



Energy in the South – Fueling the Nation's Economy

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Presented to Southern States Energy Board Associate Members

August 14, 2014

Little Rock, Arkansas

Energy Resource Highlights of the South



- South produces over ½ U.S. energy supply, serves 40% of population
 - 7 of top 10 southern states lead manufacturing jobs per capita
 - Robust, innovative energy supply: traditional fuels, renewables and energy efficiency
 - \$5 Trillion economy
- Key energy production
 - 3 of top 5 coal, oil, and natural gas producing states in South
 - 66% of natural gas supply from South
 - 4 states produce >50% of U.S. domestic crude oil
 - WV, KY & TX produce 25% of nation's coal (among top 6 coal states)
- South leads nuclear and renewable fuels output
 - 26 nuclear plants operating, 5 units under construction
 - TX, OK and WV have 16 GW of wind capacity
- States adopting energy efficiency measures
 - WV and MS -'Most Improved' energy efficiency programs (2014 ACEEE Scorecard)
 - AR prioritizing energy efficiency

Trending ... in the Energy World

- Electricity growth flat
 - Pre-Recession growth has not returned
 - Continued energy efficiency improvements drive down growth
- Natural gas prices low (v. coal)
 - Natural gas combined cycle plants being built
 - Gas units dispatch ahead of coal in some cases
- Utility IRPs: Coal retirements best option
 - Coal capacity aging
 - Environmental regulations increasing risk & cost of coal
- Price of renewable energy dramatically dropped in 2-3 years
- Nuclear energy in the South to increase (6 GW at 5 new units)

EPA Proposed Standards for CO₂ Emissions for the Coal Fleet



- **Standards for existing coal fired power plants – June 2015 Final Rule**
 - Clean Air Act 111(d) requires EPA to establish standards for existing stationary sources
 - Standards will become a part of State Implementation Plans to be completed by June 2016

- **Standards for new coal fired power plants – June 2014 Final Rule**
 - Clean Air Act 111(b) requires EPA to establish standards for new and modified stationary sources
 - Standard reflects degree of emissions limitation achievable through the application of best system of emission reduction that has been adequately demonstrated

Energy Facts in the South (2013)

- **Electricity consumption** 47% of national consumption
 - 50% of residential consumption
 - 48% of commercial/ industrial consumption
- **Electricity production** 42% of national electricity generated
 - 52% of natural gas generation nationwide generated in the southern region
 - 43% of coal fired generation
 - 41% of nuclear power generation
 - 30% of wind generation
- **Electricity Prices (South v nationwide)**
 - Residential: 10.96 cents/KWh v 12.12
 - Commercial: 8.97 cents/KWh v 10.29
 - Industrial: 6.09 cents/KWh v 6.82
 - Average: 9.08 cents/KWh v 10.08

Electrical Generating Resources Vary in SSEB Region - 2013



Predominantly Coal

- WV, Kentucky >93%
- Missouri 83%
- Arkansas 52%
- Maryland, Tennessee, OK 40-45%
- NC, TX, AL, GA 30-39%
- MS, LA, FL, SC, VA <30%

Predominantly Natural Gas

- Mississippi, Florida >60%
- Louisiana 51%
- Texas 47%
- Oklahoma 41%
- Missouri, WV, TN, KY ~5%+/-

Predominantly Nuclear

- South Carolina 57%
- TN, VA, MD, North Carolina 30-41%
- Georgia, Alabama 27%
- Oklahoma, Kentucky, West Virginia 0%

