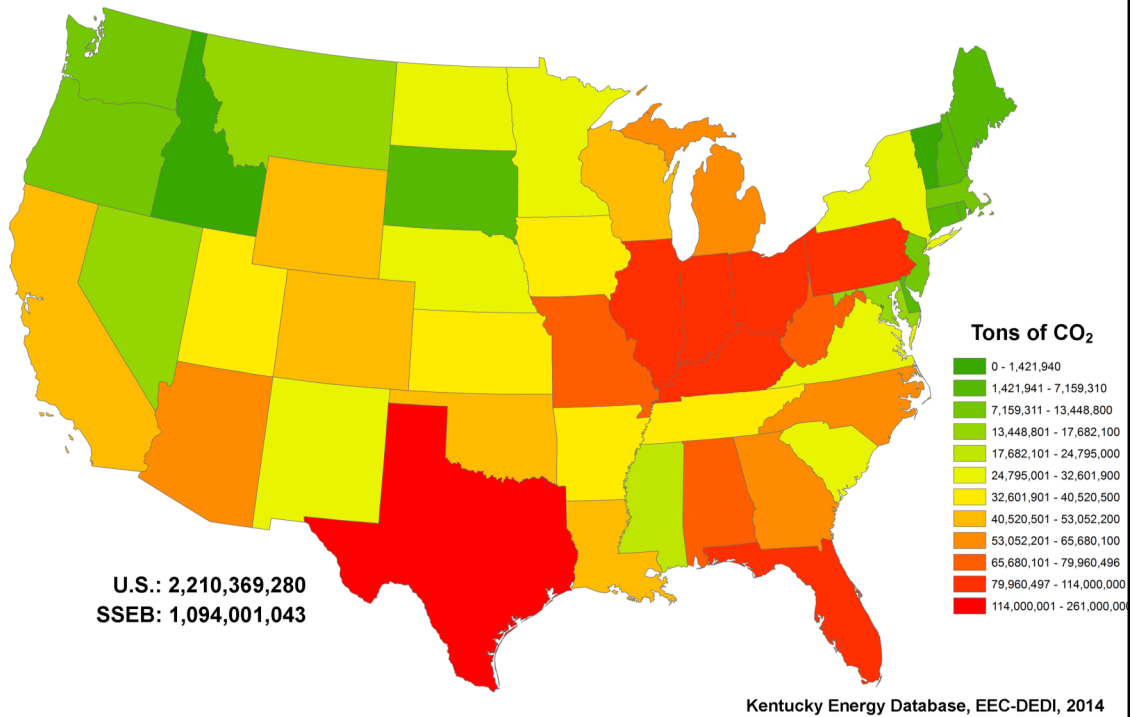
Electric Power Emissions by State

Rank	State*	CO ₂ Intensity (Lbs./MWh)	CO ₂ Emissions Since 2005	SO ₂ Intensity (Lbs./MWh)	SO ₂ Emissions Since 2005	NO _x Intensity (Lbs./MWh)	NO _x Emissions Since 2005
1	Vermont	171	+45.8%	0	-81.2%	0.06	-38.3%
2	Idaho	189	+147.3%	0	+147.7%	0.03	+130.9%
3	Washington	251	-14.2%	0.06	-15.5%	0.16	-52.1%
4	Oregon	368	+8.3%	0.51	+16.3%	0.18	-46.9%
5	New Jersey	395	-20.5%	0.03	-98.2%	0.09	-88.4%
6	Maine	414	-43.0%	0.14	-77.5%	0.1	-51.3%
7	Connecticut	442	-25.8%	0.07	-85.3%	0.08	-77.7%
8	New Hampshire	472	-53.1%	0.36	-93.8%	0.3	-69.6%
9	California	478	+38.6%	0	+33.2%	0.04	-12.6%
10	New York	503	-44.3%	0.24	-91.5%	0.24	-73.9%
11	South Carolina	706	-31.6%	0.62	-87.7%	0.29	-75.1%
12	South Dakota	754	-0.2%	3.22	+44.1%	2.39	-18.2%
13	Massachusetts	862	-48.8%	0.69	-86.8%	0.25	-81.4%
14	Virginia	865	-21.2%	1.08	-81.7%	0.61	-63.3%
15	Rhode Island	916	+12.1%	0.01	16.8%	0.17	+38.9%
16	Nevada	934	-42.8%	0.44	-86.1%	0.47	-82.0%
17	Delaware	1008	-45.2%	0.61	-92.8%	0.39	-87.5%
18	North Carolina	1014	-23.5%	0.74	-91.6%	0.73	-61.2%
19	Mississippi	1023	-10.5%	3.2	+4.6%	0.84	-52.2%
20	Maryland	1059	-46.8%	1.48	-91.5%	0.7	-81.3%
21	Tennessee	1059	-36.7%	1.56	-78.8%	0.5	-82.2%
22	Pennsylvania	1074	-8.6%	2.36	-75.2%	1.26	-23.7%
23	Alabama	1081	-18.9%	1.55	-76.9%	0.66	-65.9%
24	Illinois	1082	-5.9%	1.47	-58.4%	0.54	-60.3%
	United States Average	1089	-13.0%	1.58	-68.7%	0.83	-54.1%
25	Florida	1124	-16.3%	0.85	-79.1%	0.53	-74.7%
26	Louisiana	1125	+1.7%	1.61	-29.3%	0.8	-42.7%
27	Georgia	1139	-33.1%	1.46	-86.9%	0.64	-68.1%
28	Arizona	1218	+5.3%	0.47	-55.1%	1.03	-35.9%
	SSEB Average	1264	+13.1%	1.78	-69.8%	0.85	-56.5%
29	Minnesota	1287	-27.0%	1.05	-75.9%	1.07	-70.5%
30	Texas	1306	+2.1%	1.83	-31.7%	0.67	-24.4%
31	Michigan	1379	-15.9%	4.06	-44.1%	1.29	-45.5%
32	Oklahoma	1396	-9.5%	2.21	-28.4%	1.49	-41.3%
33	Iowa	1397	-10.5%	2.97	-39.4%	1.29	-53.3%
34	Montana	1400	-15.7%	1.28	-15.6%	1.52	-51.2%
35	Arkansas	1462	+38.9%	2.65	11.2%	1.34	+5.1%
36	Kansas	1636	-16.0%	1.35	-78.0%	1.29	-67.8%
27	Wisconsin	1688	-3.3%	2.08	-64.6%	0.85	-62.7%
38	Nebraska	1722	+17.4%	3.88	-10.7%	1.62	-46.3%
39	Ohio	1743	-22.1%	4.58	-74.0%	1.36	-67.1%
40	Colorado	1758	-6.6%	1.56	-35.5%	1.82	-34.0%
41	Missouri	1900	-2.8%	3.36	-47.9%	1.8	-38.3%
42	New Mexico	1903	-6.0%	1.06	-41.9%	3.45	-23.7%
43	Utah	1933	-2.1%	1.08	-37.6%	2.93	-11.2%
44	North Dakota	2029	-11.4%	3.44	-59.8%	2.93	-38.5%
45	Kentucky	2056	-7.9%	4.19	-62.4%	1.89	-48.7%
46	West Virginia	2088	-18.5%	2.41	-82.2%	1.6	-65.3%
47	Indiana	2162	-19.2%	5.37	-69.2%	2.03	-51.3%
48	Wyoming	2226	+6.0%	1.71	-53.0%	1.98	-46.1%

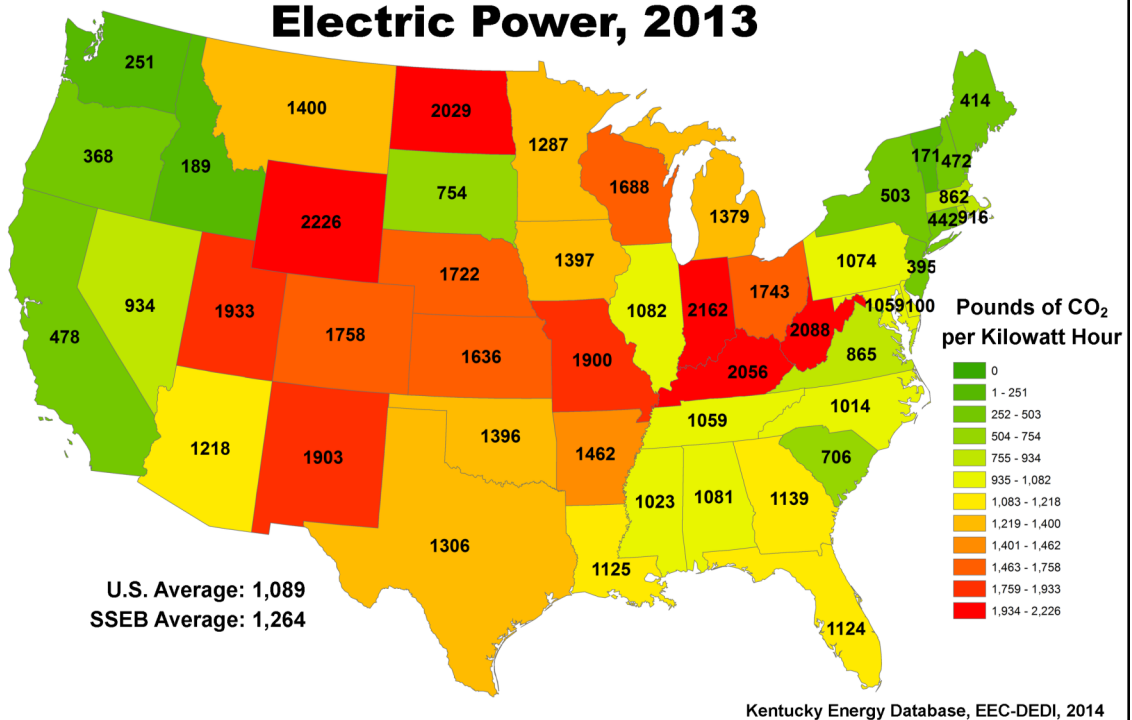
*Alaska, Hawaii, and Washington D.C. are omitted as they do not report emissions to the EPA's Clean Air Markets database.

CO₂ Emissions by State

CO₂ Emissions from Electric Power, 2013

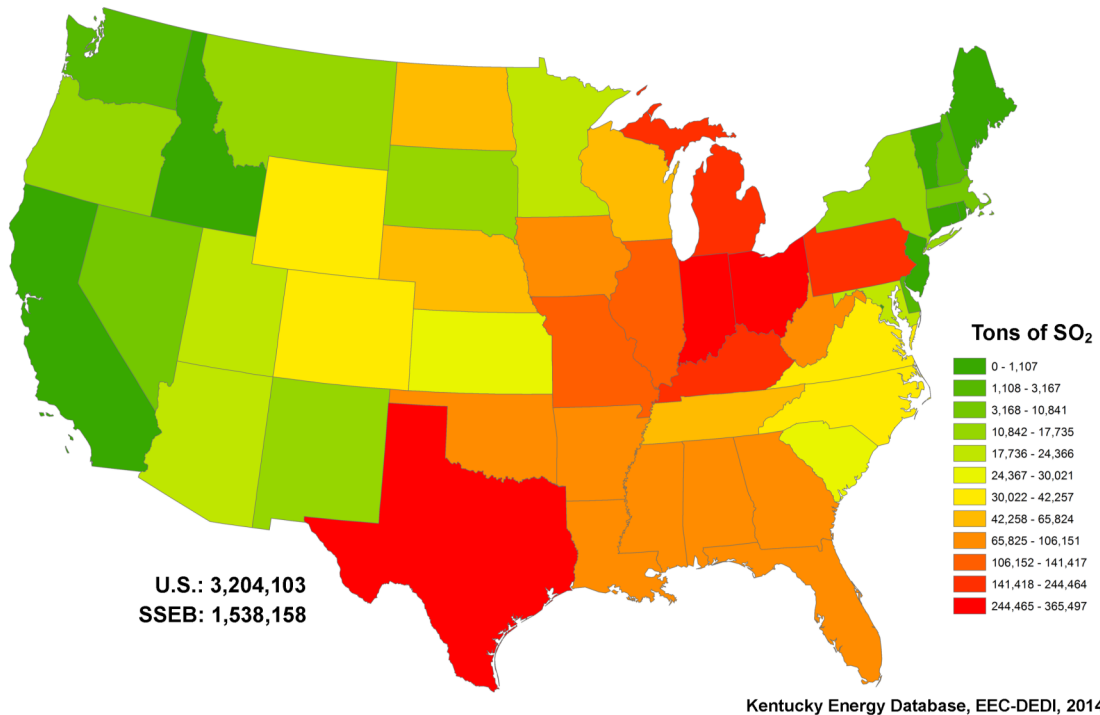


CO₂ Emissions Intensity from Electric Power, 2013

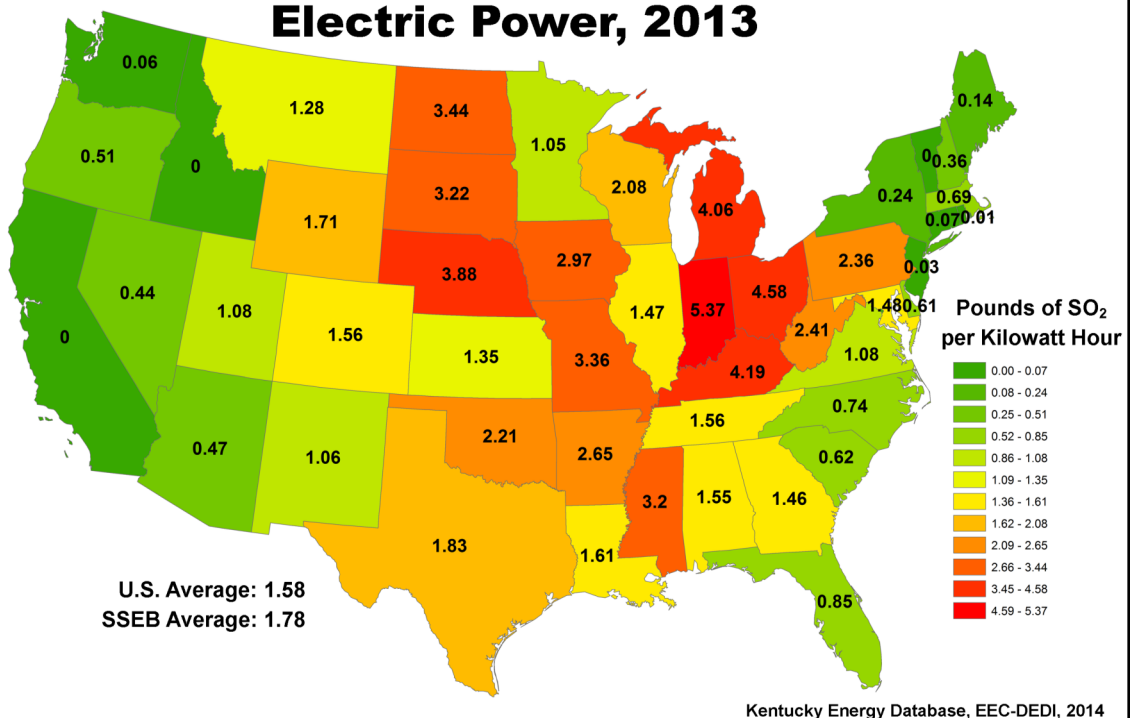


SO₂ Emissions by State

SO₂ Emissions from Electric Power, 2013

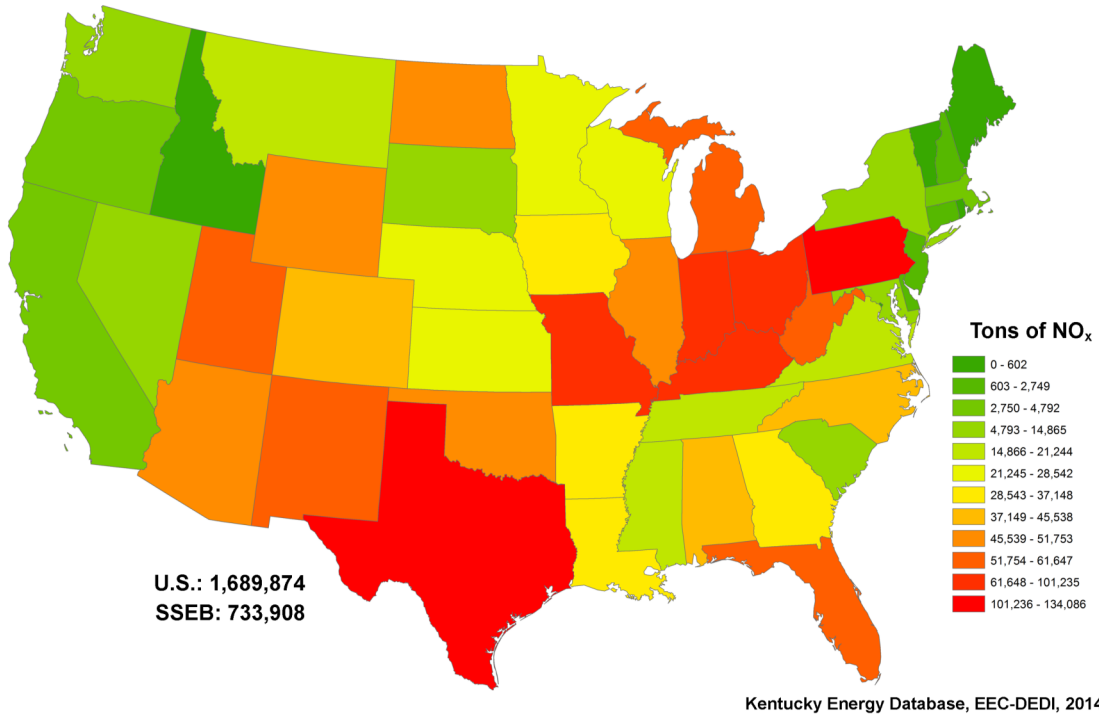


SO₂ Emissions Intensity from Electric Power, 2013

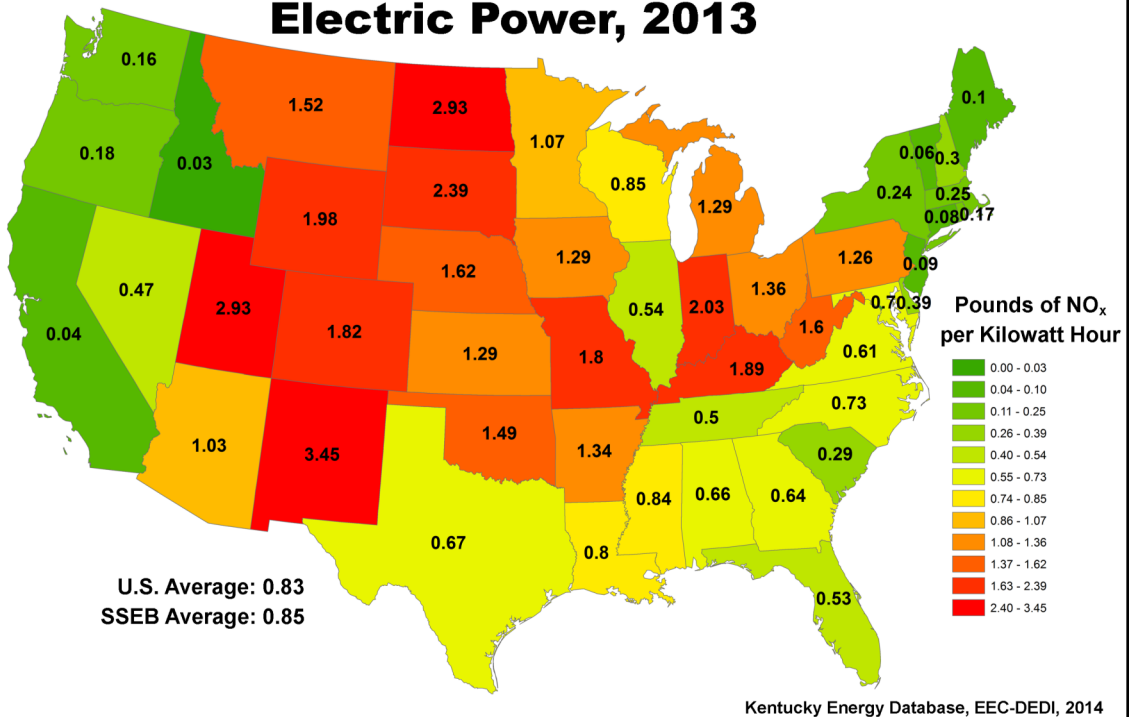


NO_x Emissions by State

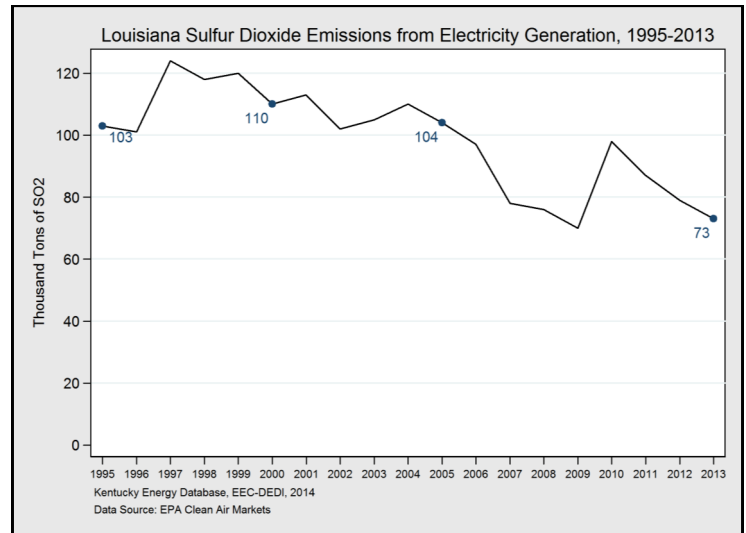
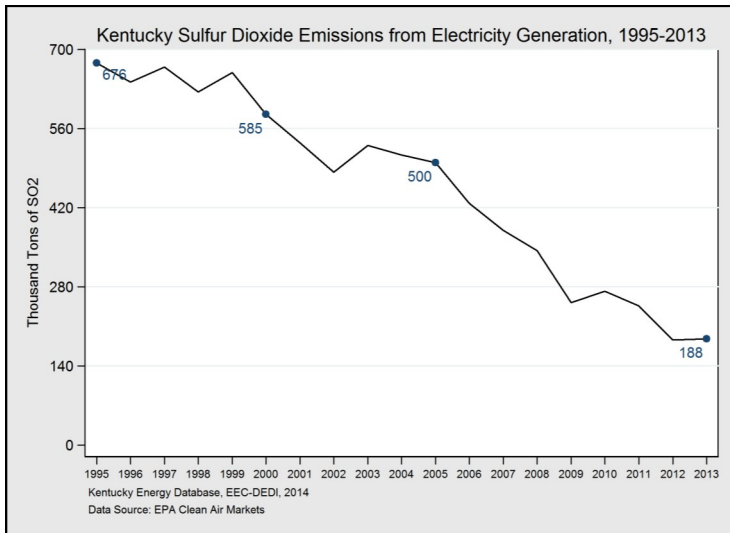
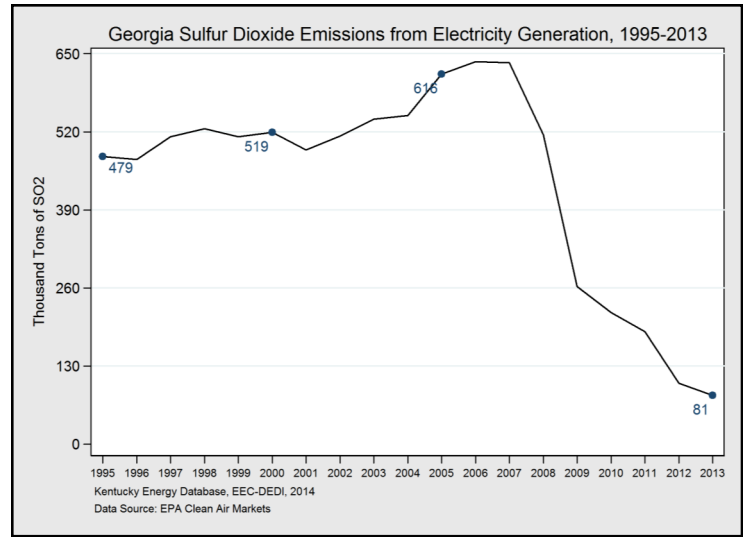
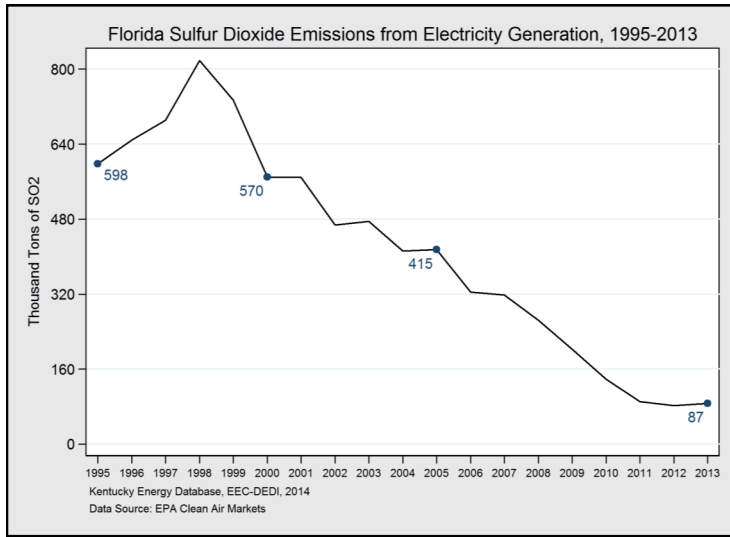
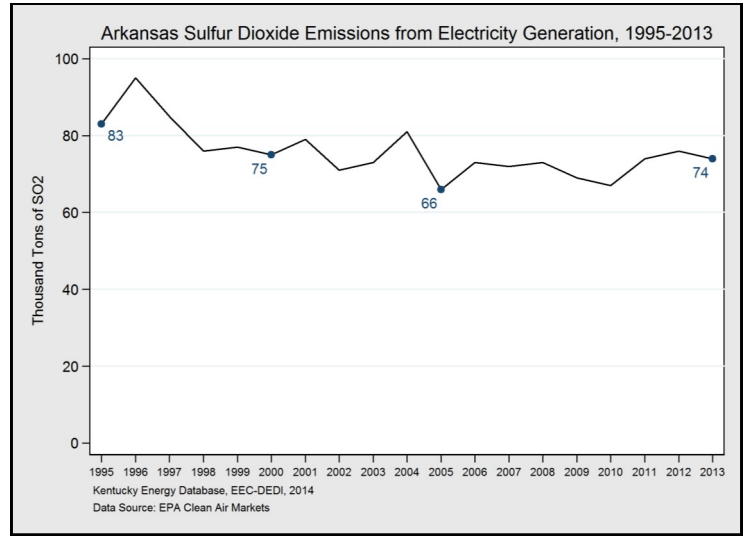
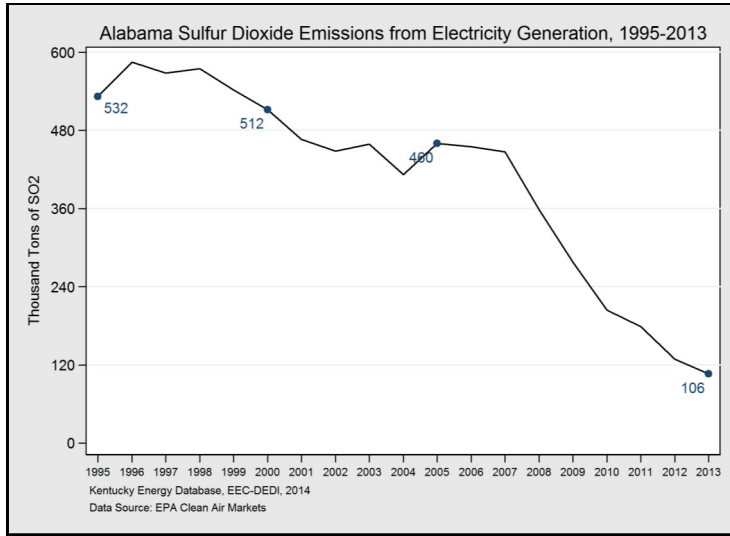
NO_x Emissions from Electric Power, 2013



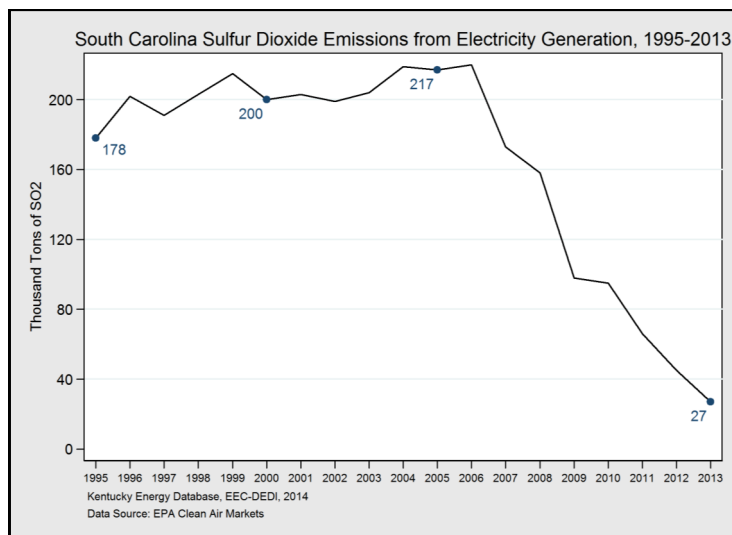
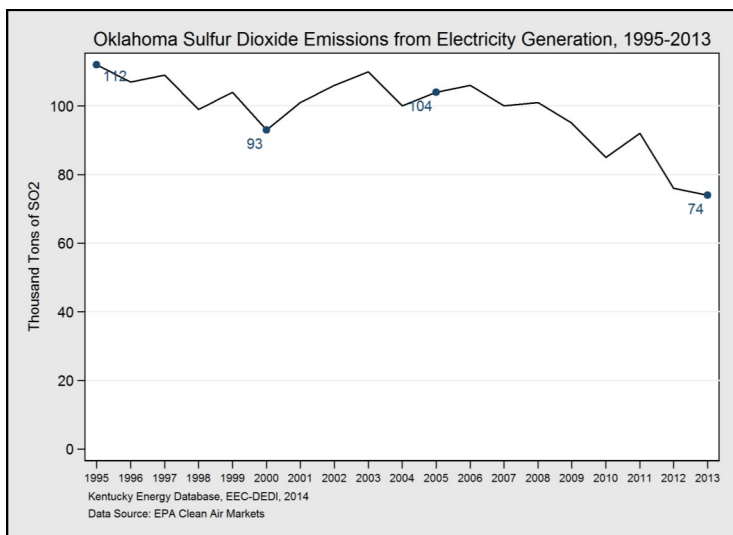
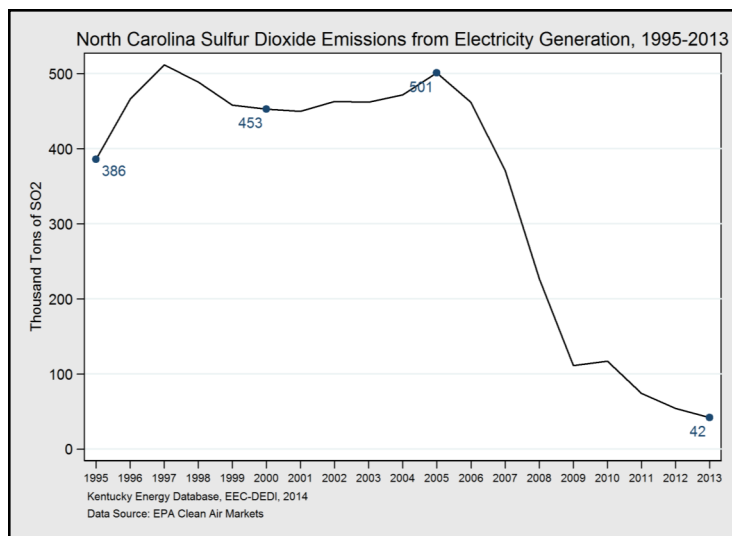
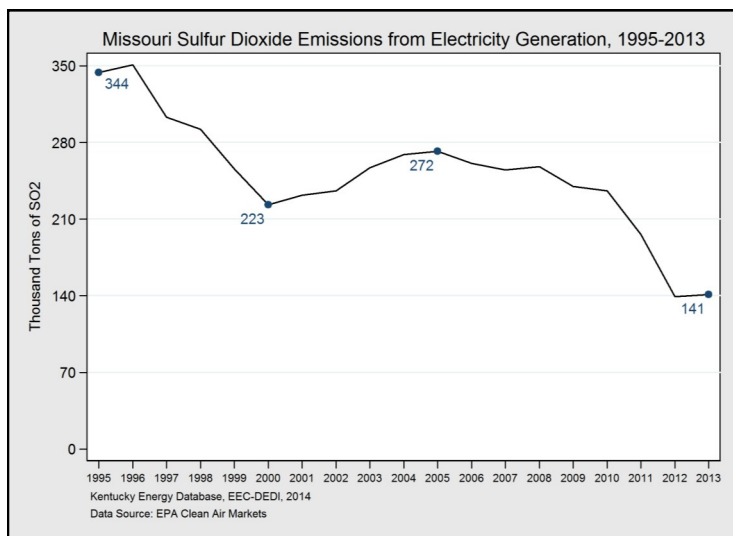
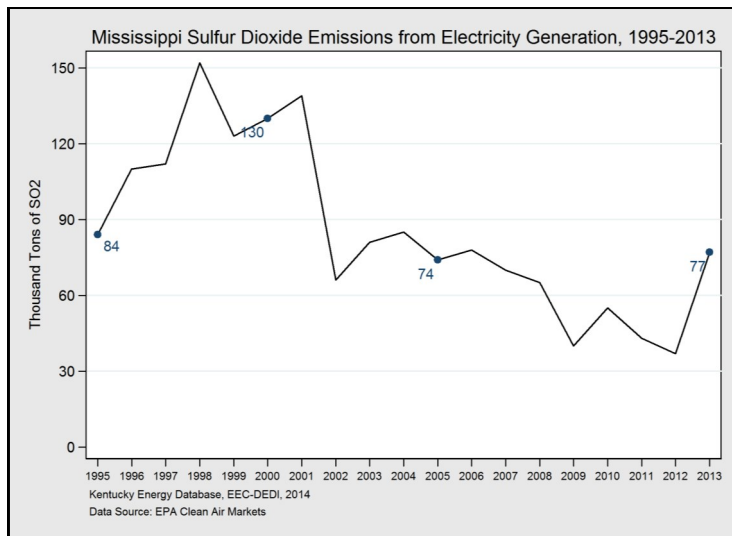
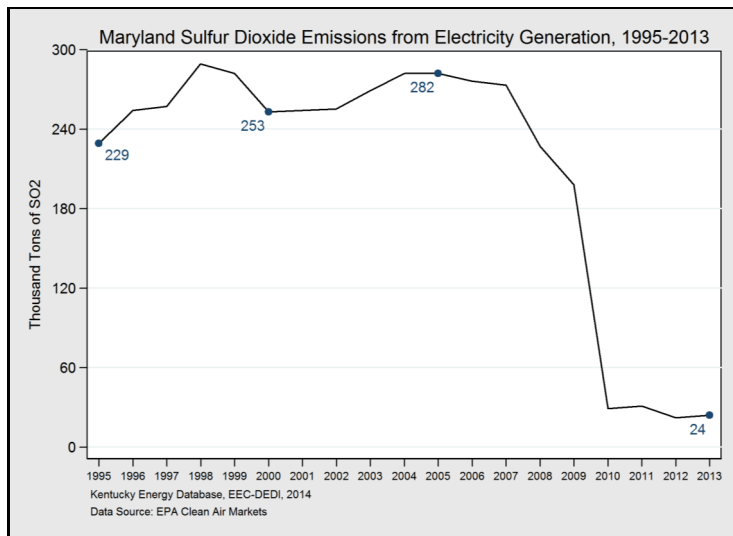
NO_x Emissions Intensity from Electric Power, 2013



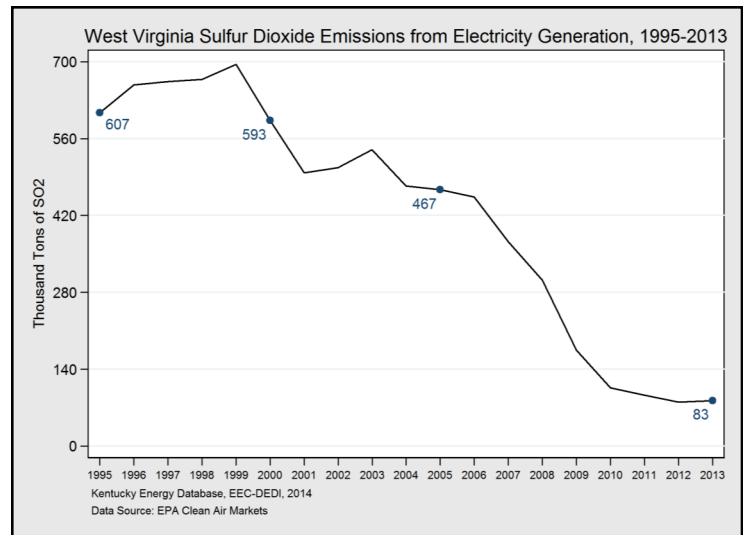
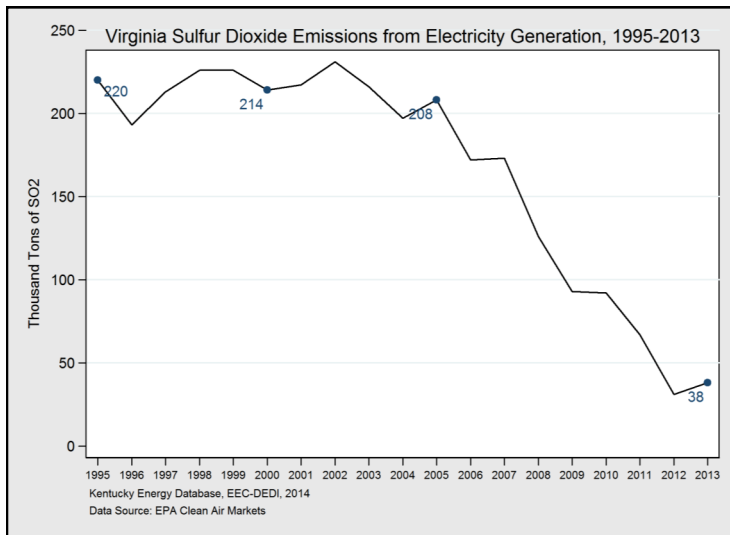
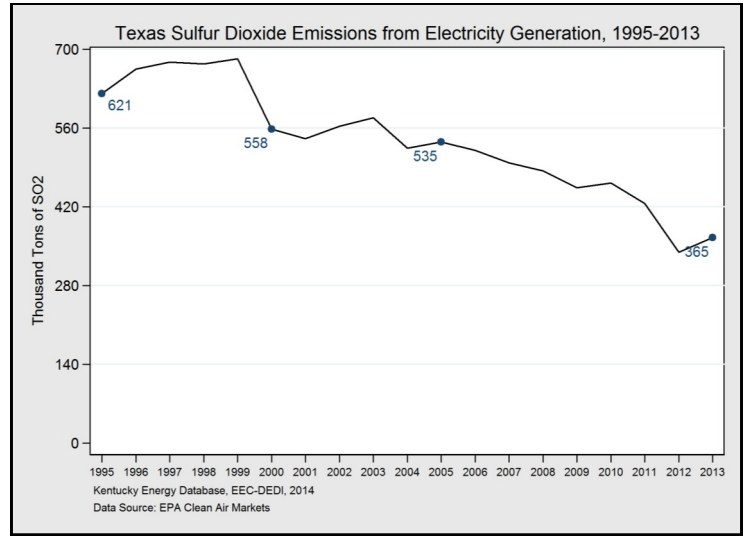
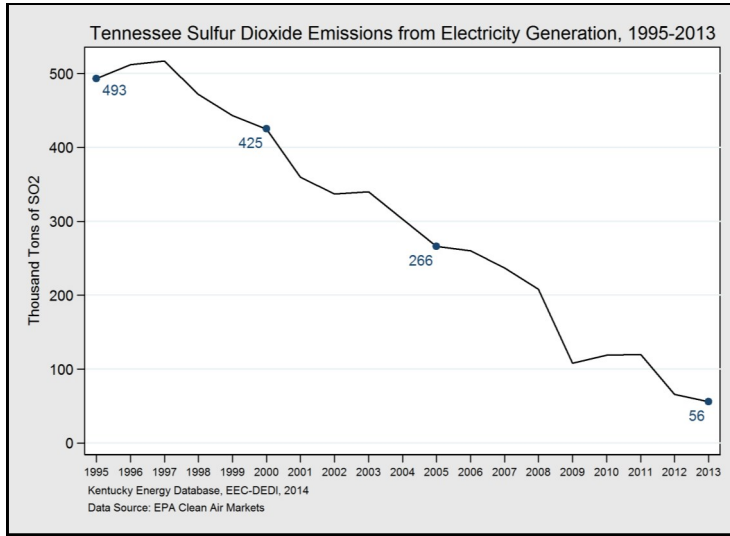
Historical Electric Power Emissions (SO₂)



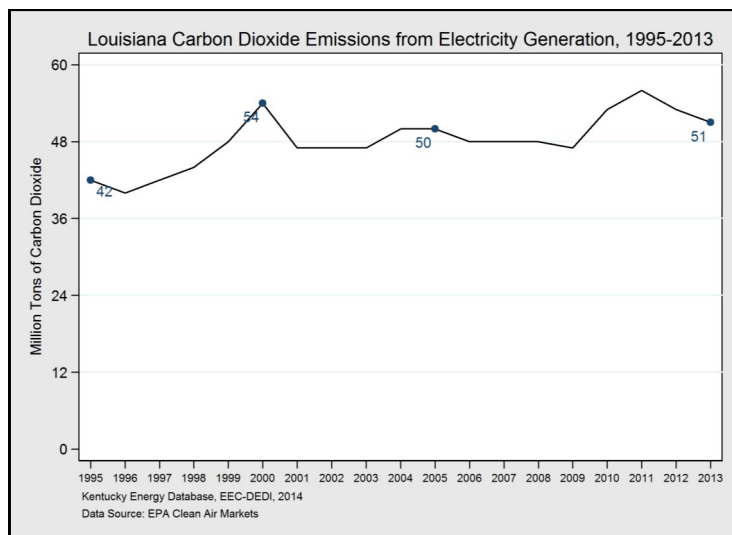
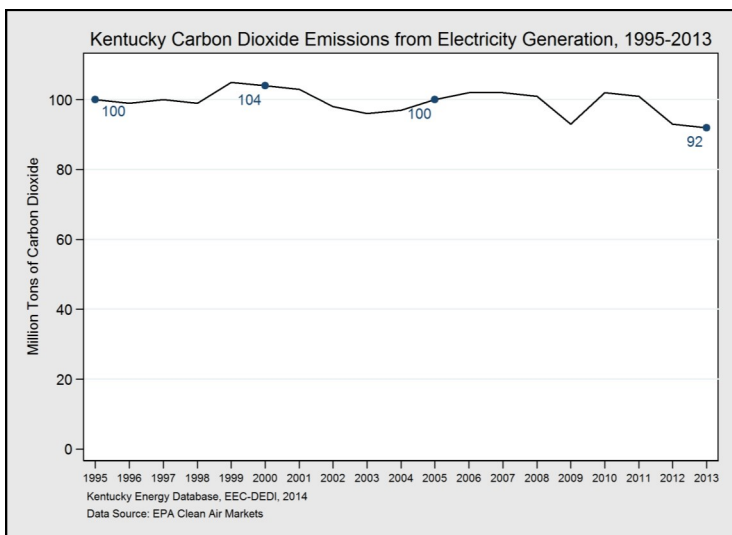
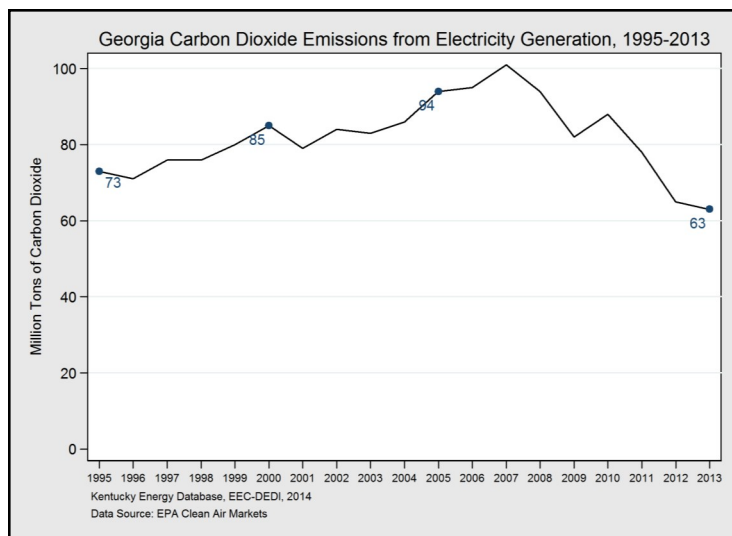
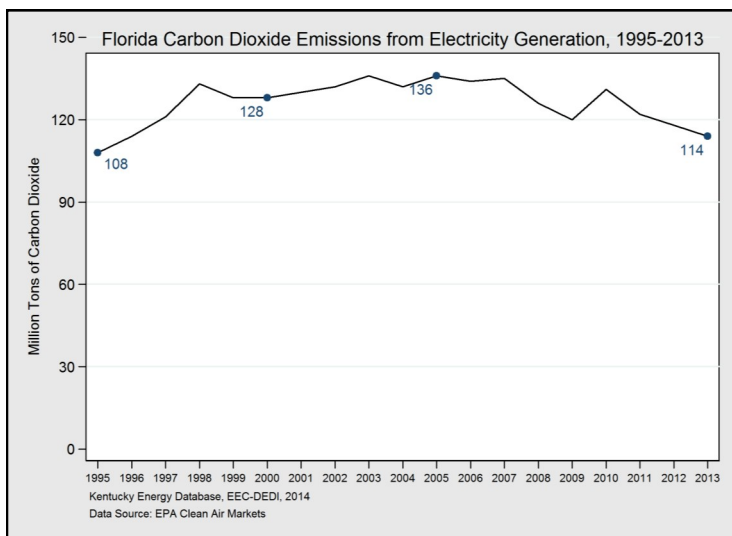
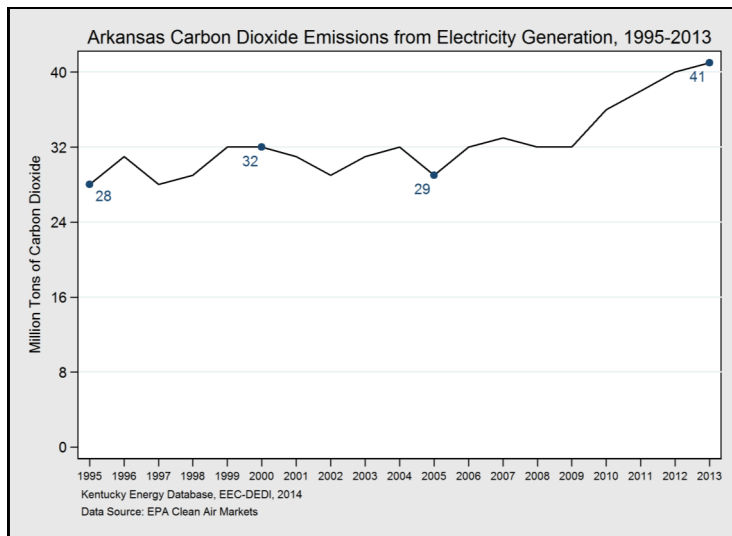
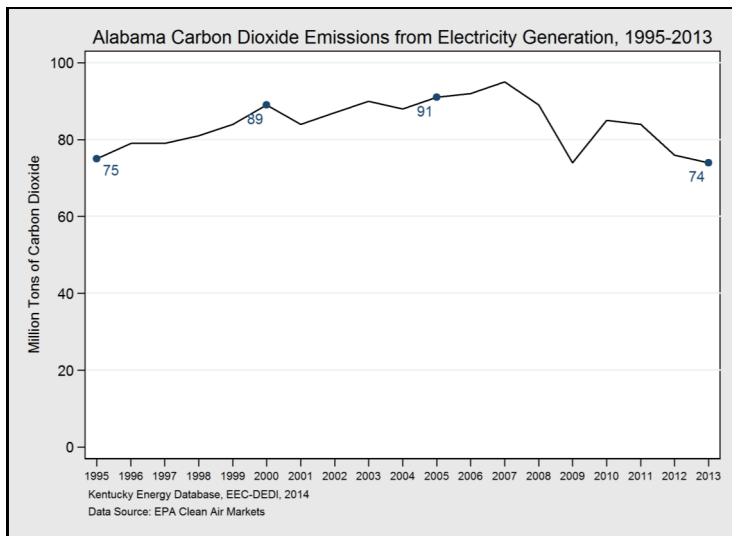
Historical Electric Power Emissions (SO₂)