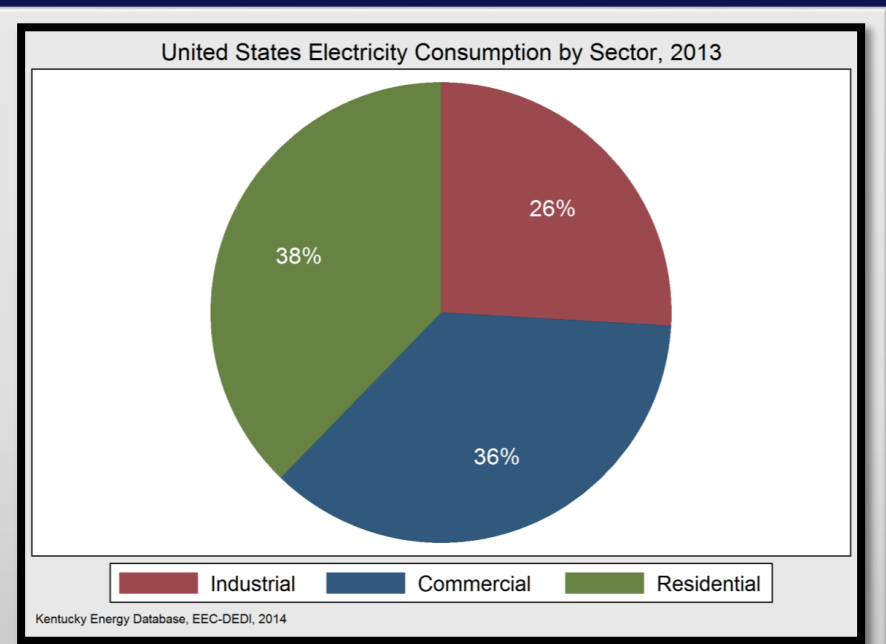
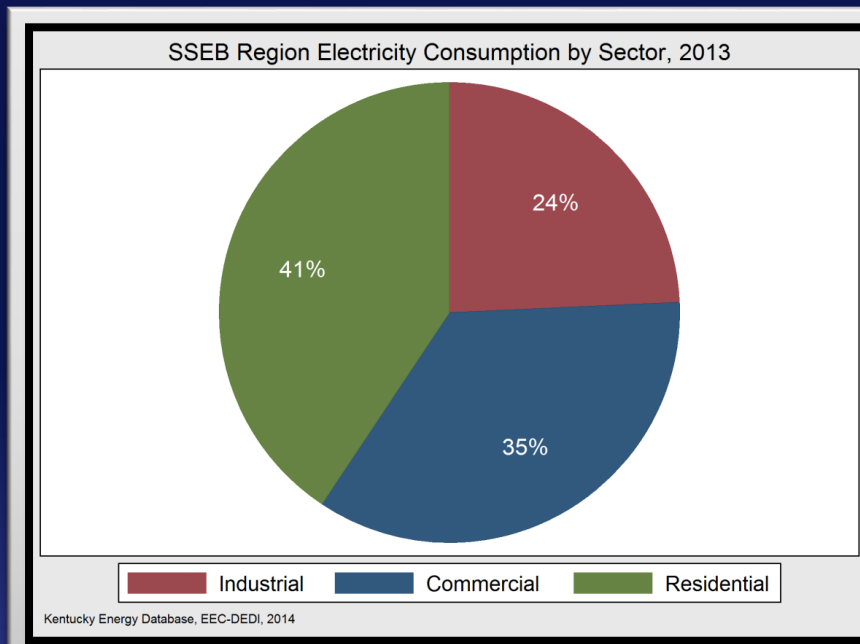
Electricity Consumption 2013 – SSEB & U.S.



www.sseb.org

SSEB Region Electricity Consumption by Sector, 2013

United States Electricity Consumption by Sector, 2013

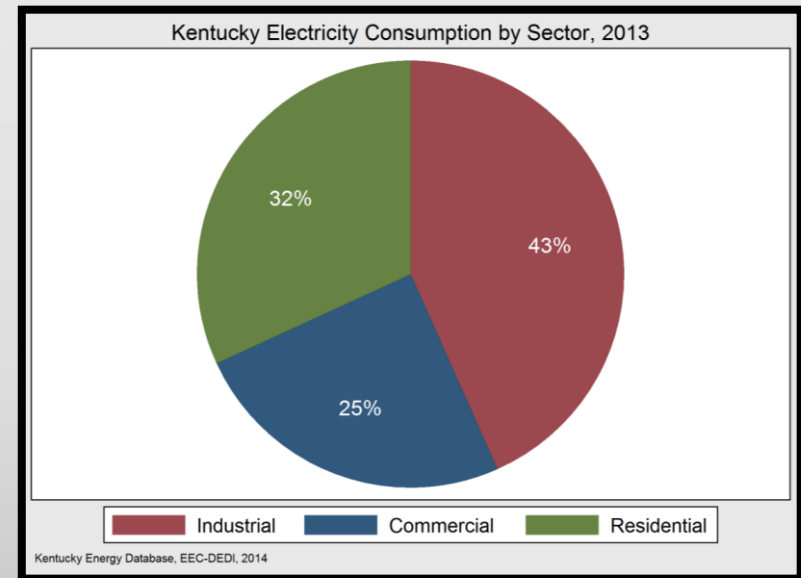
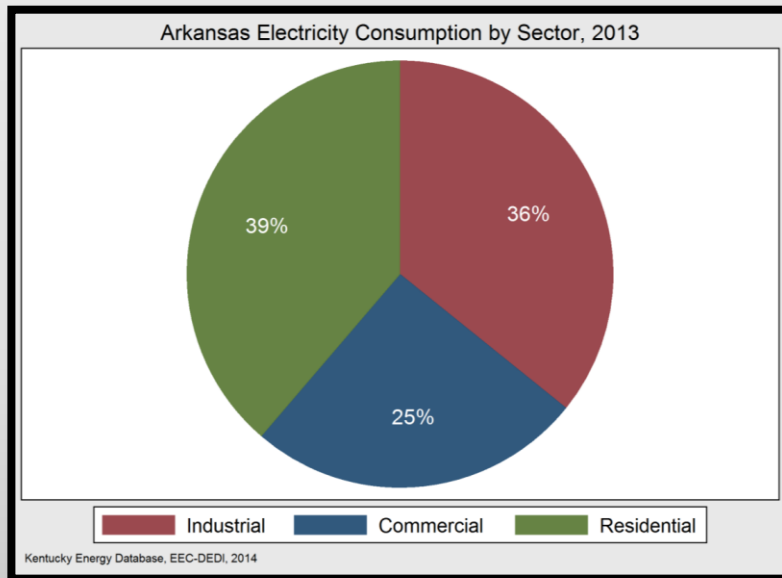