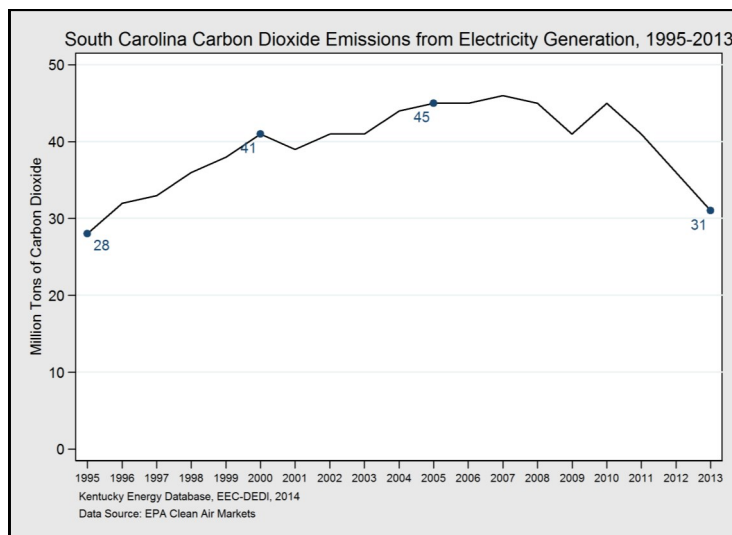
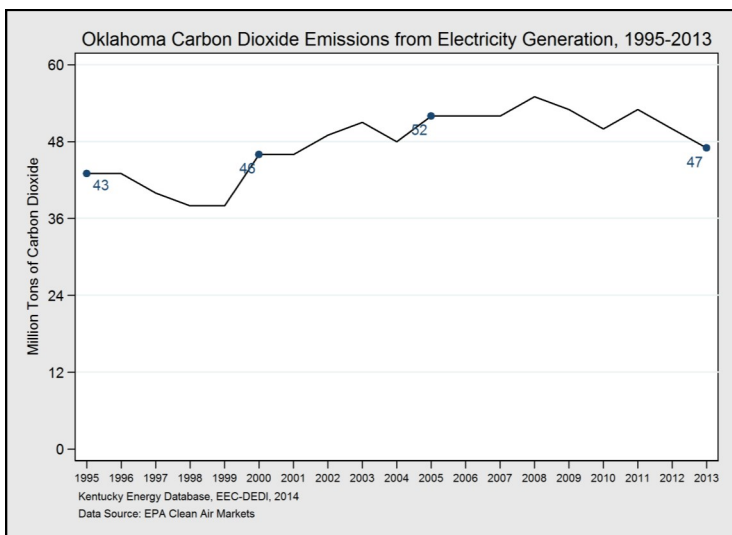
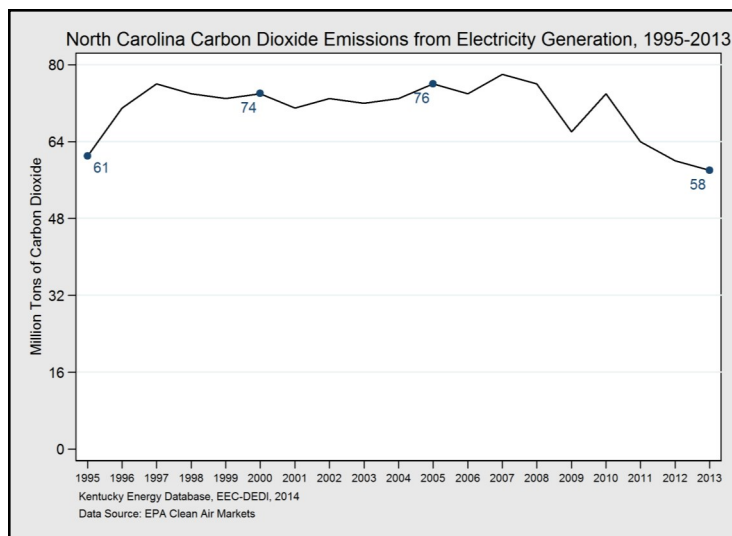
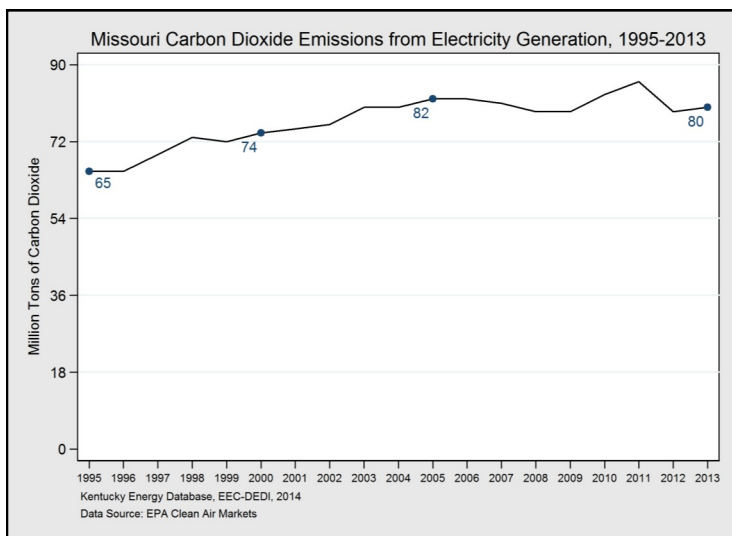
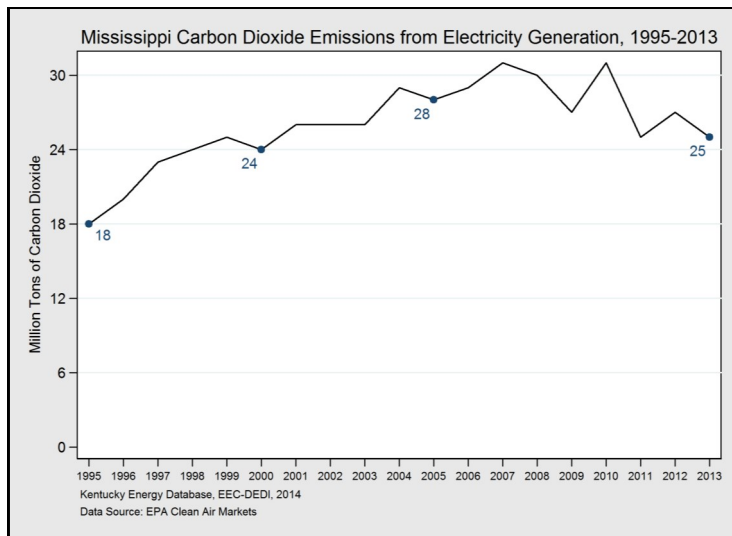
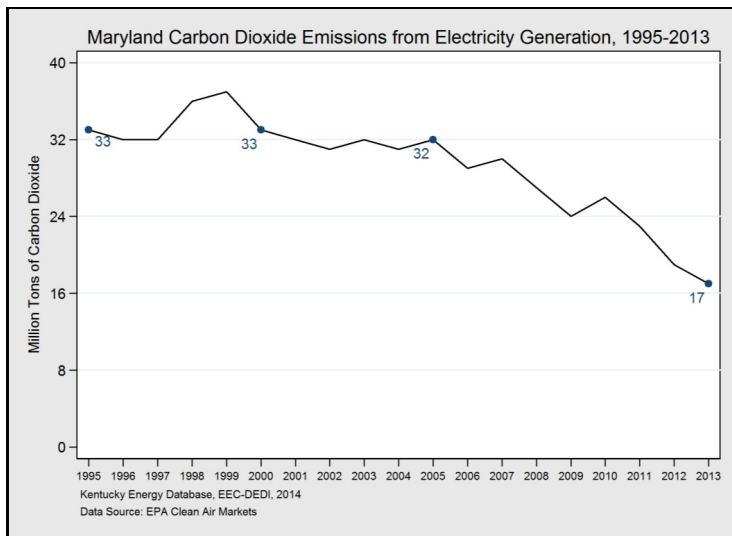
Historical Electric Power Emissions (SO₂)



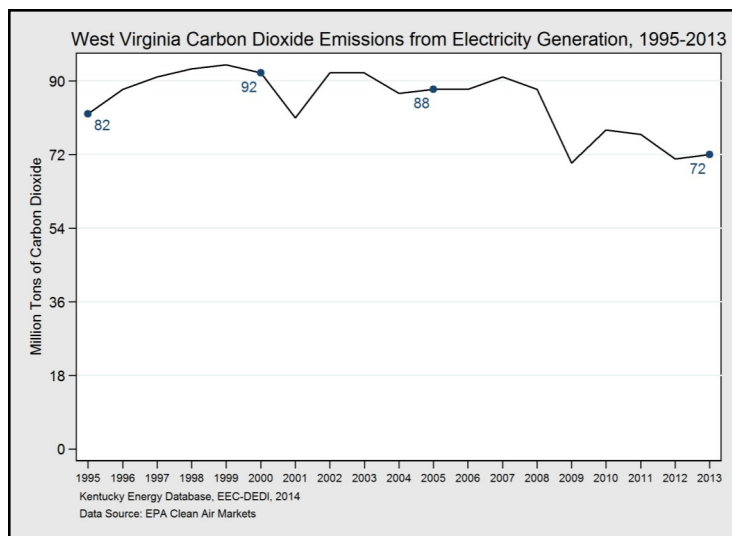
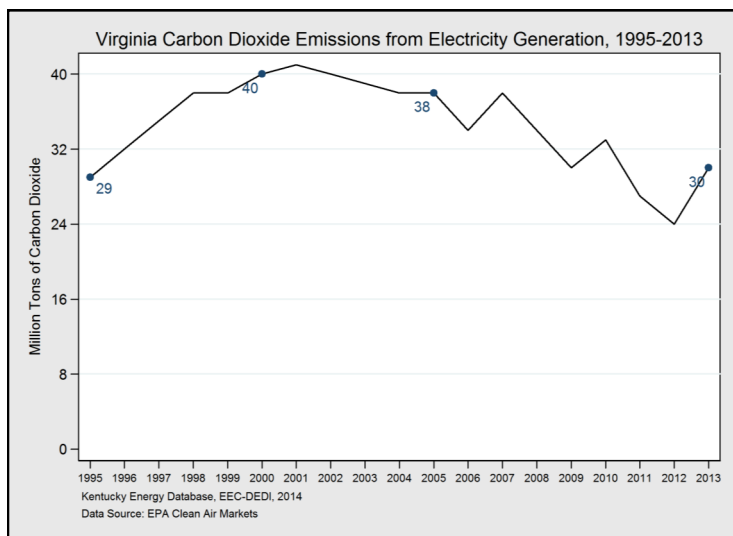
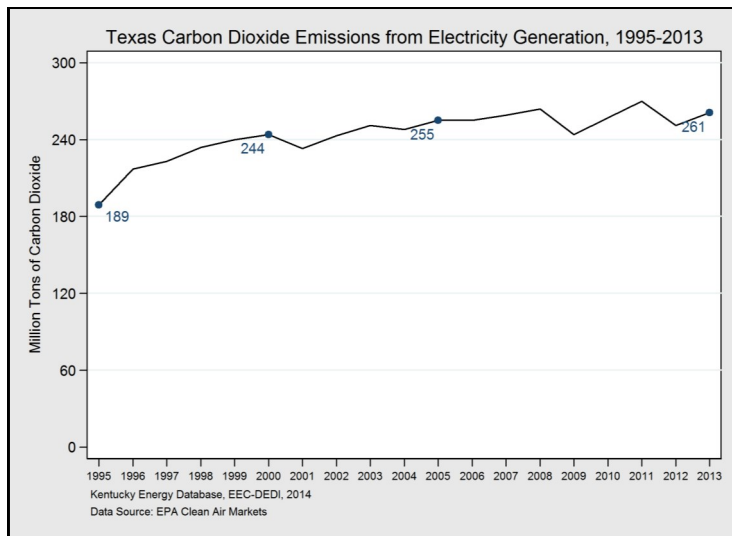
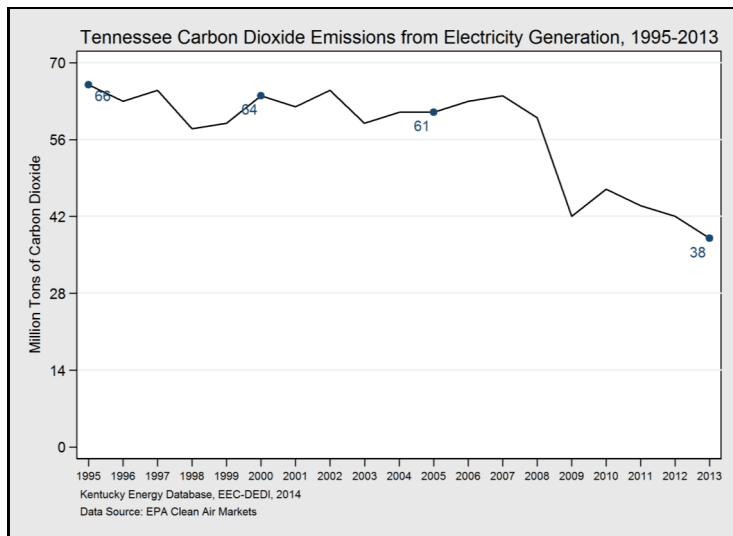
Historical Electric Power Emissions (CO₂)



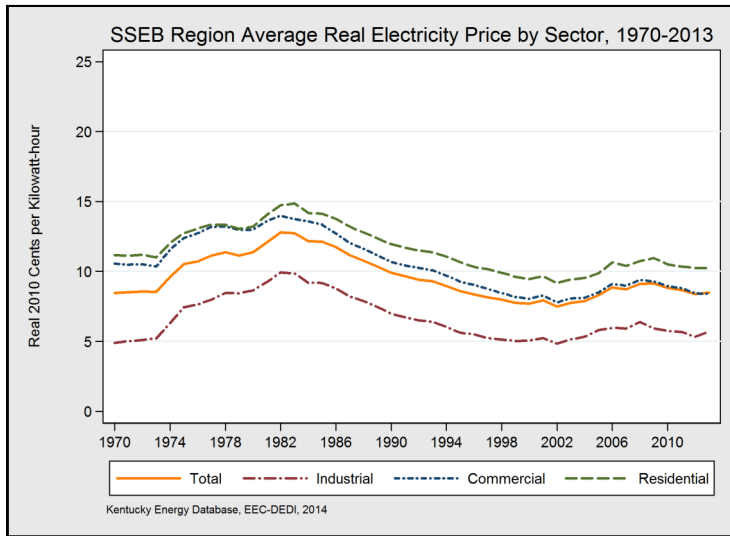
Historical Electric Power Emissions (CO₂)



Historical Electric Power Emissions (CO₂)



SSEB Region Price of Electricity

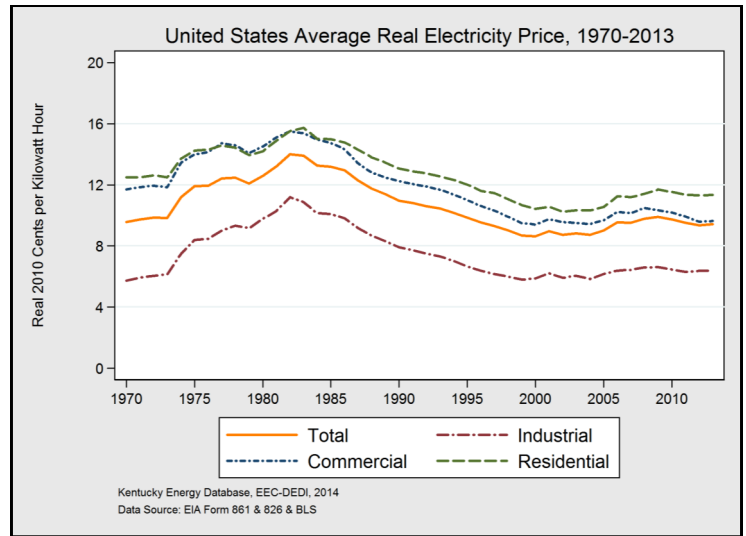


Sector	Cents / kWh	Inflation Adjusted Change Since 2000
Total	9.08	+10.4%
Residential	10.96	+8.6%
Commercial	8.97	+4.3%
Industrial	6.09	+11%

Electricity price is measured in terms of cents per kilowatt-hour of electricity consumed. While the price of electricity varies from state to state and from one utility to another, the above graphic illustrates the average price of electricity delivered to each economic sector.

After adjusting for inflation in the price of all consumer goods, relative electricity prices actually fell from 1983 to 2000, and have risen thereafter with the price of fossil fuel inputs.

The two most influential factors explaining the changes in both nominal and real electricity prices in the SSEB region and nationally have been the type of generation portfolio developed within a state, and the price of fossil fuel inputs for the electric power sector. Specifically, these factors involve the type of generation technology (i.e. coal, gas, nuclear, and renewables) used within a state, the share of each technology in supplying baseload electricity, and the price of the primary fossil fuel inputs.



Sector	Cents / kWh	Inflation Adjusted
Total	10.08	+10.1%
Residential	12.12	+8.7%
Commercial	10.29	-5.7%
Industrial	6.82	+12.1%

Electricity prices in the SSEB region in 2013 were 10 percent lower than the national average. Industrial electricity prices in the region averaged 6.09 cents per kWh, but were as low as 2.66 cents per kWh at certain electric utilities.

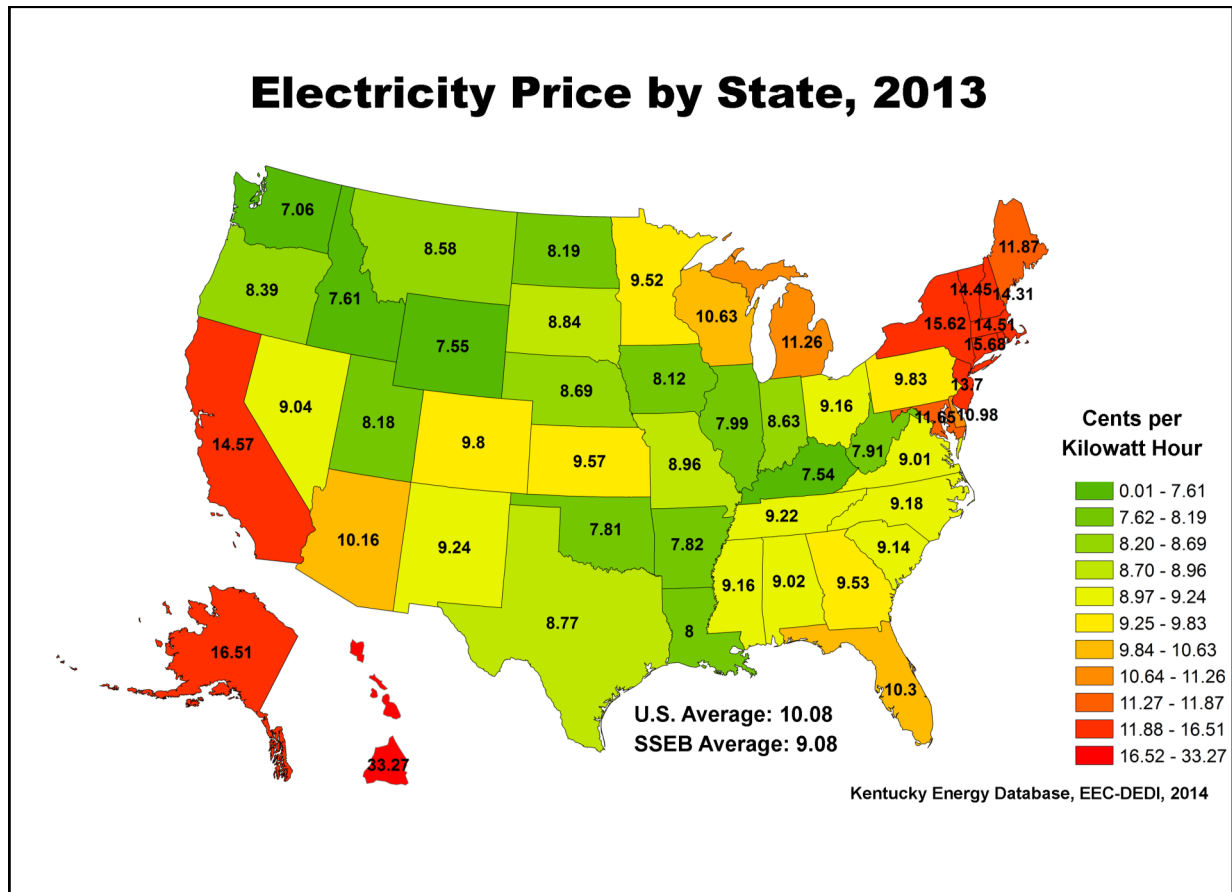
Although residential prices are substantially lower in the SSEB region, higher per capita consumption means that average monthly household electricity bills, \$121.22, are \$24.19 (25 percent) higher than the national average of \$97.03. Higher per capita consumption in the region is a result of lower electricity prices, weather, income, housing stock, as well as the availability and price of substitutes such as natural gas.

Nominal electricity prices by state and economic sector are based on aggregated data from individual electric utilities derived from United States Form EIA-861 and Form EIA-826. To control for the changing value of the United States Dollar, nominal prices were converted to Real 2010 US\$ using the Bureau of Labor Statistics (BLS) Consumer Price Index (CPI).

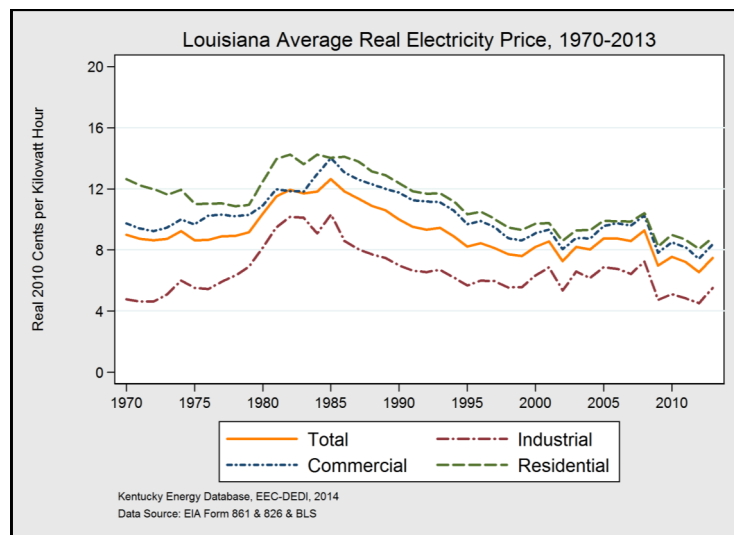
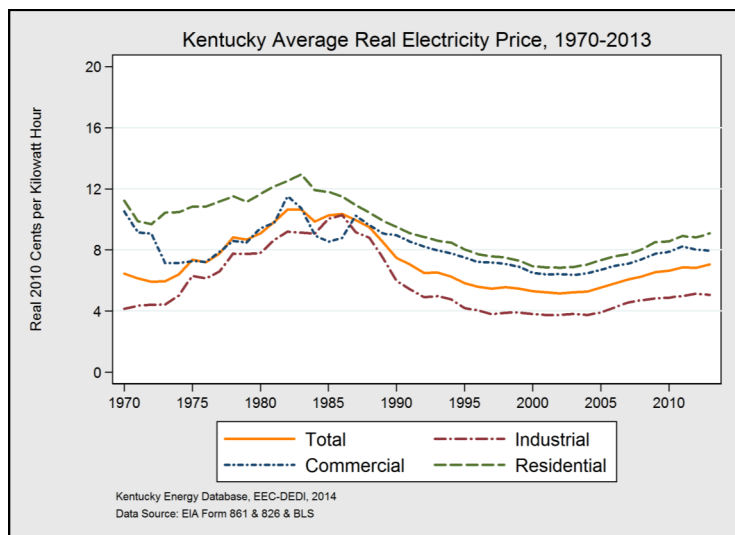
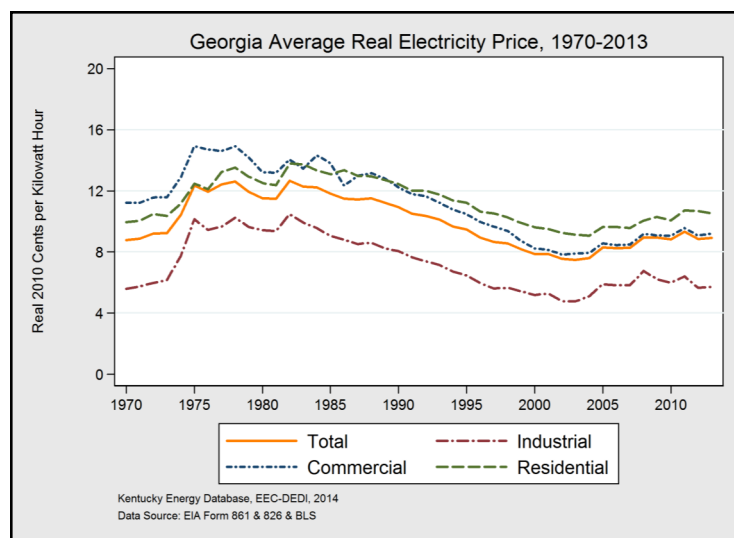
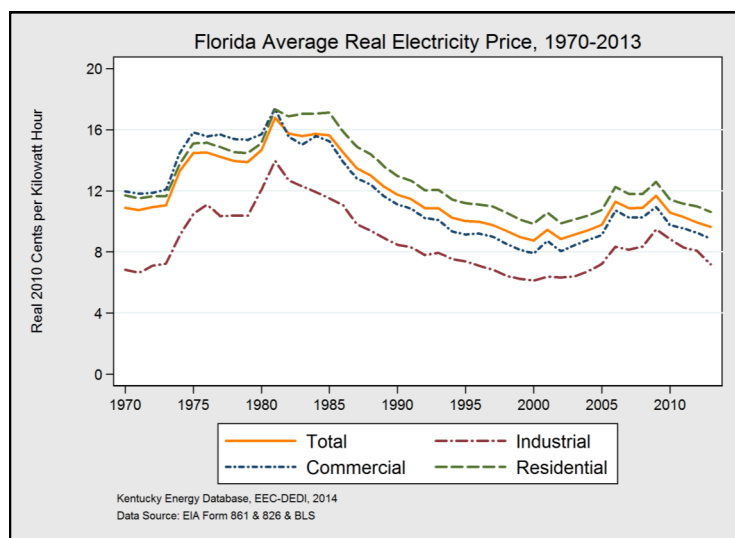
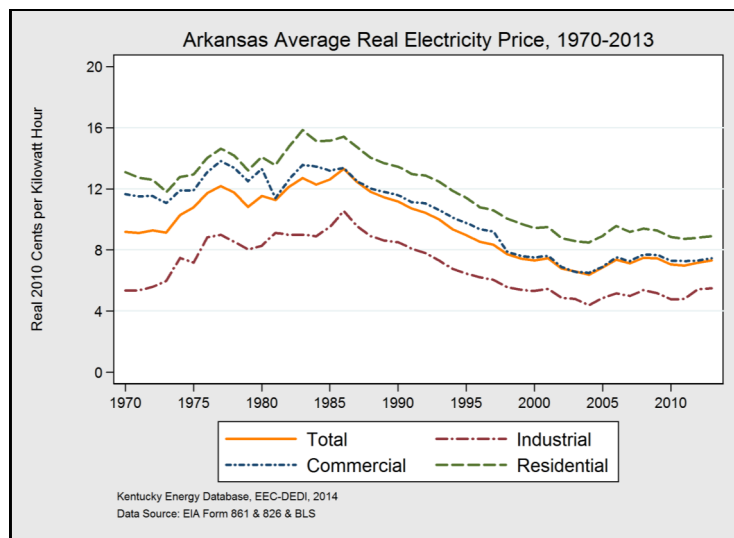
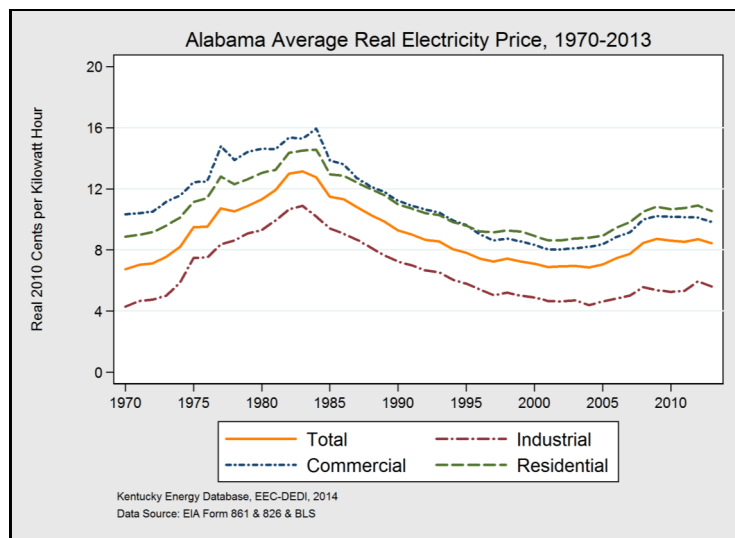
Electricity Price by State, 2013

Rank	State	Primary Source	Nominal Price (Cents per kWh)	Inflation Adjusted 1 Year Change	Inflation Adjusted 5 Year Change
1	Washington	Hydroelectric	7.06	+<0.1%	+0.5%
2	Kentucky	Coal	7.54	+3.2%	+12.7%
3	Wyoming	Coal	7.55	+3.8%	+25.9%
4	Idaho	Hydroelectric	7.61	+10.1%	+23.5%
5	Oklahoma	Natural Gas	7.81	+3.6%	-7.0%
6	Arkansas	Coal	7.82	+2.1%	-2.1%
7	West Virginia	Coal	7.91	-4.1%	+32.2%
8	Illinois	Nuclear	7.99	-6.7%	-19.9%
9	Louisiana	Natural Gas	8.00	+14.4%	-19.3%
10	Iowa	Coal	8.12	+3.3%	+8.9%
11	Utah	Coal	8.18	+2.8%	+17.7%
12	North Dakota	Coal	8.19	+3.7%	+14.1%
13	Oregon	Hydroelectric	8.39	+0.3%	+7.2%
14	Montana	Coal	8.58	+2.9%	+4.3%
15	Indiana	Coal	8.63	+4.1%	+13.8%
16	Nebraska	Coal	8.69	+5.2%	+22.1%
17	Texas	Natural Gas	8.77	+0.6%	-24.4%
18	South Dakota	Hydroelectric	8.84	+2.2%	+14.4%
19	Missouri	Coal	8.96	+4.3%	+21.2%
20	Virginia	Nuclear	9.01	-2.2%	+4.7%
21	Alabama	Coal	9.02	-3.1%	-0.2%
22	Nevada	Natural Gas	9.04	-0.3%	-13.9%
	SSEB Average	Coal	9.08	+2.8%	+7.1%
23	South Carolina	Nuclear	9.14	-0.6%	+7.5%
24	Mississippi	Natural Gas	9.16	+5.4%	-3.5%
25	Ohio	Coal	9.16	-0.3%	+1.8%
26	North Carolina	Coal	9.18	-0.5%	+6.5%
27	Tennessee	Coal	9.22	-2.3%	+4.9%
28	New Mexico	Coal	9.24	+2.7%	+4.8%
29	Minnesota	Coal	9.52	+6.2%	+13.9%
30	Georgia	Natural Gas	9.53	+0.9%	-0.3%
31	Kansas	Coal	9.57	+2.8%	+19.5%
32	Colorado	Coal	9.80	+3.2%	+6.5%
33	Pennsylvania	Coal	9.83	-2.1%	-1.5%
	United States Average	Coal	10.08	+0.9%	-3.5%
34	Arizona	Coal	10.16	+2.4%	+3.0%
35	Florida	Natural Gas	10.30	-2.9%	-11.3%
36	Wisconsin	Coal	10.63	+1.3%	+10.1%
27	Delaware	Natural Gas	10.98	-2.7%	-17.1%
38	Michigan	Coal	11.26	+1.2%	+17.2%
39	Maryland	Coal	11.65	+1.3%	-17.1%
	District of Columbia	Natural Gas	11.85	-1.3%	-16.4%
40	Maine	Natural Gas	11.87	-1.1%	-20.7%
41	New Jersey	Nuclear	13.70	-2.7%	-11.9%
42	Rhode Island	Natural Gas	13.91	+6.6%	-19.7%
43	New Hampshire	Nuclear	14.31	-0.9%	-9.7%
44	Vermont	Nuclear	14.45	-0.2%	+8.3%
45	Massachusetts	Natural Gas	14.51	+4.0%	-17.6%
46	California	Natural Gas	14.57	+4.8%	+8.8%
47	New York	Natural Gas	15.62	+1.7%	-12.9%
48	Connecticut	Nuclear	15.68	-0.4%	-18.5%
49	Alaska	Natural Gas	16.51	+0.6%	+4.8%
50	Hawaii	Petroleum	33.27	-3.5%	+7.3%

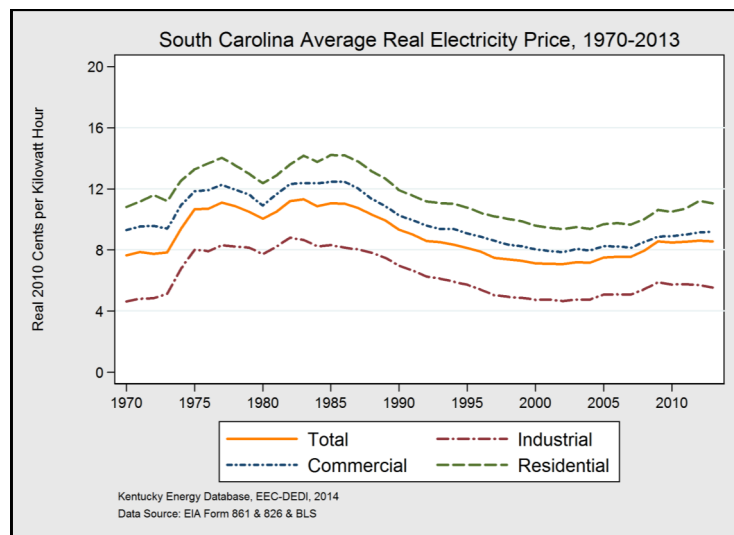
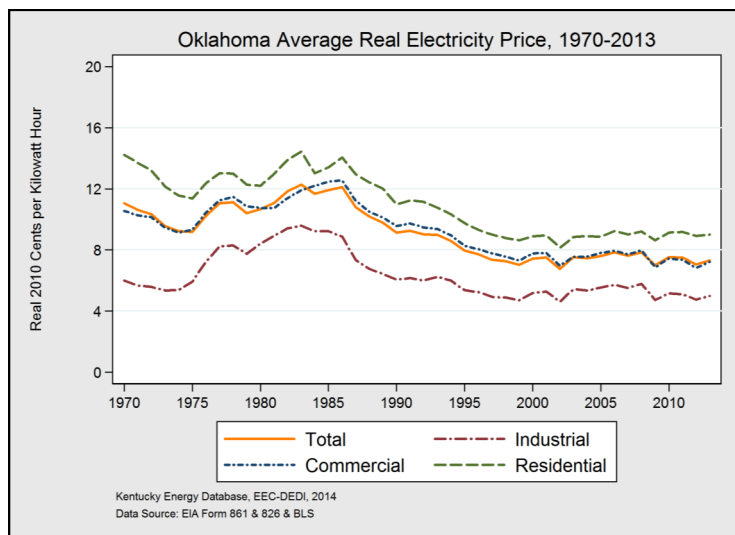
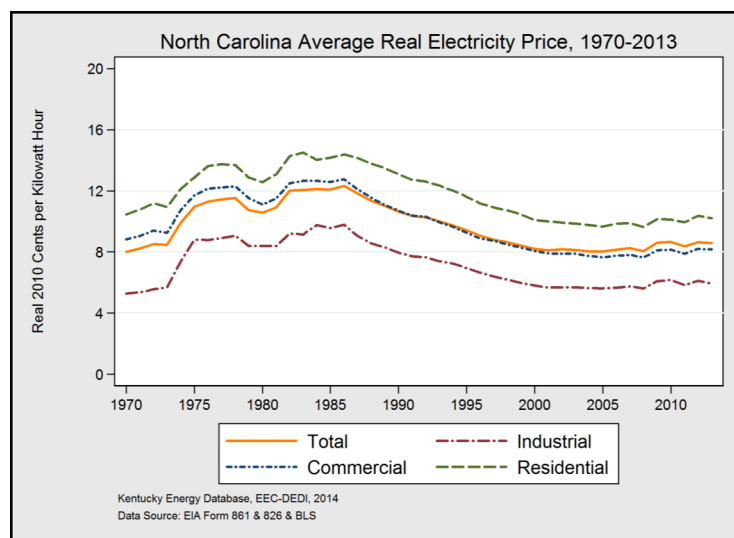
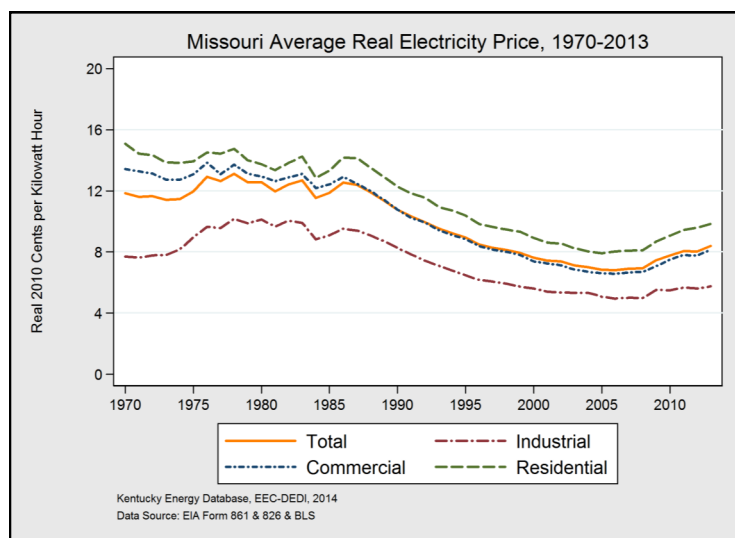
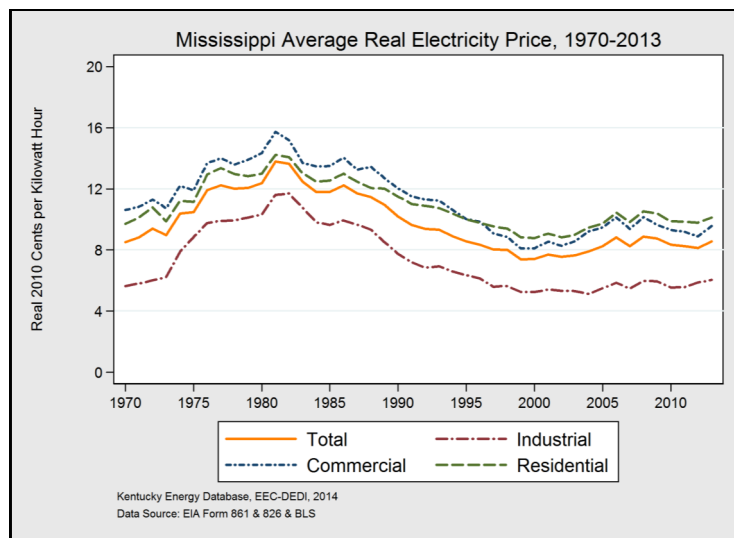
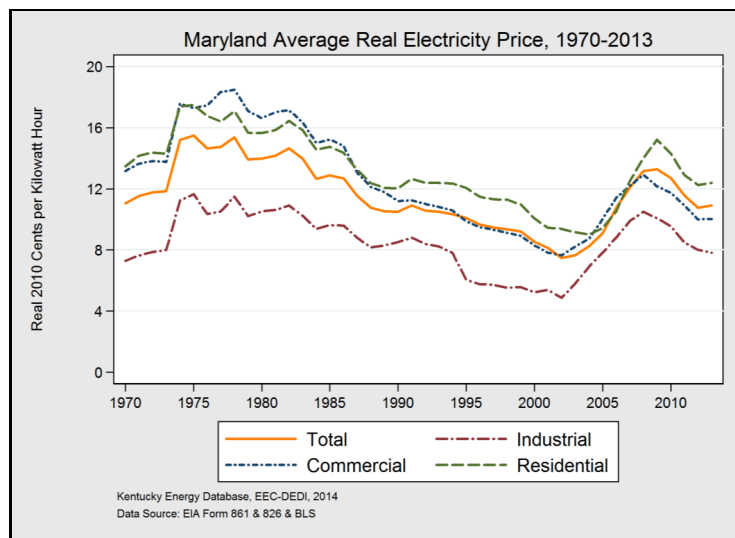
Electricity Price by State



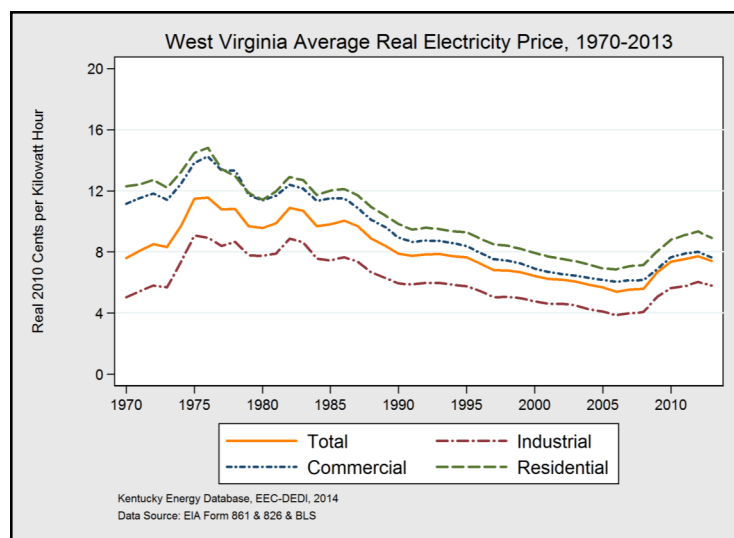
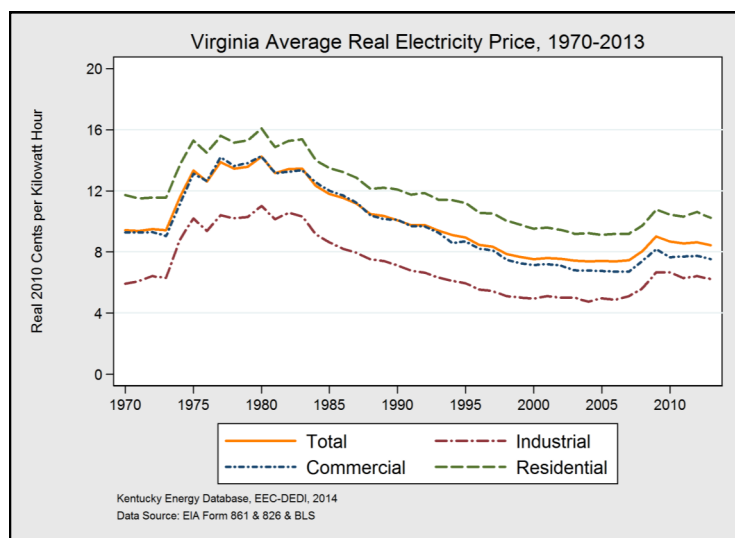
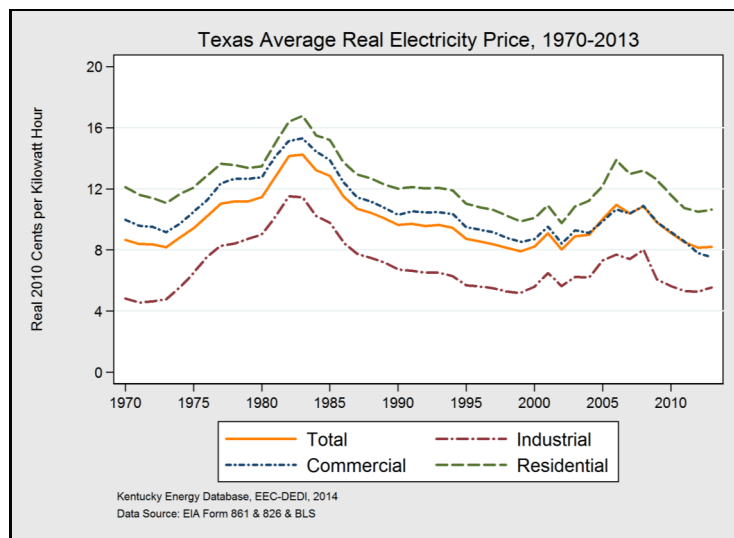
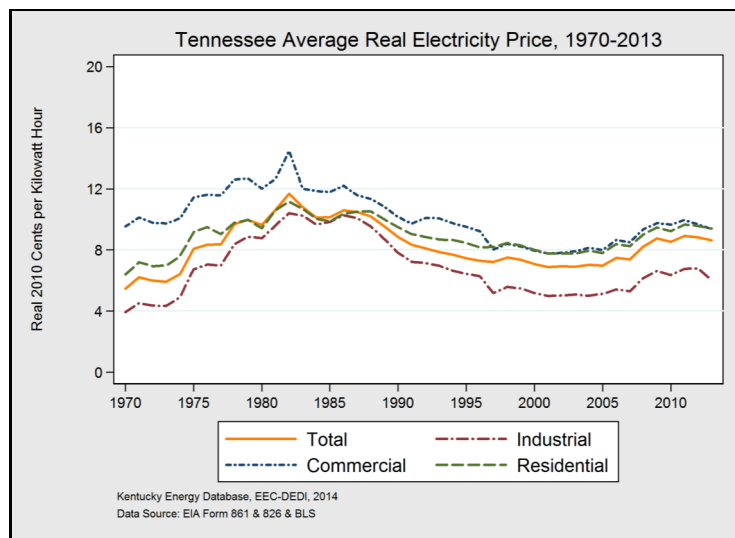
Historical Inflation Adjusted Price of Electricity