Electricity Consumption – Arkansas & Kentucky



Arkansas Electricity Consumption by Sector, 2013

Kentucky Electricity Consumption by Sector, 2013



Electricity Consumption – Missouri & Florida

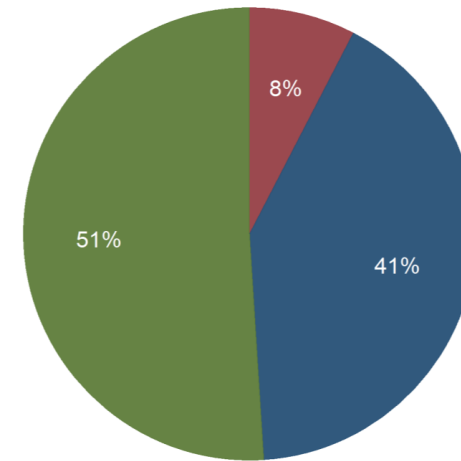
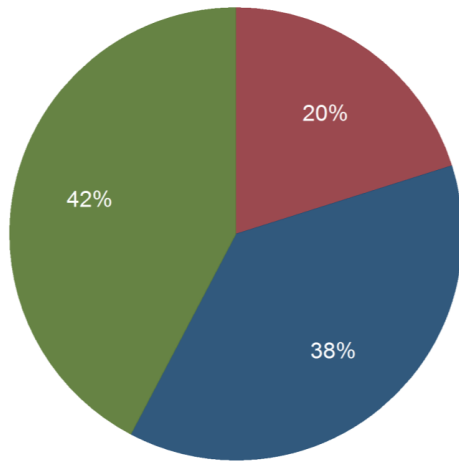


Missouri Electricity Consumption by Sector, 2013

Florida Electricity Consumption by Sector, 2013

Missouri Electricity Consumption by Sector, 2013

Florida Electricity Consumption by Sector, 2013



Industrial Commercial Residential

Industrial Commercial Residential

Kentucky Energy Database, EEC-DEDI, 2014

Kentucky Energy Database, EEC-DEDI, 2014

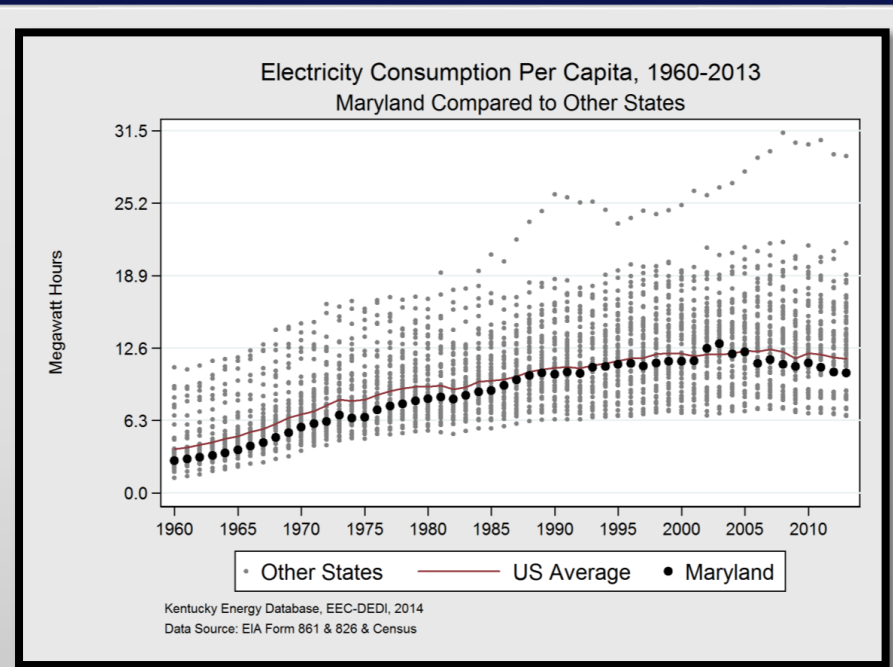
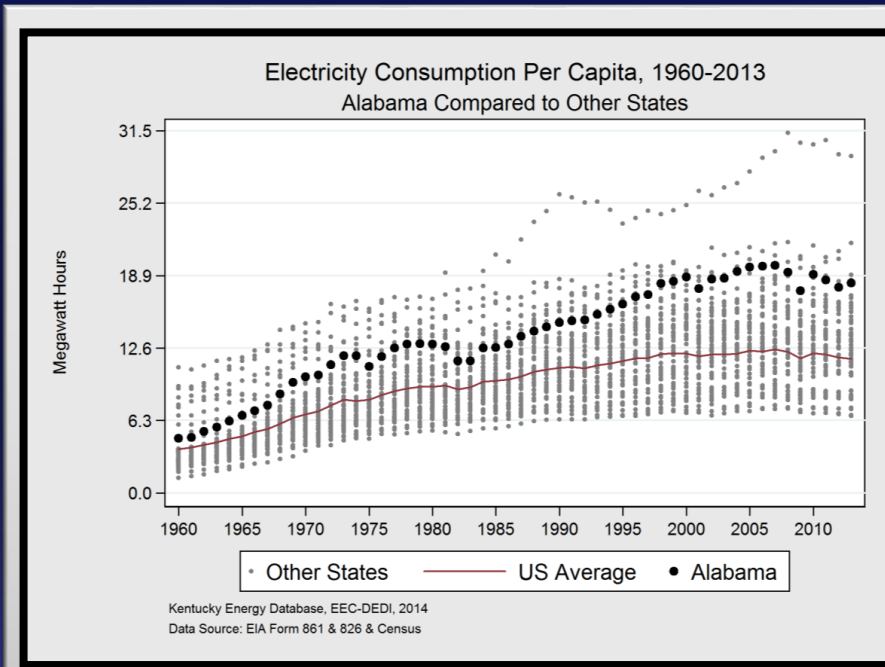
Electricity Consumption Per Capita 1960 – 2013