Historical Inflation Adjusted Price of Electricity

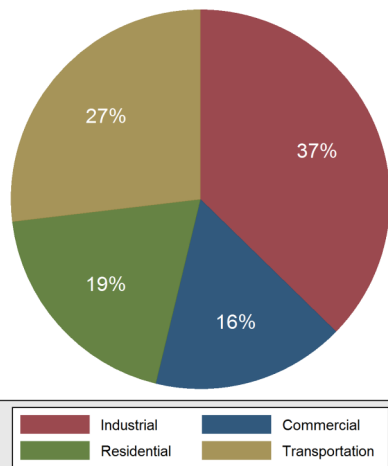


Historical Inflation Adjusted Price of Electricity



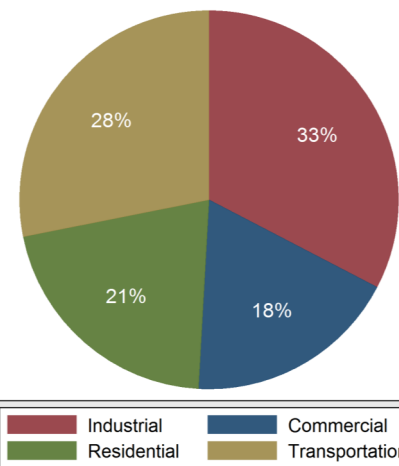
SSEB Region Energy Consumption

SSEB Region Energy Consumption by Sector, 2012



Kentucky Energy Database, EEC-DEDI, 2014

United States Energy Consumption by Sector, 2012

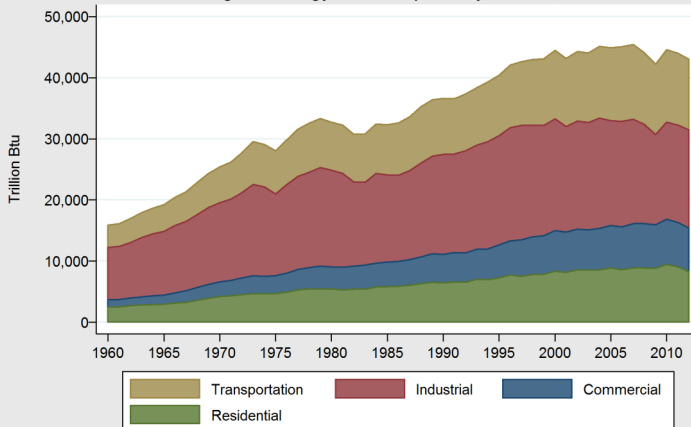


Kentucky Energy Database, EEC-DEDI, 2014

Sector	Billion Btu	1 Year Change
Total	43,034,564	-2.2%
Industrial	16,045,086	+0.8%
Transportation	11,568,125	-1.6%
Residential	8,305,911	-8.3%
Commercial	7,097,352	-2.2%

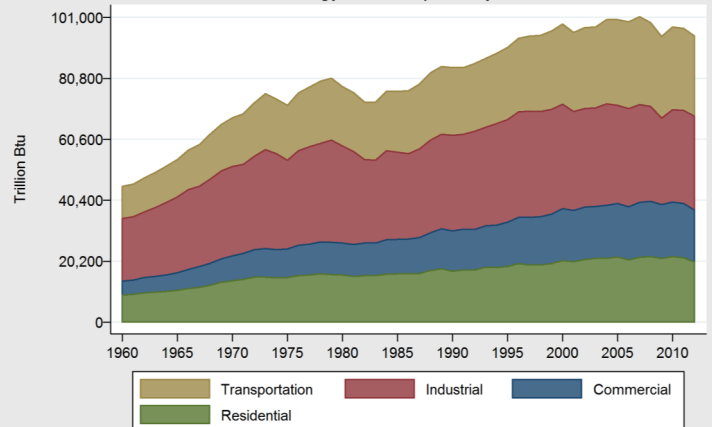
Sector	Billion Btu	1 Year Change
Total	94,984,984	-2.5%
Industrial	30,999,544	+0.3%
Transportation	26,699,952	-1.7%
Residential	19,924,712	-6.8%
Commercial	17,342,698	-3.3%

SSEB Region Energy Consumption by Sector, 1960-2012



Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA-SEDS

United States Energy Consumption by Sector, 1960-2012



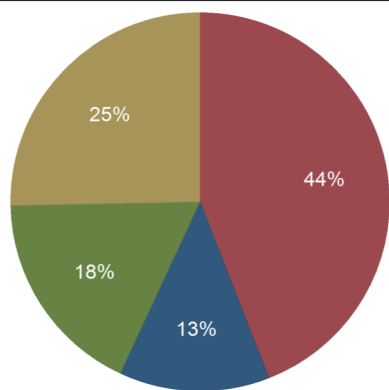
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA-SEDS

Energy consumption in the SSEB region has risen by 171 percent since 1960, with demand growth in member states averaging approximately 1.9 percent annually. The relatively energy-intensive industrial and manufacturing processes in the SSEB region continue to consume more energy than other economic sectors. Since 1960, residential and commercial energy consumption has grown at a faster rate than industrial demand, though both sectors' energy usage has declined since 2010.

Total energy consumption in the United States decreased in 2012 to nearly 95 Quadrillion Btu, but has increased by 111 percent from 1960. Although energy demand by industrial consumers nationally remains higher than other economic sectors, it is proportionally less than in the SSEB region. Energy consumption has fallen by 6.3 percent since 2007—the year of peak U.S. energy demand. This decrease in energy consumption was mostly caused by demand reduction in the transportation and industrial sectors.

Energy Consumption by Sector

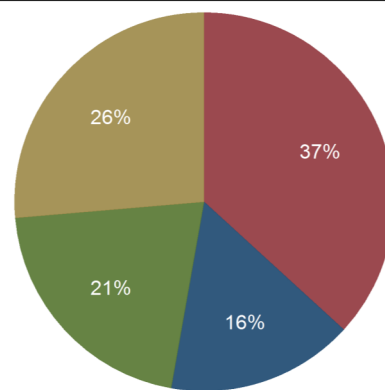
Alabama Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

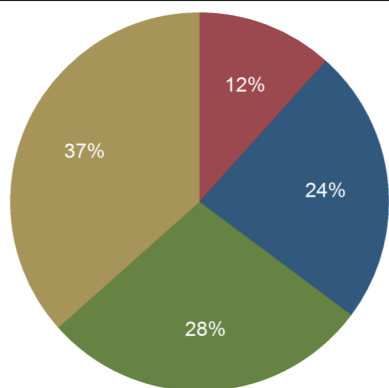
Arkansas Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

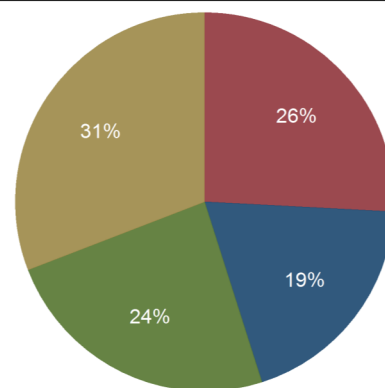
Florida Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

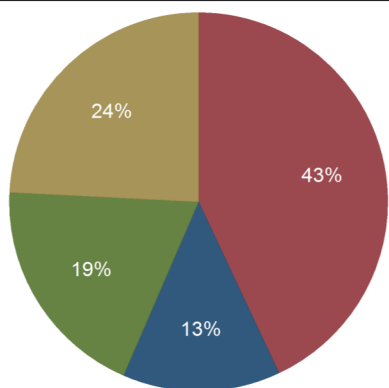
Georgia Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

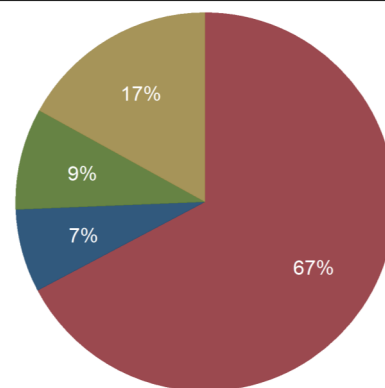
Kentucky Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

Louisiana Energy Consumption by Sector, 2012

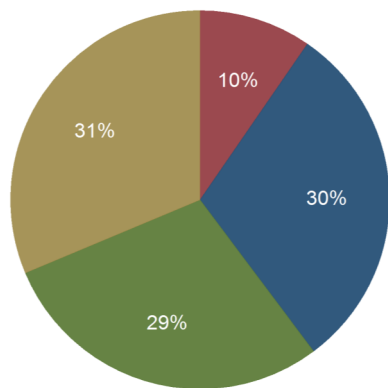


Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

Energy Consumption by Sector

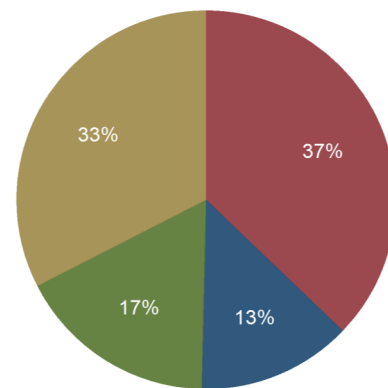
Maryland Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

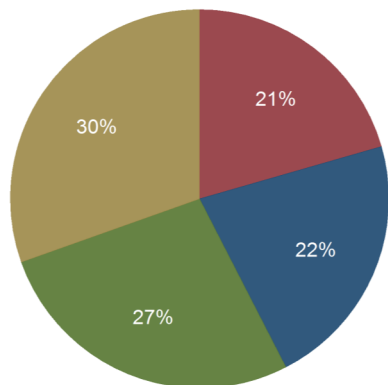
Mississippi Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

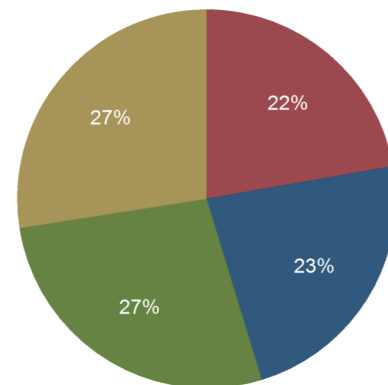
Missouri Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

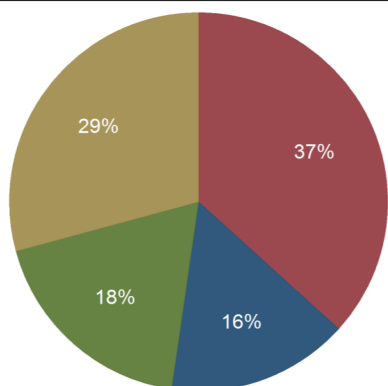
North Carolina Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

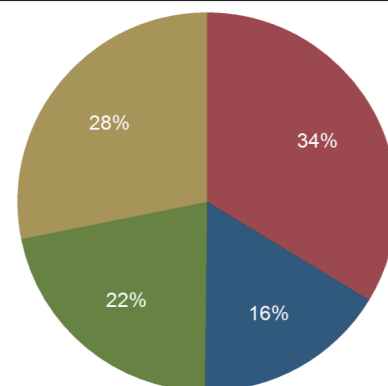
Oklahoma Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

South Carolina Energy Consumption by Sector, 2012

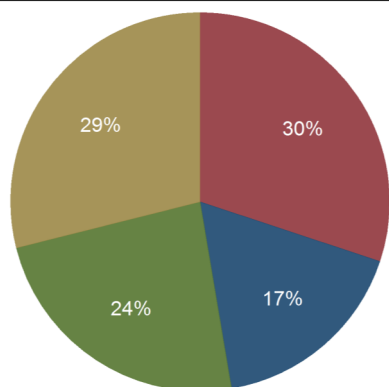


Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

Energy Consumption by Sector

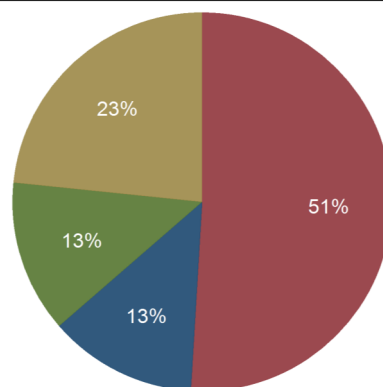
Tennessee Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

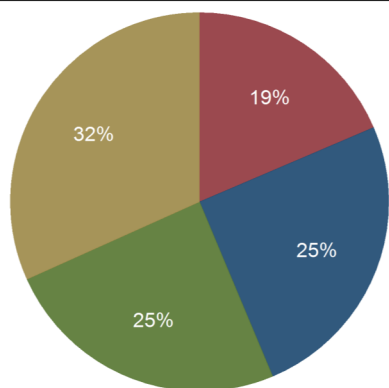
Texas Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

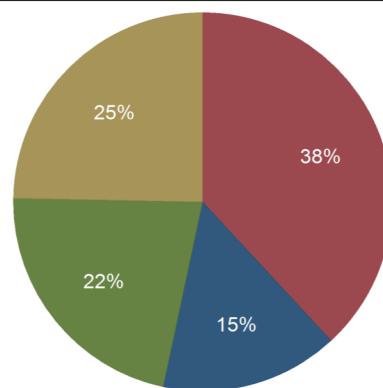
Virginia Energy Consumption by Sector, 2012



Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

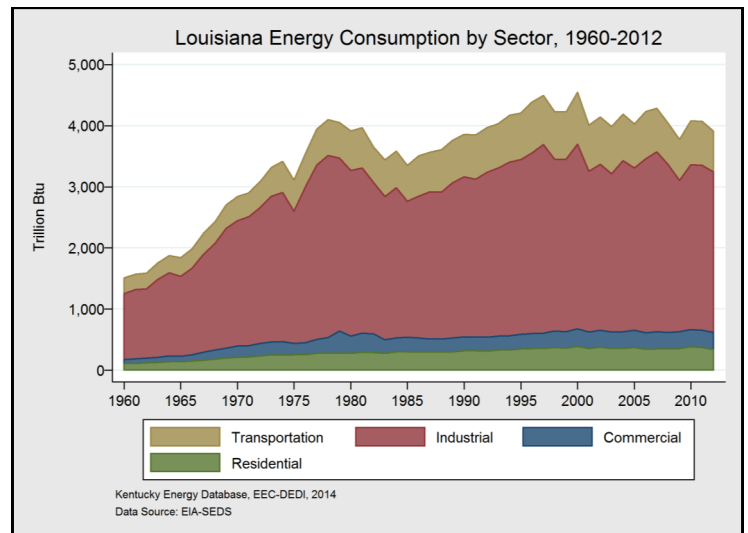
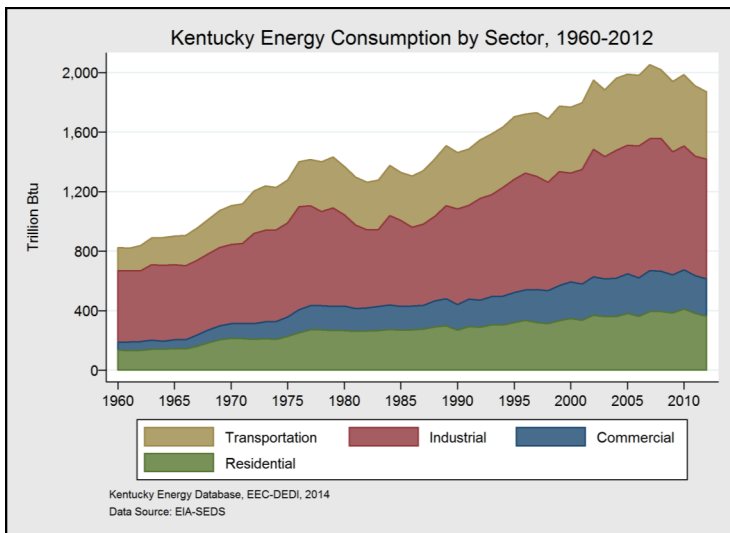
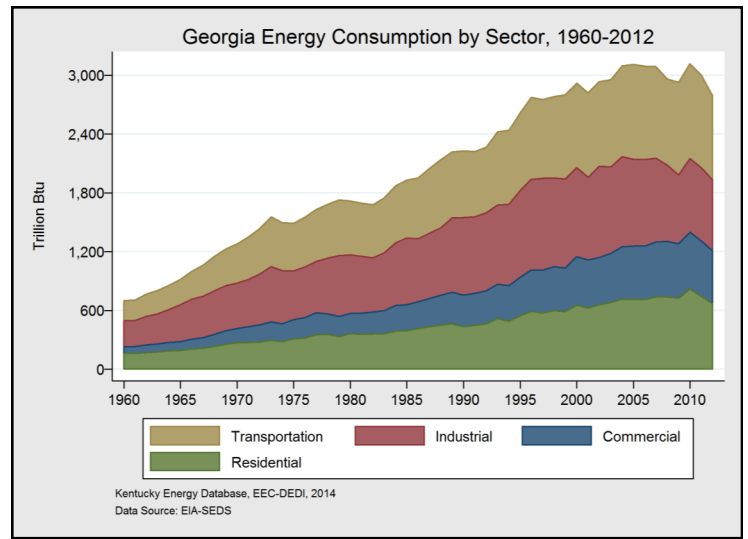
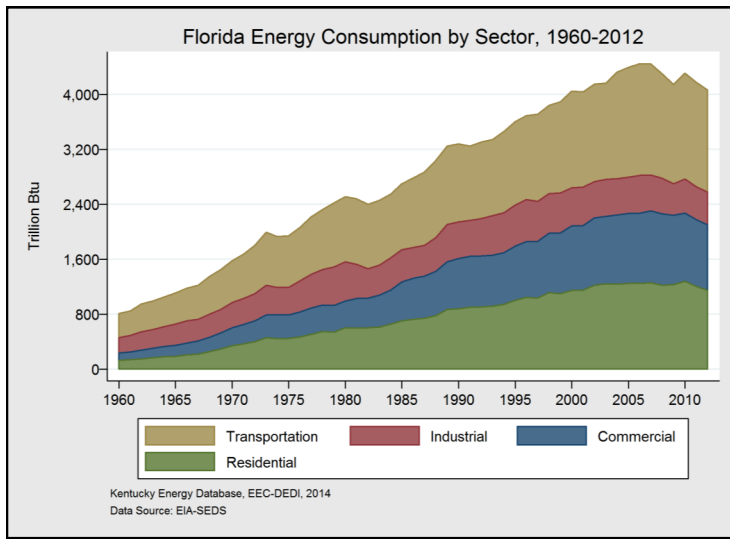
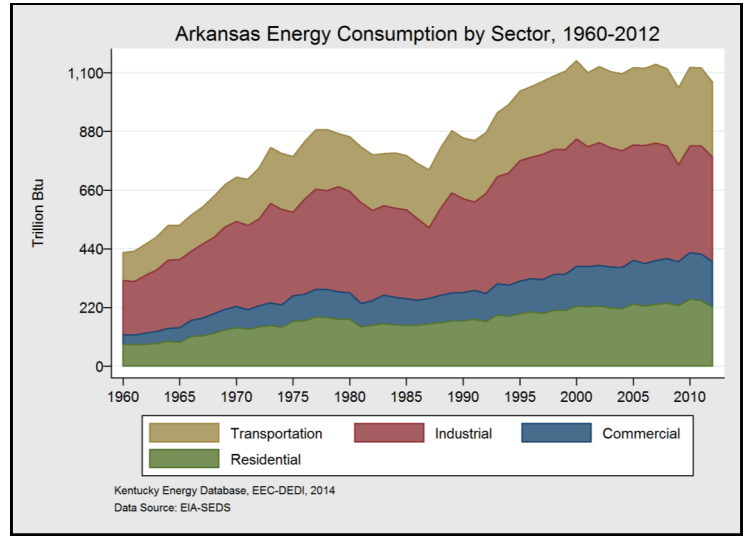
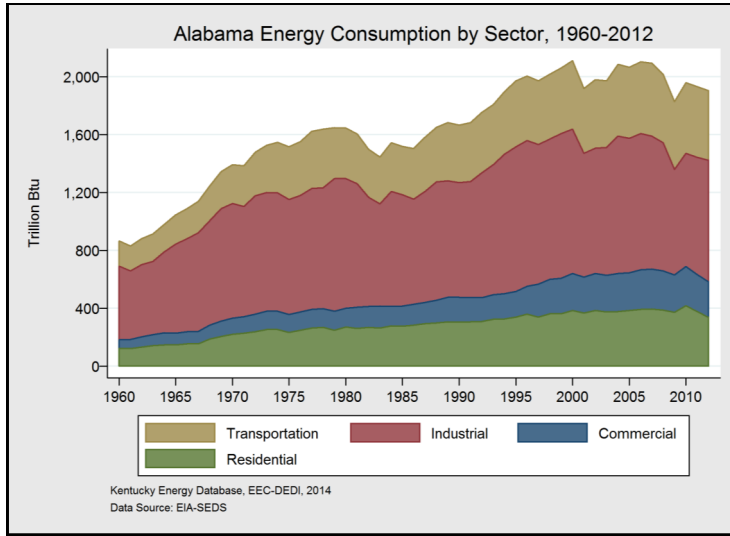
West Virginia Energy Consumption by Sector, 2012



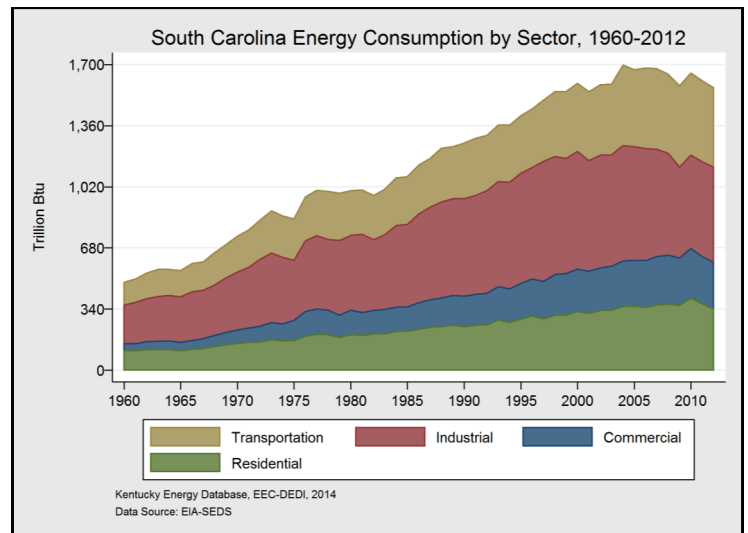
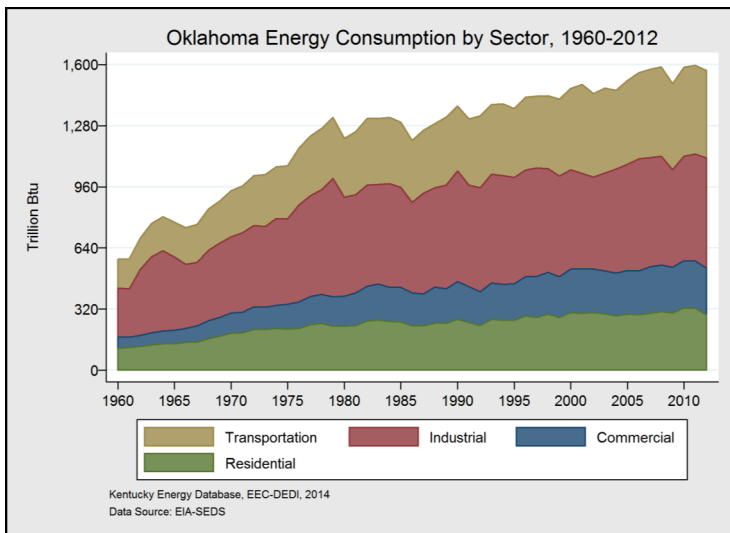
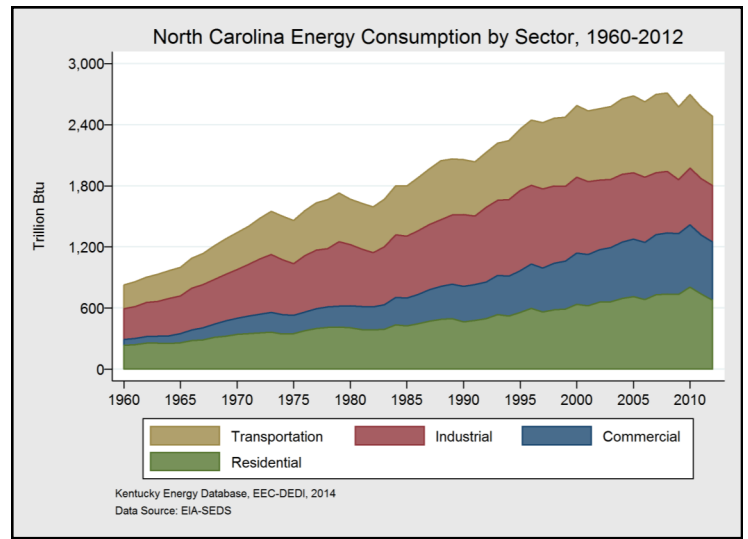
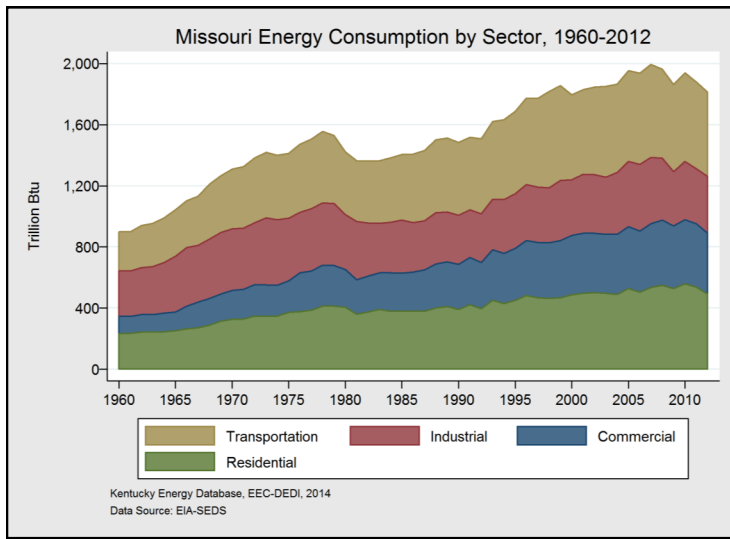
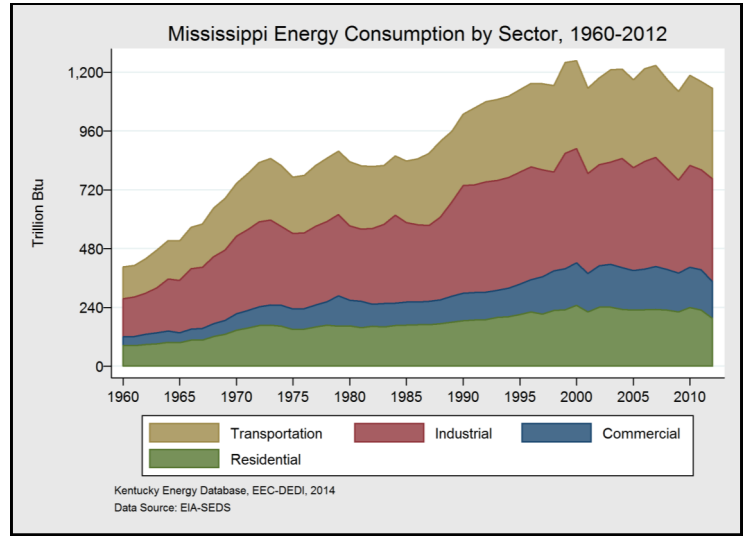
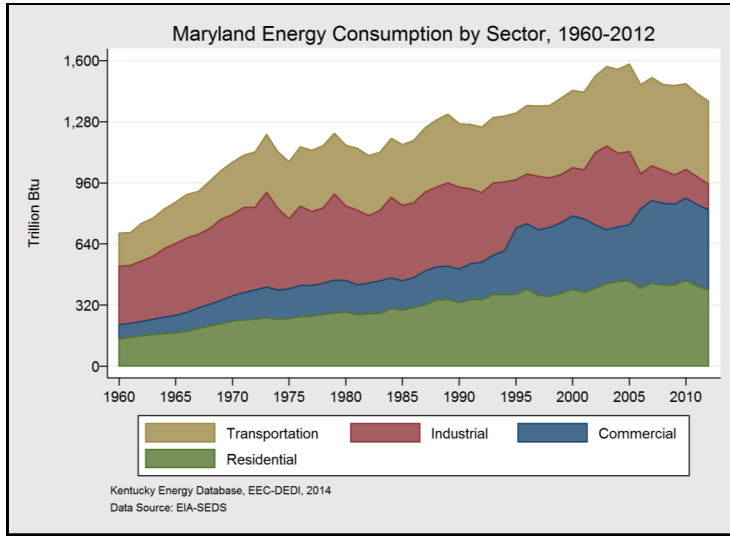
Industrial Commercial
Residential Transportation

Kentucky Energy Database, EEC-DEDI, 2014

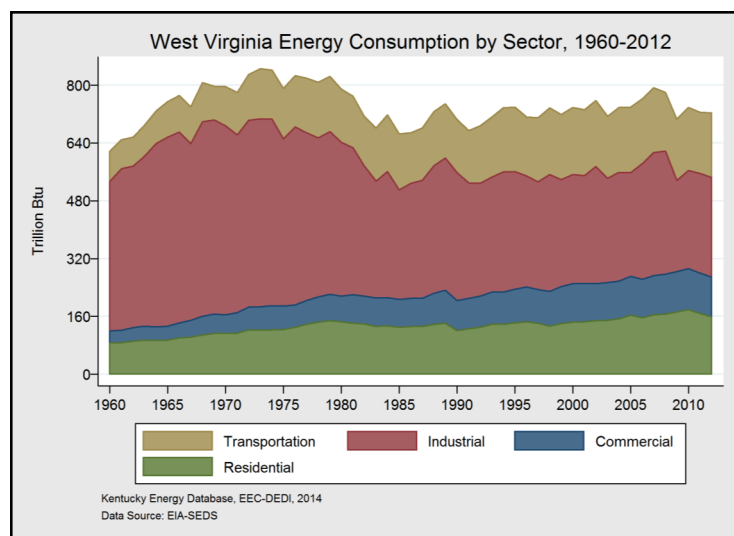
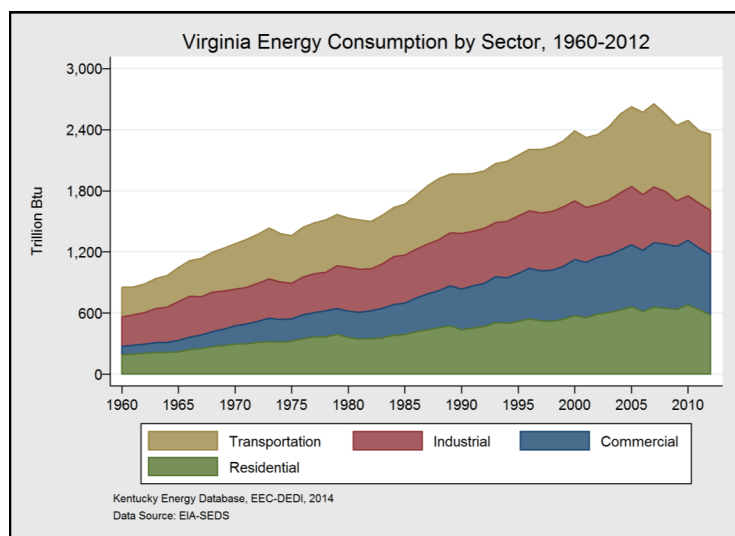
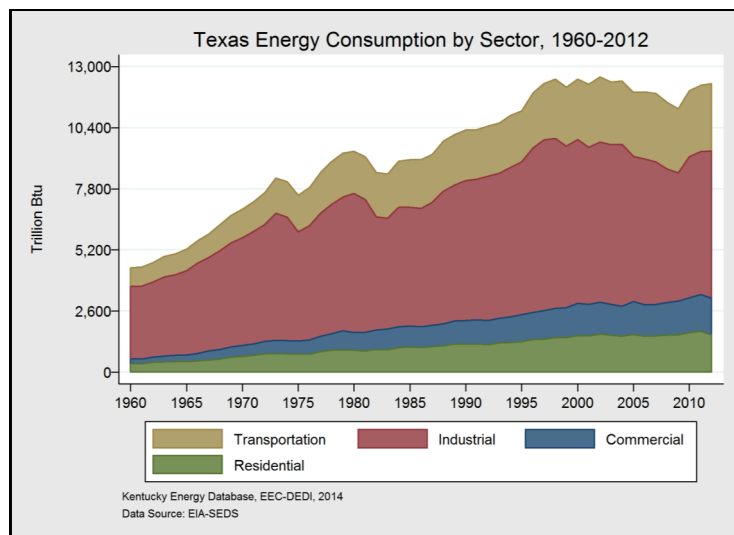
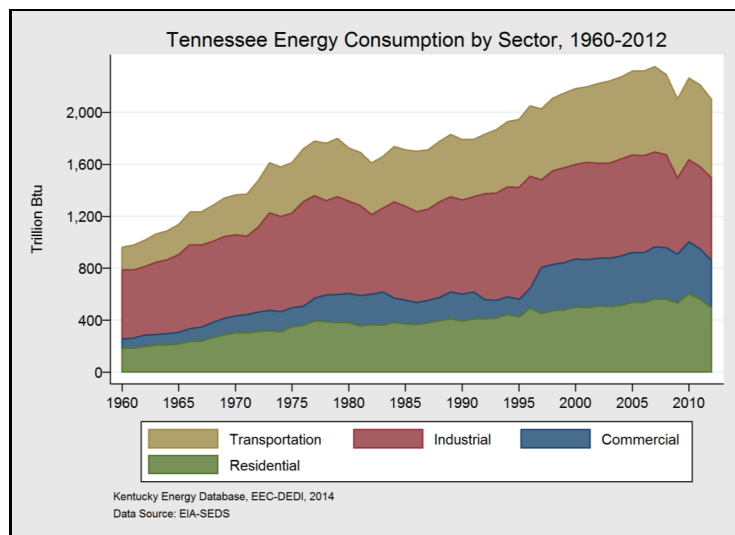
Historical Energy Consumption by Sector



Historical Energy Consumption by Sector

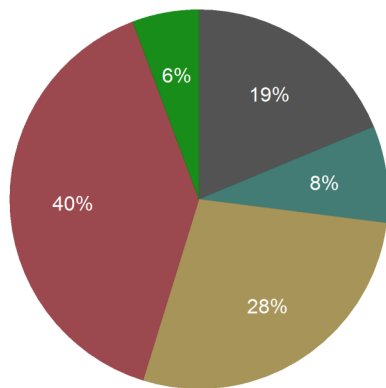


Historical Energy Consumption by Sector



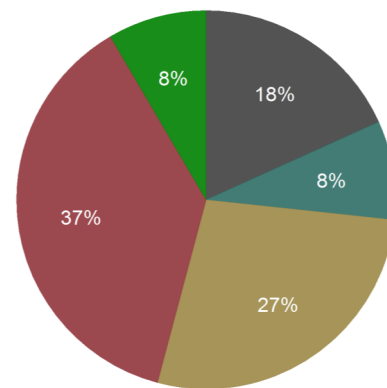
SSEB Region Energy Consumption

SSEB Region Energy Consumption by Fuel, 2012



Kentucky Energy Database, EEC-DEDI, 2014

United States Energy Consumption by Fuel, 2012

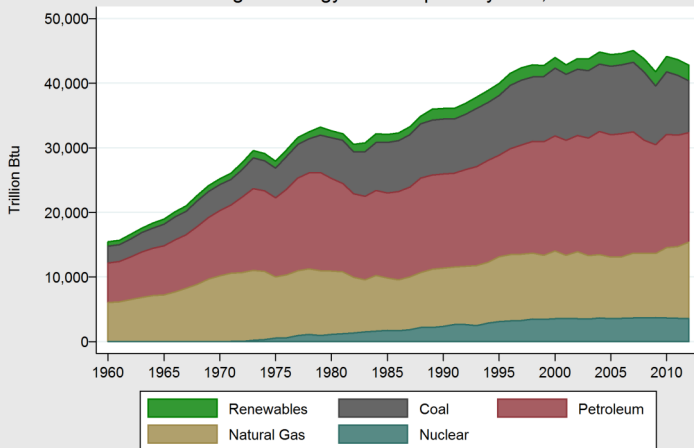


Kentucky Energy Database, EEC-DEDI, 2014

Source Type	Billion Btu	1 Year Change
Total	43,034,564	-2.2%
Petroleum	16,917,452	-1.6%
Natural Gas	11,886,871	6.6%
Coal	8,016,456	-13.4%
Nuclear	3,543,957	-1.5%
Renewables	2,430,689	-0.5%

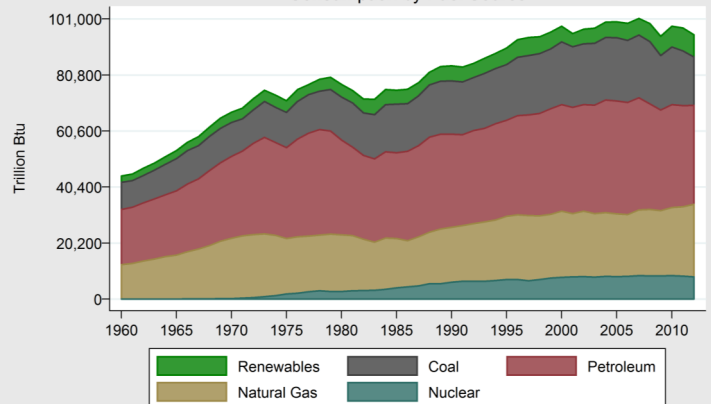
Source Type	Billion Btu	1 Year Change
Total	94,984,984	-2.5%
Petroleum	35,691,440	-2.1%
Natural Gas	26,133,570	4.5%
Coal	17,380,708	-11.6%
Nuclear	8,061,822	-2.5%
Renewables	8,022,482	-3.5%

SSEB Region Energy Consumption by Fuel, 1960-2012



Kentucky Energy Database, EEC-DEDI, 2014

United States Energy Consumption, 1960-2012
Consumption by Fuel Source



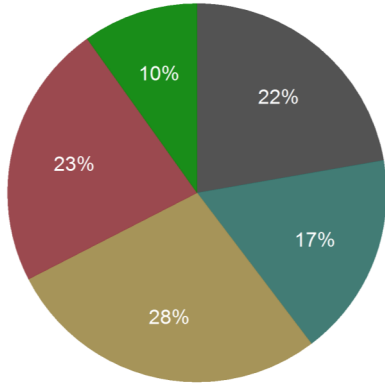
Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA-SEDS

Total energy consumption in the SSEB region has risen by 171 percent from 1960 to over 43 quadrillion Btu in 2012, but the growth rate of energy demand has declined steadily since the late 1990's. Total energy demand has decreased by 5 percent since peaking in 2007; however regional demand remains 45 percent of all energy consumption nationally. Renewable resources have risen to 6 percent of all energy consumed in the SSEB region in 2012, led by increased wind electricity generation.

Energy consumption in the United States increased by 110 percent from 1960 to nearly 95 Quadrillion Btu in 2012, although it has fallen by 6.2 percent since 2007. The use of petroleum products continues to be the primary energy resource in both the SSEB region and the United States as a whole at 40 and 37 percent respectively in 2012, and is used primarily for transportation. Renewable energy consumption now accounts for 8 percent of all energy consumed nationally.

Energy Consumption by Source

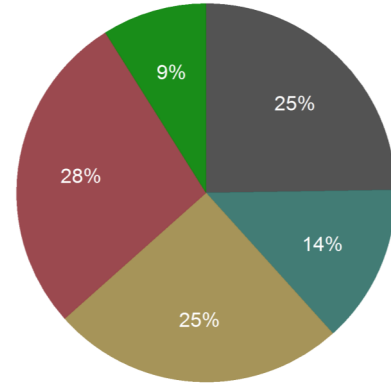
Alabama Energy Consumption by Fuel, 2012



Coal Petroleum Nuclear Renewables Natural Gas

Kentucky Energy Database, EEC-DEDI, 2014

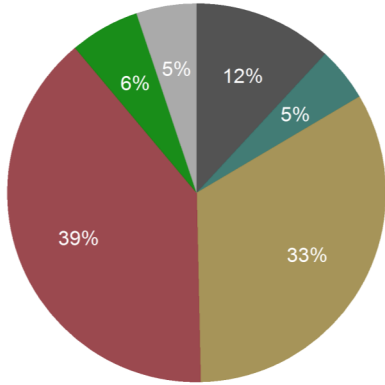
Arkansas Energy Consumption by Fuel, 2012



Coal Petroleum Nuclear Renewables Natural Gas

Kentucky Energy Database, EEC-DEDI, 2014

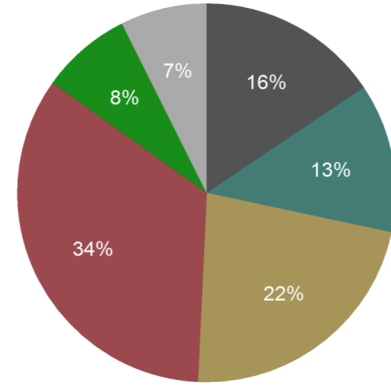
Florida Energy Consumption by Fuel, 2012



Coal Petroleum Nuclear Renewables Natural Gas All Other

Kentucky Energy Database, EEC-DEDI, 2014

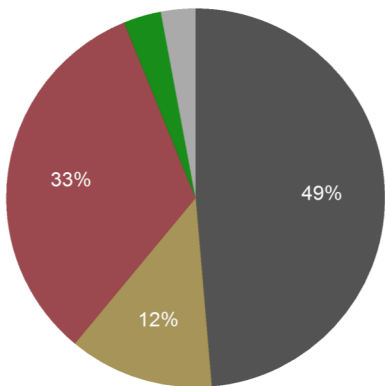
Georgia Energy Consumption by Fuel, 2012



Coal Petroleum Nuclear Renewables Natural Gas All Other

Kentucky Energy Database, EEC-DEDI, 2014

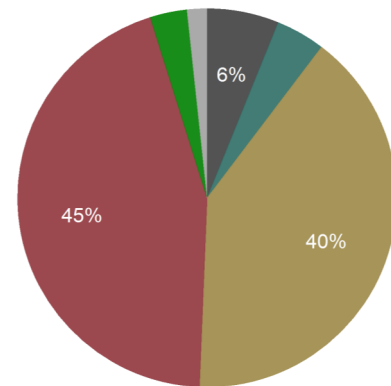
Kentucky Energy Consumption by Fuel, 2012



Coal Petroleum Nuclear Renewables Natural Gas All Other

Kentucky Energy Database, EEC-DEDI, 2014

Louisiana Energy Consumption by Fuel, 2012

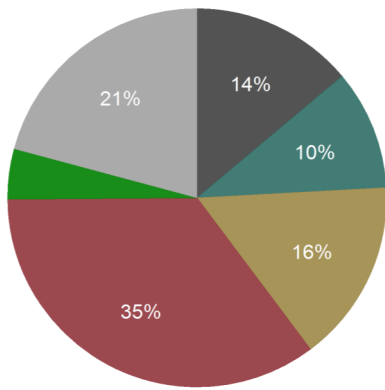


Coal Petroleum Nuclear Renewables Natural Gas All Other

Kentucky Energy Database, EEC-DEDI, 2014

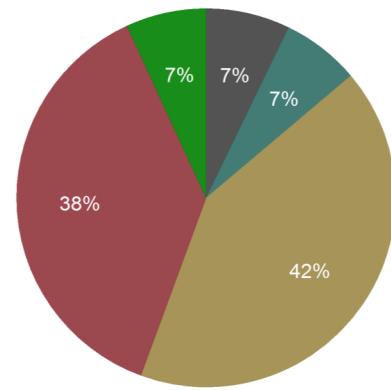
Energy Consumption by Source

Maryland Energy Consumption by Fuel, 2012



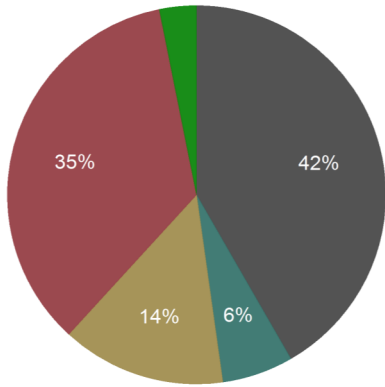
Kentucky Energy Database, EEC-DEDI, 2014

Mississippi Energy Consumption by Fuel, 2012



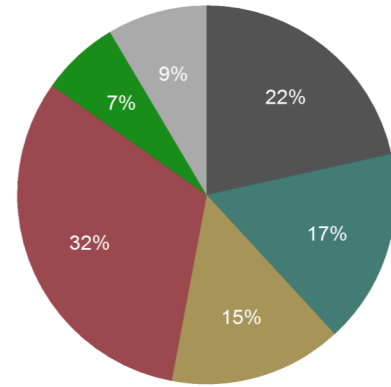
Kentucky Energy Database, EEC-DEDI, 2014

Missouri Energy Consumption by Fuel, 2012



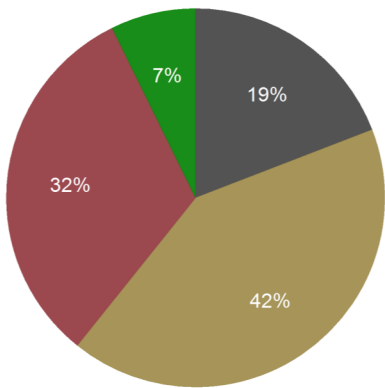
Kentucky Energy Database, EEC-DEDI, 2014

North Carolina Energy Consumption by Fuel, 2012



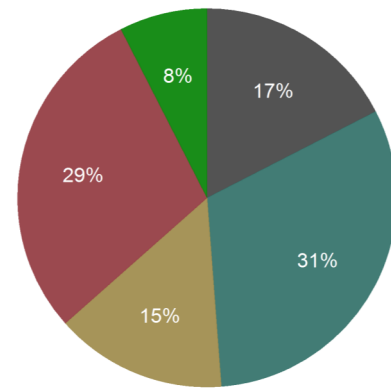
Kentucky Energy Database, EEC-DEDI, 2014

Oklahoma Energy Consumption by Fuel, 2012



Kentucky Energy Database, EEC-DEDI, 2014

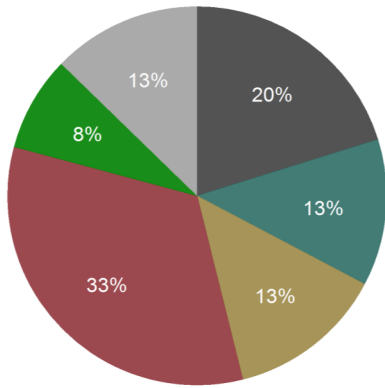
South Carolina Energy Consumption by Fuel, 2012



Kentucky Energy Database, EEC-DEDI, 2014

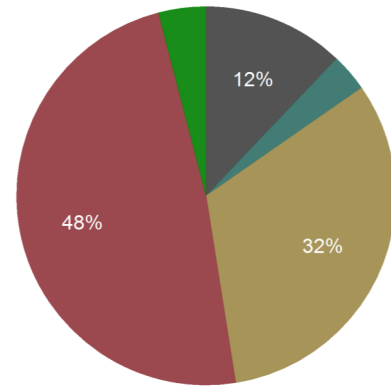
Energy Consumption by Source

Tennessee Energy Consumption by Fuel, 2012



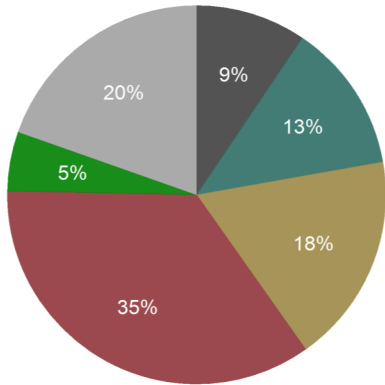
Kentucky Energy Database, EEC-DEDI, 2014

Texas Energy Consumption by Fuel, 2012



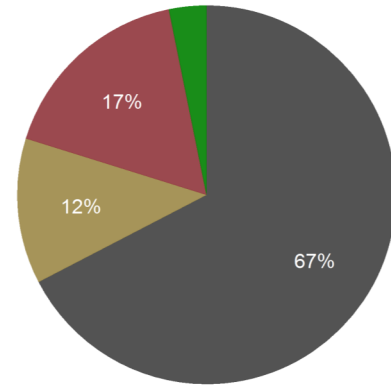
Kentucky Energy Database, EEC-DEDI, 2014

Virginia Energy Consumption by Fuel, 2012



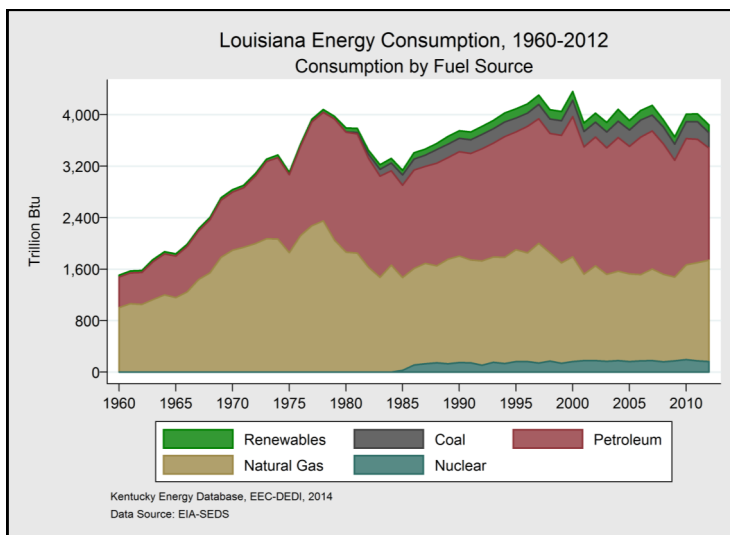
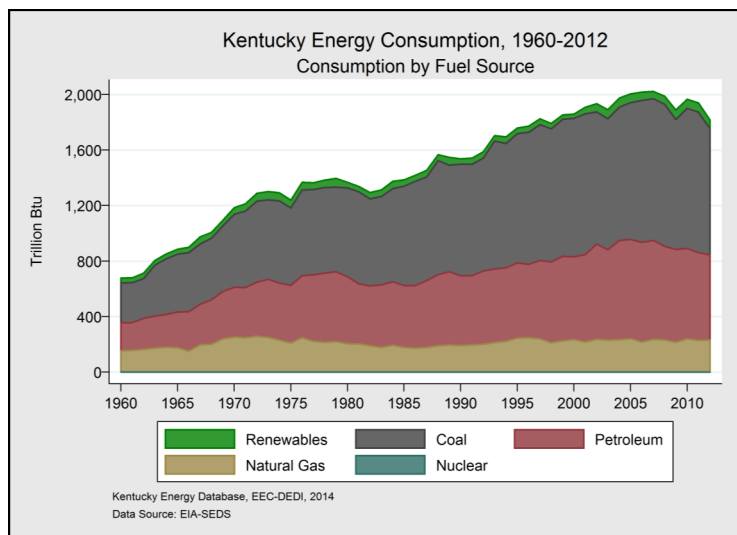
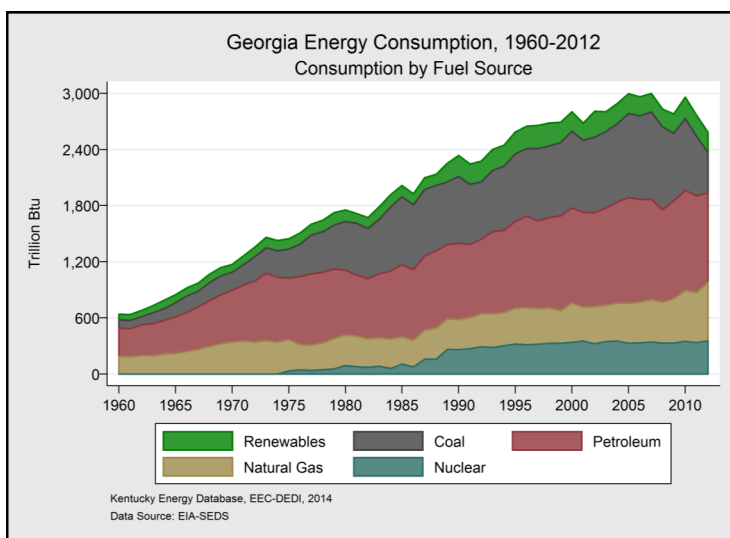
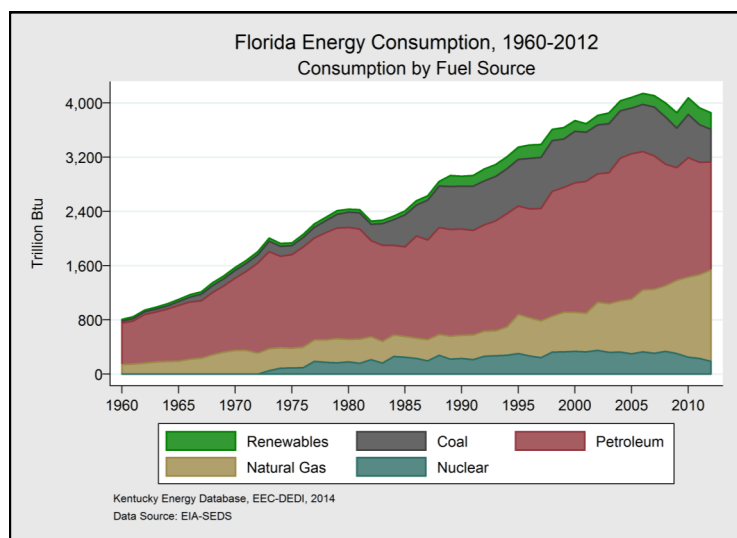
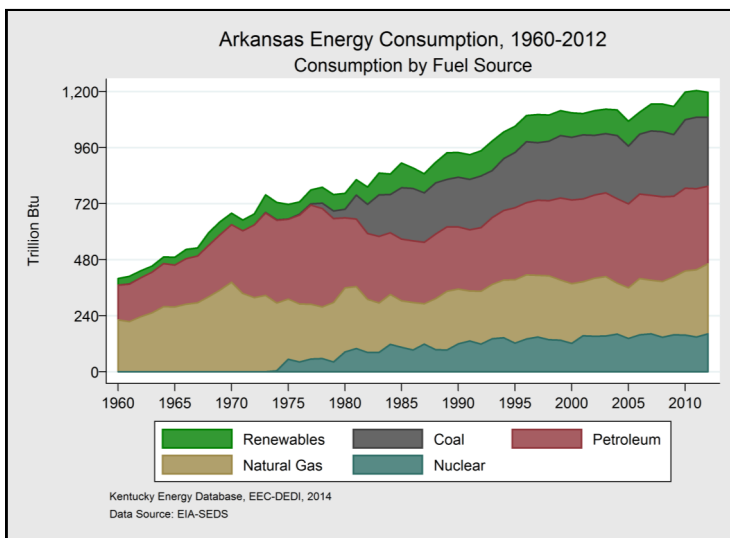
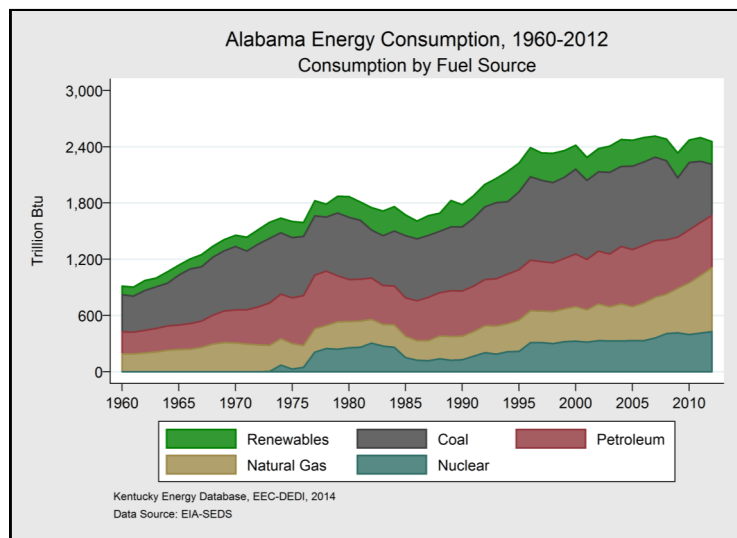
Kentucky Energy Database, EEC-DEDI, 2014

West Virginia Energy Consumption by Fuel, 2012

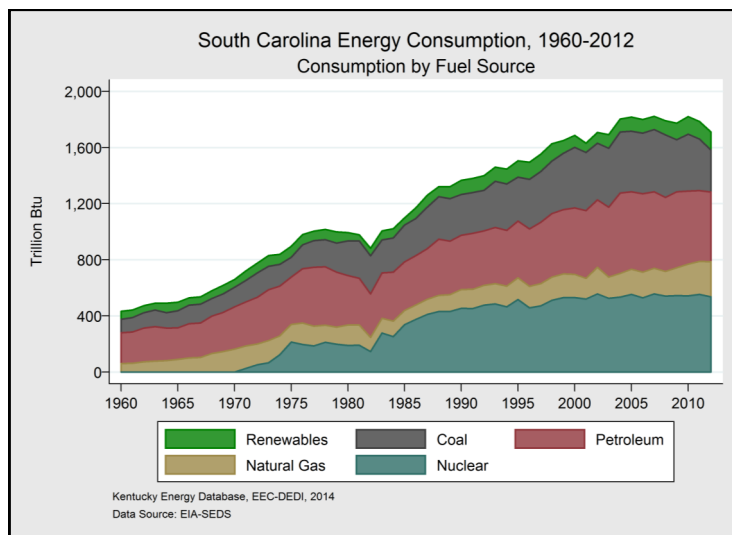
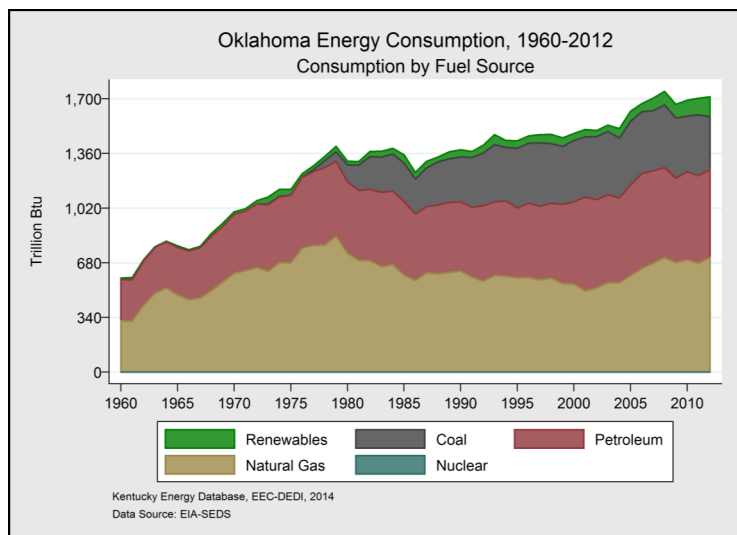
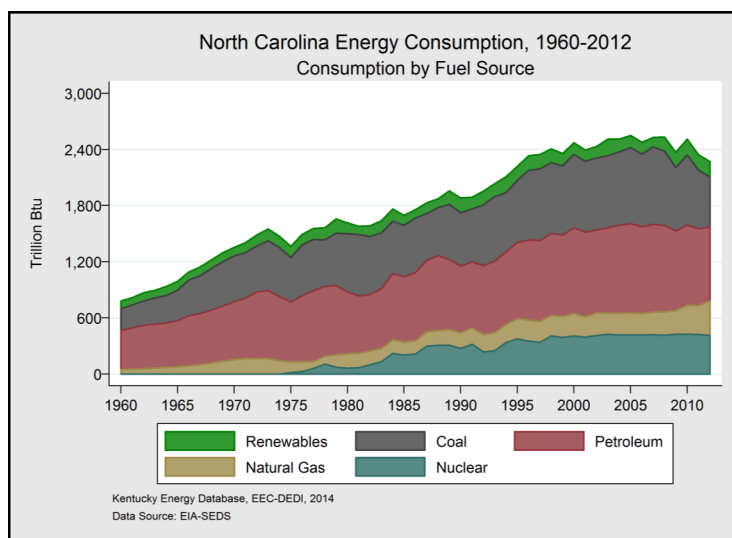
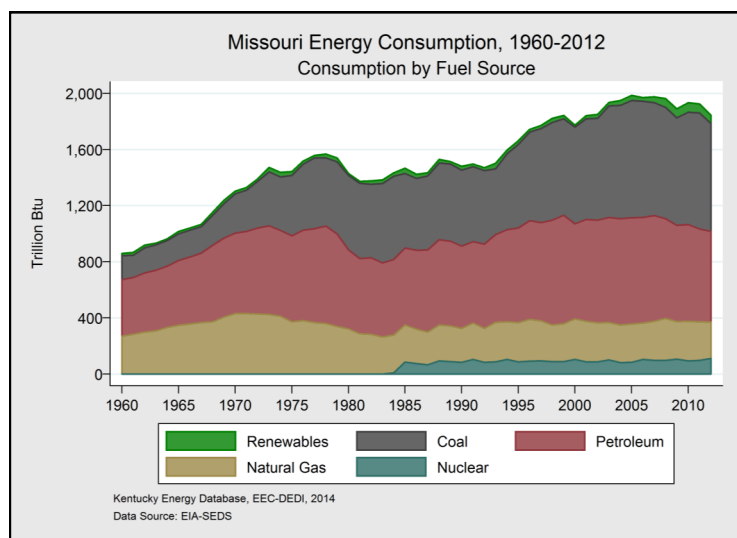
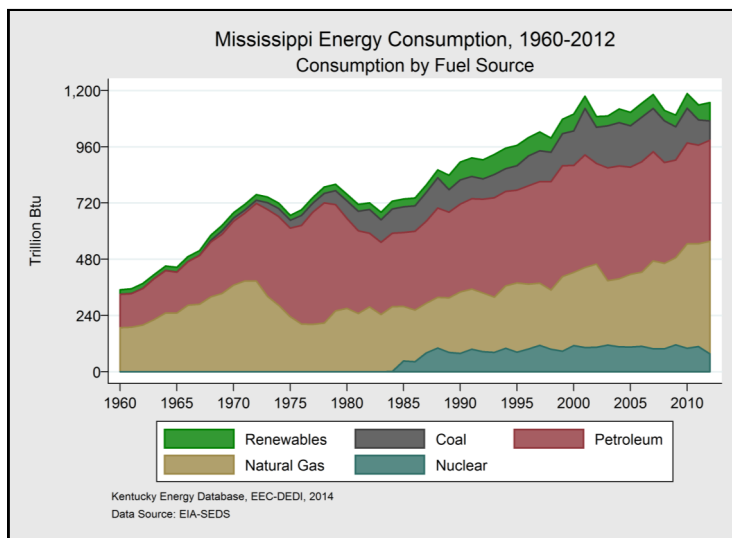
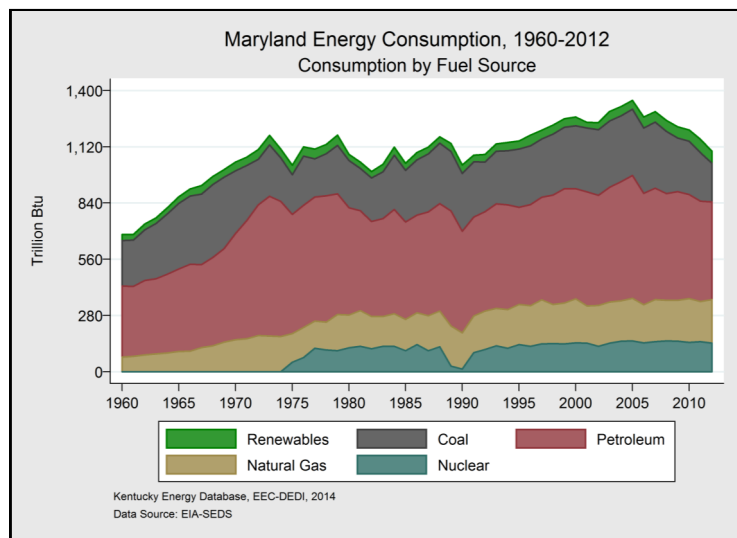


Kentucky Energy Database, EEC-DEDI, 2014

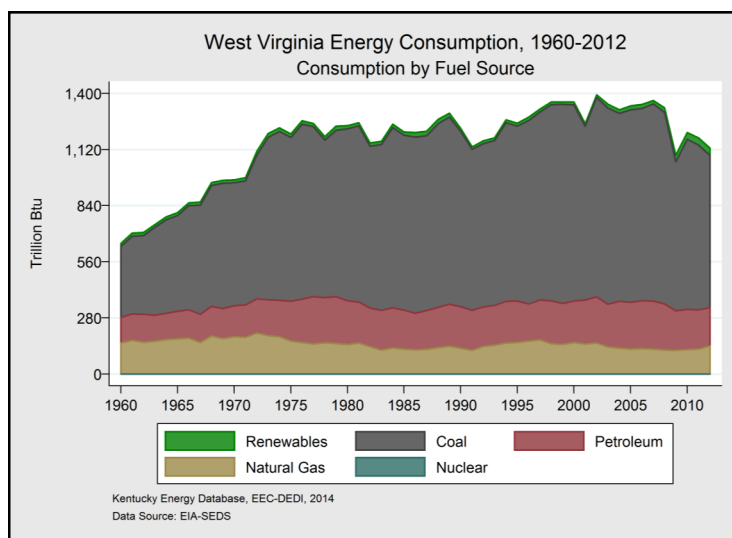
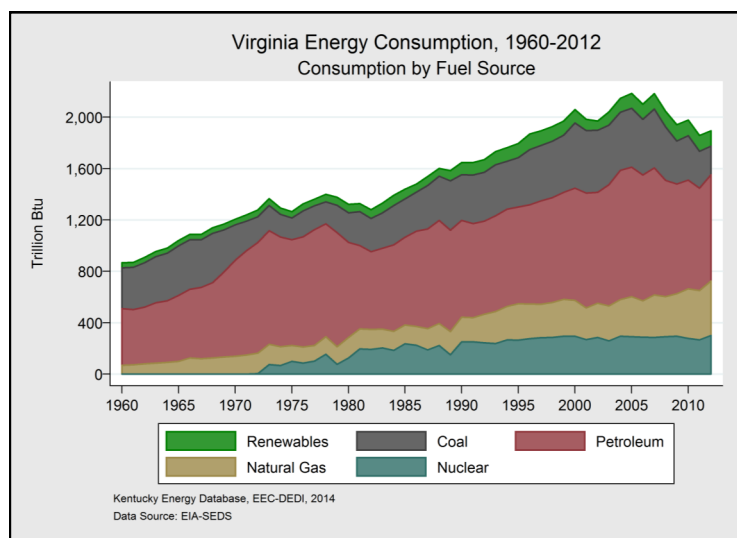
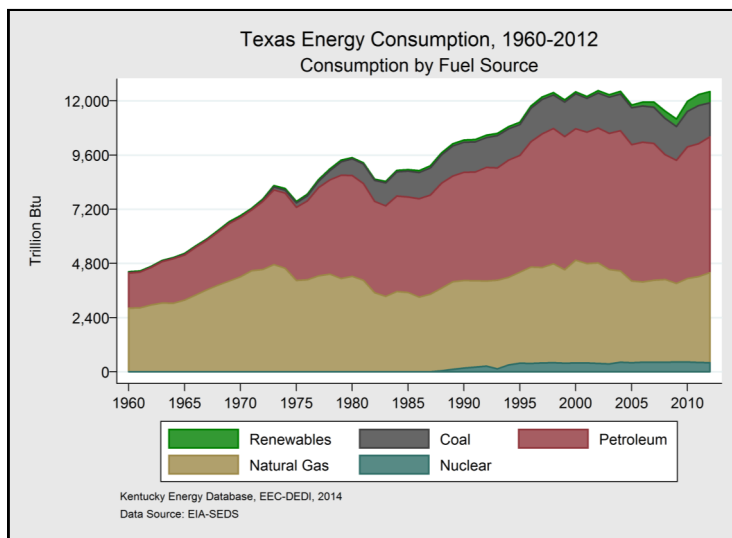
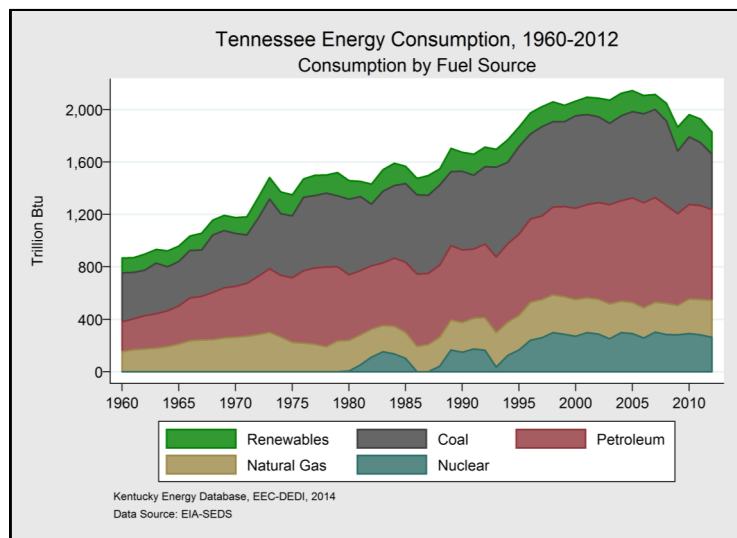
Historical Energy Consumption by Source



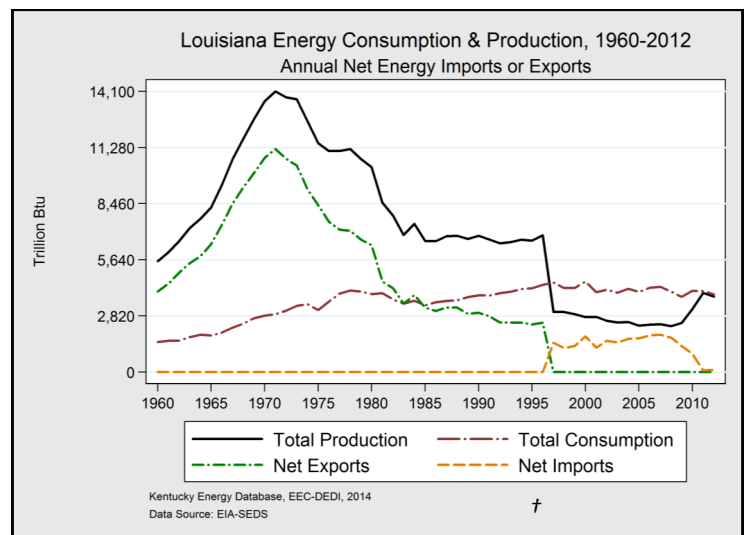
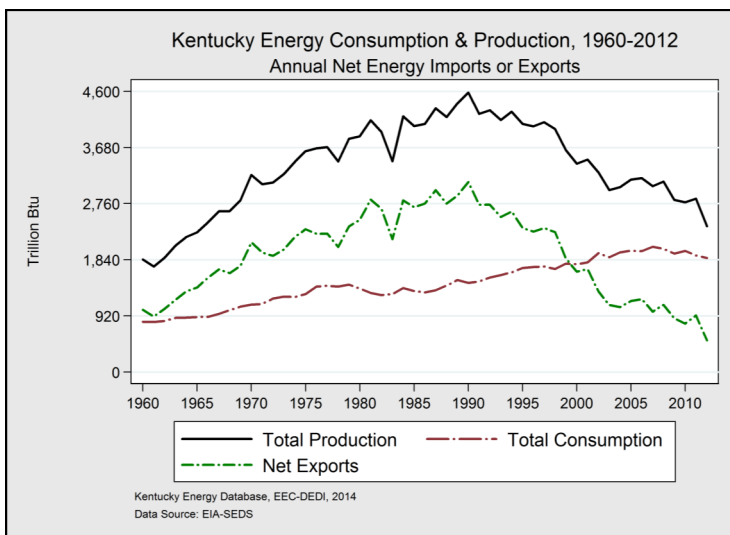
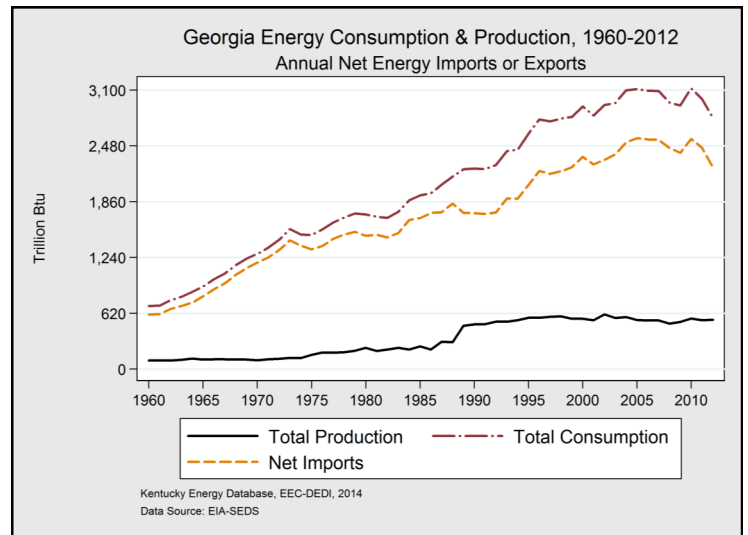
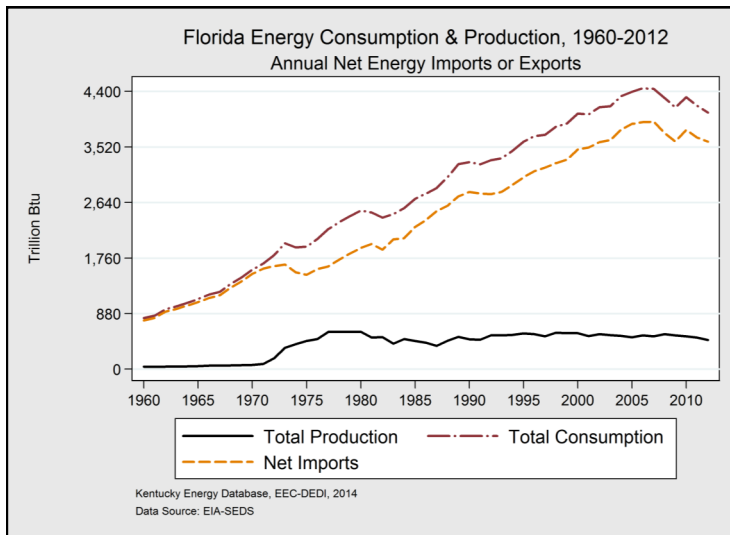
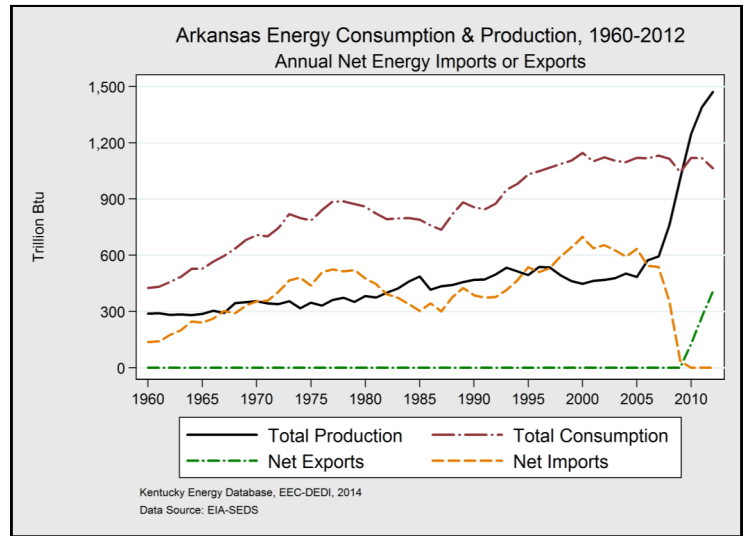
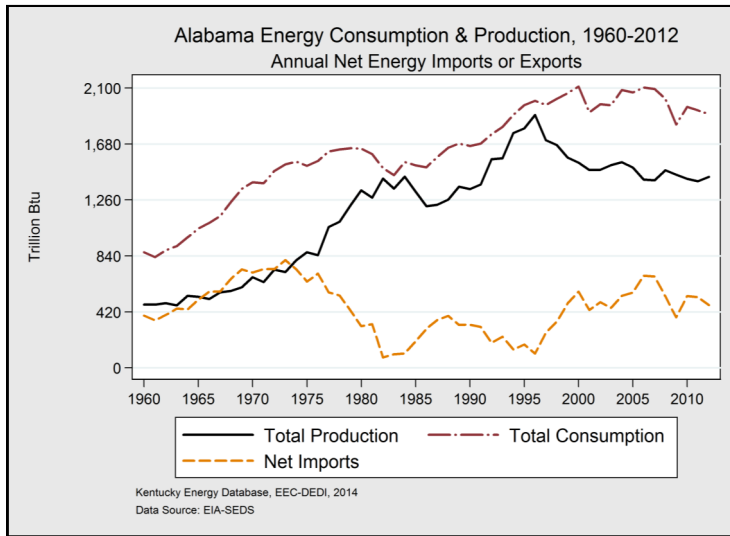
Historical Energy Consumption by Source



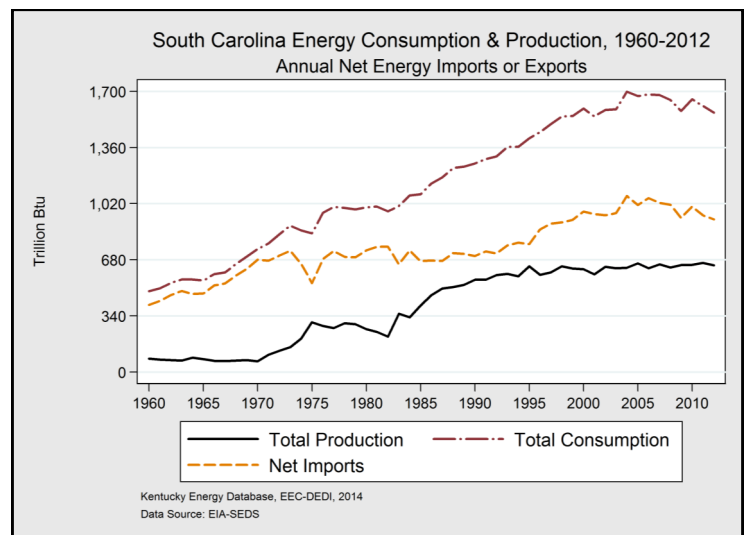
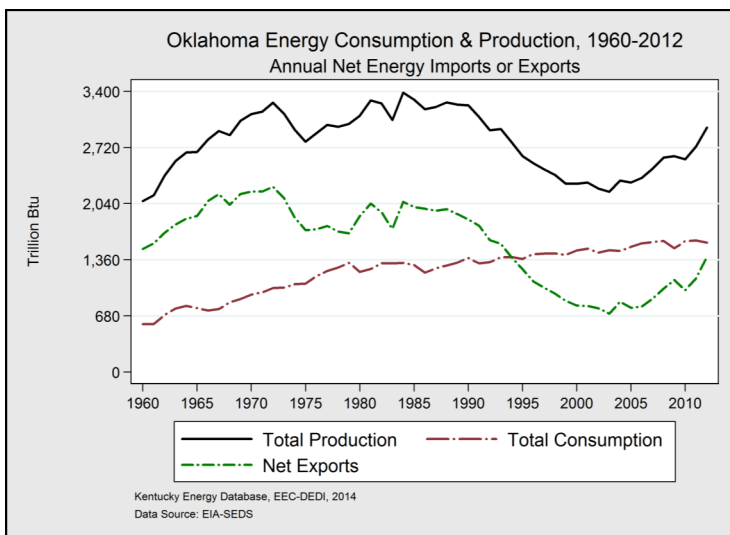
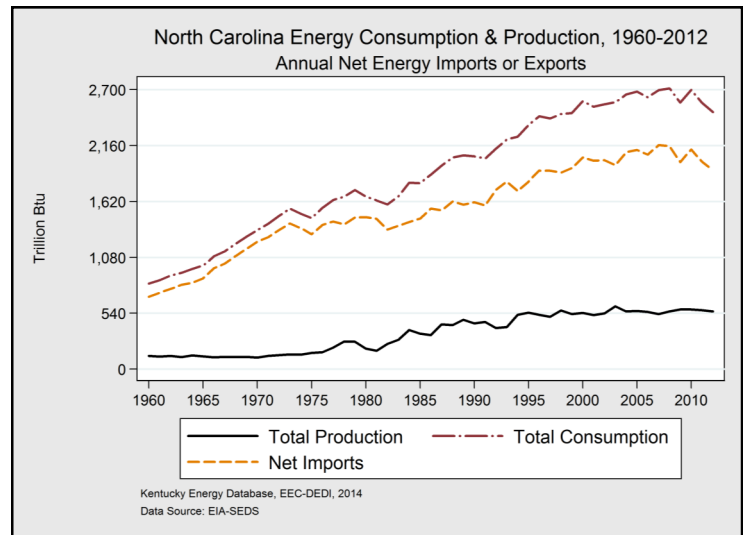
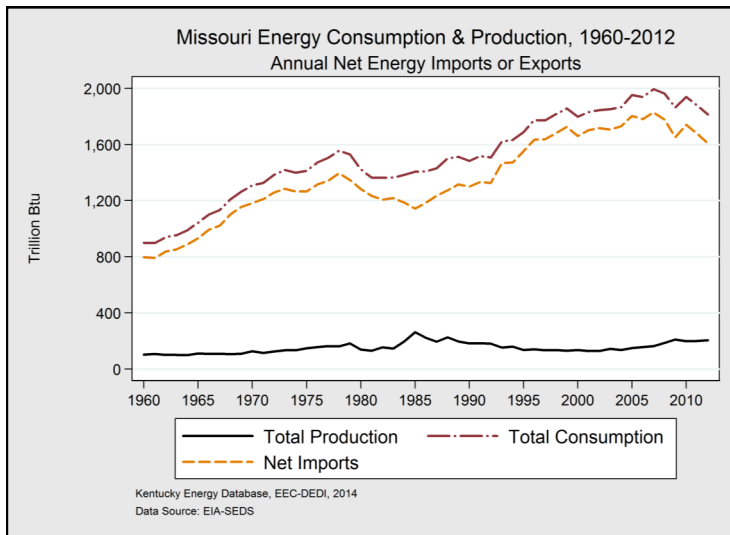
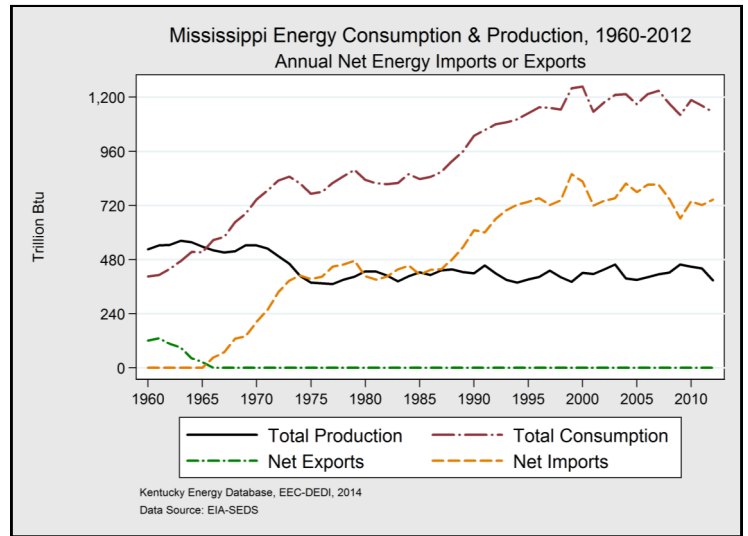
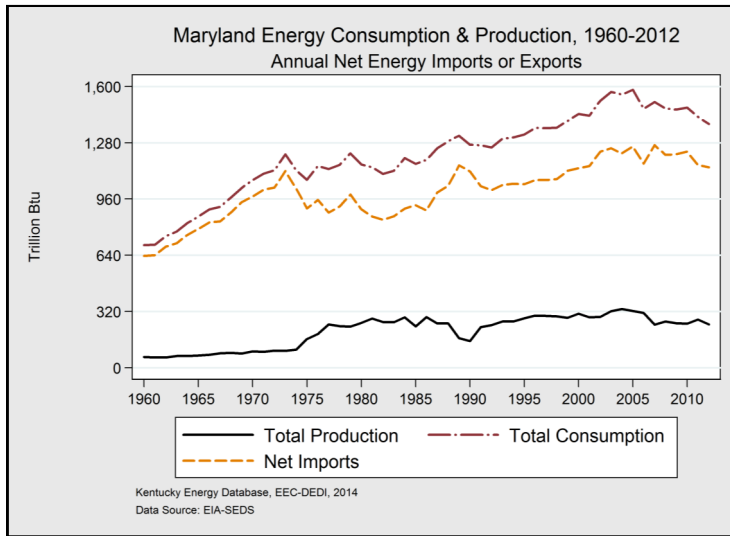
Historical Energy Consumption by Source



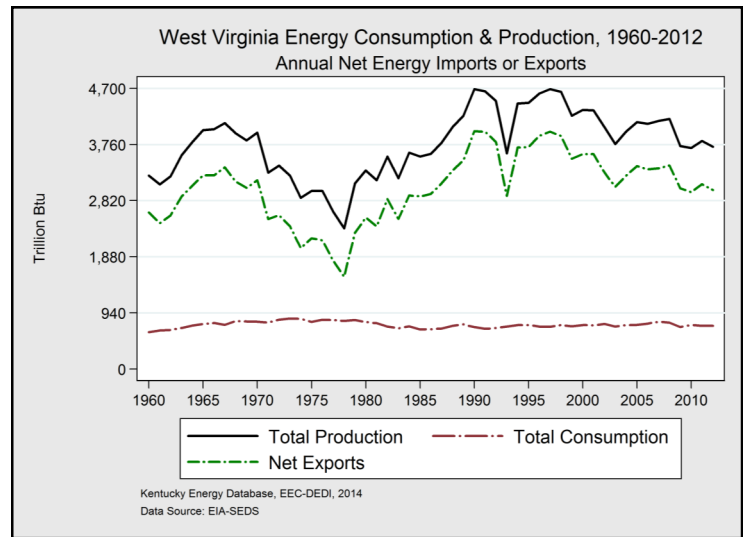
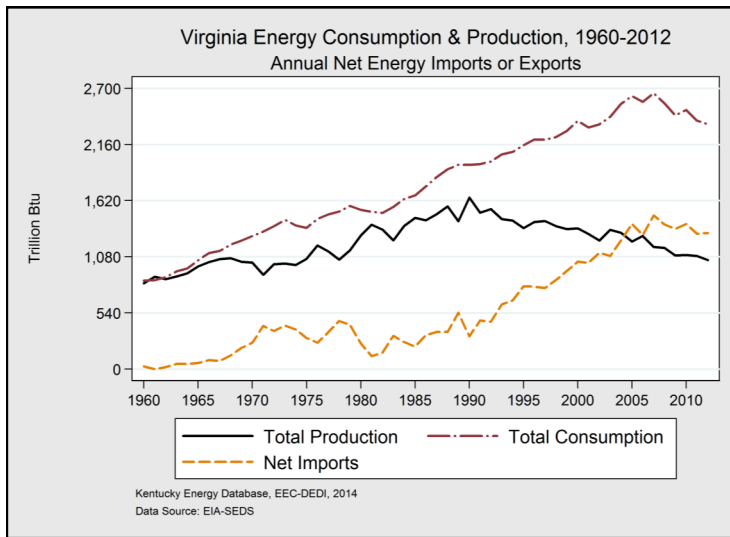
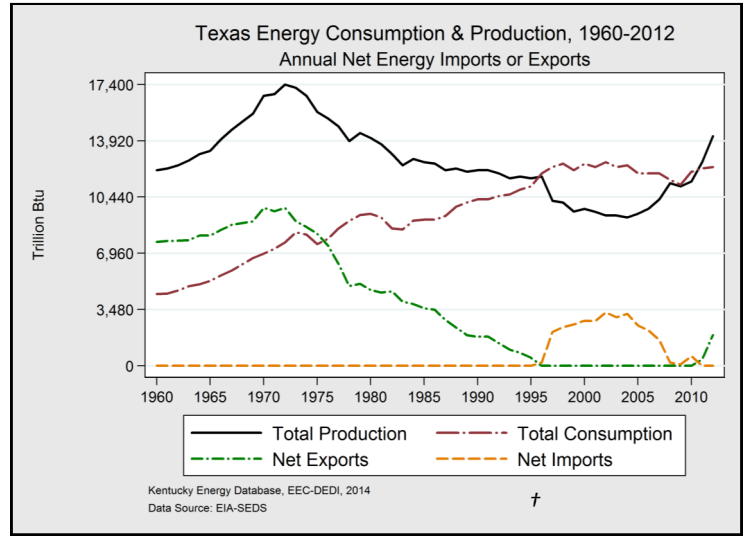
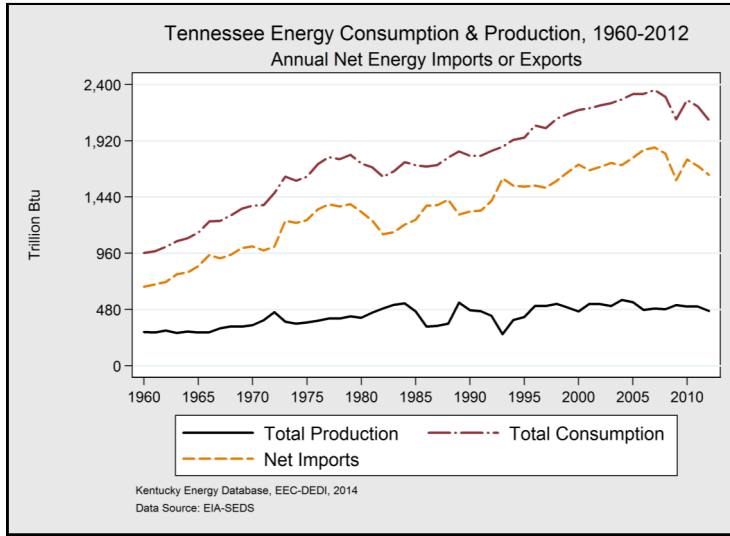
Historical Net Energy Exports



Historical Net Energy Exports



Historical Net Energy Exports



[†] Louisiana and Texas show substantial fluctuation in energy consumption and production due to the reclassification of offshore energy extraction during this time series.

Glossary

Aviation Gasoline: A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines.

Biomass: Organic non-fossil material of biological origin constituting a renewable energy source.

British Thermal Unit (Btu): The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Central Appalachian Basin: The Central Appalachian Coal Basin is the middle basin of three basins that comprise the Appalachian Coal Region of the eastern United States. It includes parts of Kentucky, Tennessee, Virginia, and West Virginia.^(G)

Coal: a naturally occurring, combustible, sedimentary rock containing at least 50 percent by weight organic matter, a solid “fossil” fuel.

Commercial Sector: An energy-consuming sector that consists of service-providing facilities and equipment of businesses; federal, state, and local governments; educational institutions, and other private and public organizations, such as religious, social, or fraternal groups.

Diesel: A fuel composed of distillates obtained in petroleum refining operation, or blends of such distillates with residual oil used in motor vehicles.

Electric Power Sector: An energy-consuming sector that consists of electricity only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public (NAICS 22). This sector includes electric utilities and independent power producers.

Electric Service Area: The geographic served exclusively by one retail electricity provider.^(D)

Electricity Distribution: The delivery of electrical energy to a customer's home or business through low-voltage lines (typically at 69kV or less).

Electricity Generation: The conversion of energy resources into electric power.

Electricity Rate: The average amount of money charged for each unit of electrical energy (kWh) distributed to a customer.^(D)

Electricity Transmission: The movement or transfer of electric energy at high voltage over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers or is delivered to other electric systems.

Energy Consumption: The processes of converting energy supplies into useful forms such as heat, steam, electricity, and motion.^(D)

Energy Production: The processes of extraction, collection, or utilization of energy resources for the purpose of creating accessible energy supplies (i.e. - available for sale and distribution).^(D)

Ethanol: A clear, colorless, flammable alcohol. Ethanol is typically produced biologically from biomass feedstocks such as agricultural crops and cellulosic residues from agricultural crops or wood.

Gasoline: A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition engines.

Geothermal Energy: Hot water or steam extracted from Geothermal reservoirs in the earth's crust. Also, a subterranean energy source utilized by residential heat pumps and air conditioning units.

Glossary

Gigawatt (GW): A measure of electrical power. Specifically, one billion watts or one thousand megawatts.

Gigawatt Hour (GWh): A measure of electrical energy defined as a unit of work, measured as 1 Gigawatt (1,000,000,000 watts) of power expended for 1 hour.

Hydroelectric Energy: The use of flowing water to produce electrical energy.

Illinois Basin: The coal producing areas of Western Kentucky, Southern Illinois, and Southwest Indiana.^(G)

Industrial Sector: An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing, agriculture, forestry, fishing and hunting; mining, oil and gas extraction, and construction.

Jet Fuel: A refined petroleum product used in jet aircraft engines. It includes kerosene-type Jet Fuel and naphtha-type Jet Fuel.

Kerosene: A light petroleum distillate that is used in space heaters, cook stoves, and water heaters and is suitable for use as a light source when burned in wick-fed lamps.

Kilowatt (kW): A measure of electrical power. Specifically, one thousand watts.

Kilowatt Hour (kWh): A measure of electrical energy defined as a unit of work, measured as 1 Kilowatt (1,000 watts) of power expended for 1 hour.

Megawatt (MW): A measure of electrical power. Specifically, one million watts.

Megawatt Hour (MWh): A measure of electrical energy defined as a unit of work, measured as 1 Megawatt (1,000,000 watts) of power expended for 1 hour.

Natural Gas: A naturally occurring combustible mixture of light hydrocarbon (primarily methane) and inorganic gases that often occurs in porous and permeable sedimentary rocks, a gaseous “fossil” fuel.^(G)

Natural Gas Liquids: Propane and butanes, which are dissolved in natural gas at reservoir pressure but condense into liquids at normal atmospheric pressure. Also called condensates, these liquids are removed from initial natural gas production and refined into a variety of additional energy products.^(D)

Net Energy Consumption: The measurement of the total British Thermal Unit (Btu) value of energy resources utilized or combusted, subtracting the quantity of energy lost in the conversion of a primary energy source into a secondary, useful energy source.^(D)

Nuclear Power: Electricity generated by the use of the thermal energy released from the fission of nuclear fuel in a reactor.

Nuclear Fuel: Fissionable materials that have been enriched to such a composition that, when placed in a nuclear reactor, will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use.

Petroleum: A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities.

Renewable Energy: There is no formal, universally accepted definition for this term. Typical usage may define renewable energy as: Energy resources that are naturally replenishing but flow-limited. Such resources are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time.

Glossary

Residential Sector: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances.

Transportation Sector: An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. This sector includes the natural gas utilized in the movement of natural gas resources through transmission pipeline.

Terawatt: A measure of electrical energy defined as a unit of work, One Terawatt is 1,000,000,000,000 Watts or 10^{12} Watts

Volt (V): A measure of electrical potential or electromotive force.

Watt (W): The unit of electrical power equal to one ampere under a pressure of one volt. A Watt is equal to 1/746 horse power.

Wood & Wood Waste: Wood and wood products, possibly including scrubs, branches, sawdust, etc., bought or gathered, and used by direct combustion.

*** All definitions are cited from the Energy Information Administration (E.I.A) Glossary unless otherwise noted.