Alabama & Maryland



Electricity Consumption Per Capita –
1960-2013: Alabama

Electricity Consumption Per Capita –
1960-2013: Maryland



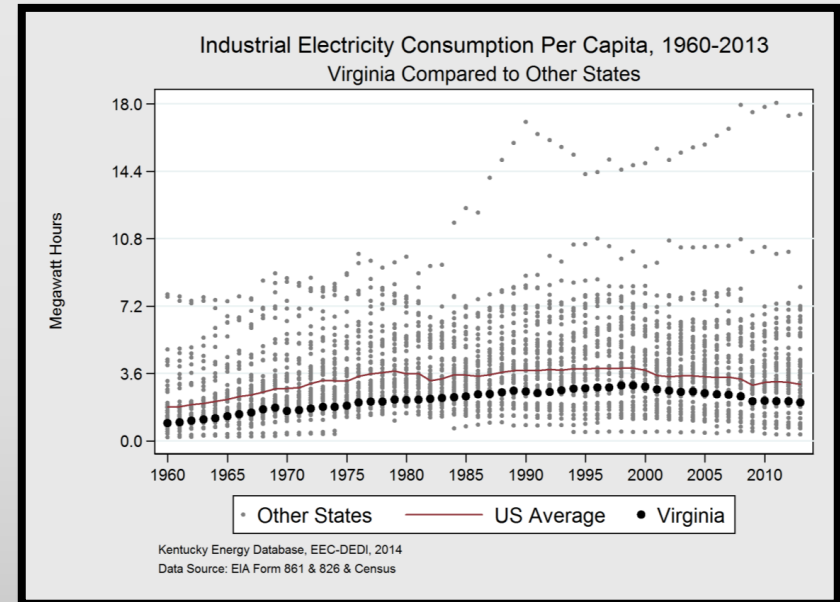
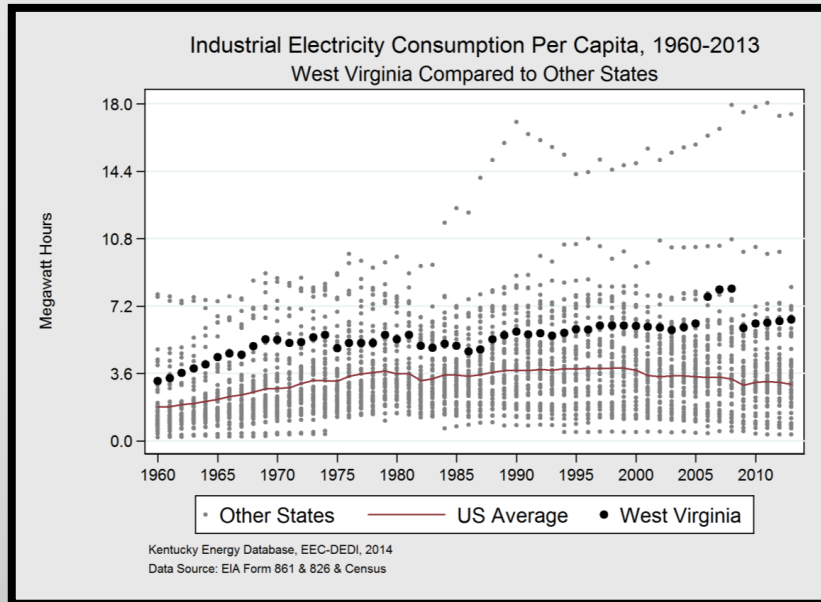
Industrial Electricity Use Per Capita 1960 – 2013



West Virginia & Virginia

Electricity Consumption Per Capita –
1960-2013: West Virginia

Electricity Consumption Per Capita –
1960-2013: Virginia



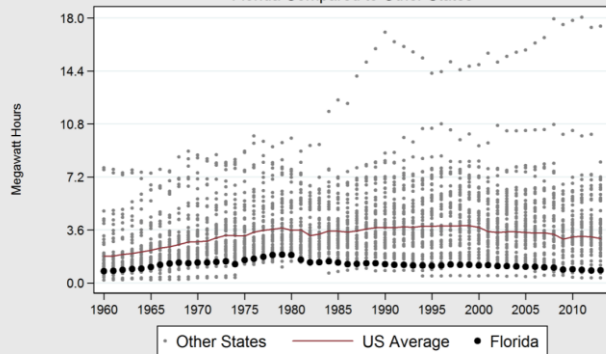
Florida Consumption Per Capita (1960-2013)



Industrial, Commercial, Residential

Industrial

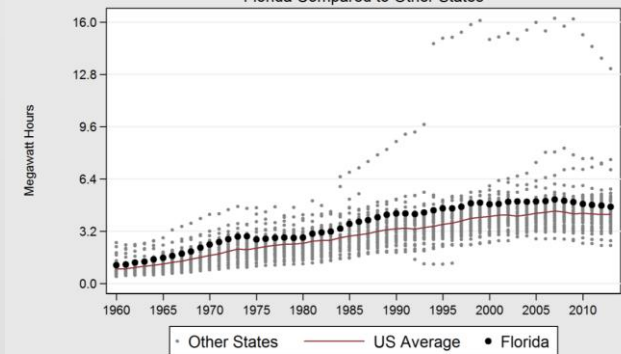
Industrial Electricity Consumption Per Capita, 1960-2013
Florida Compared to Other States



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

Commercial

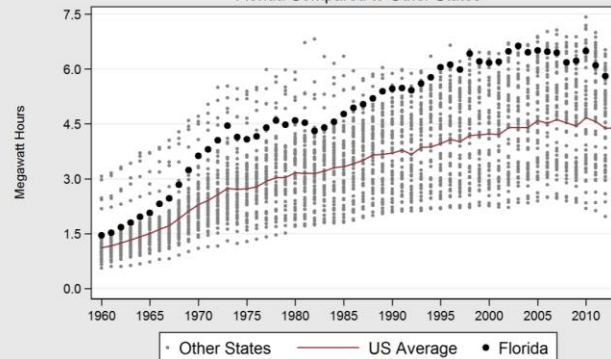
Commercial Electricity Consumption Per Capita, 1960-2013
Florida Compared to Other States



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

Residential

Residential Electricity Consumption Per Capita, 1960-2013
Florida Compared to Other States



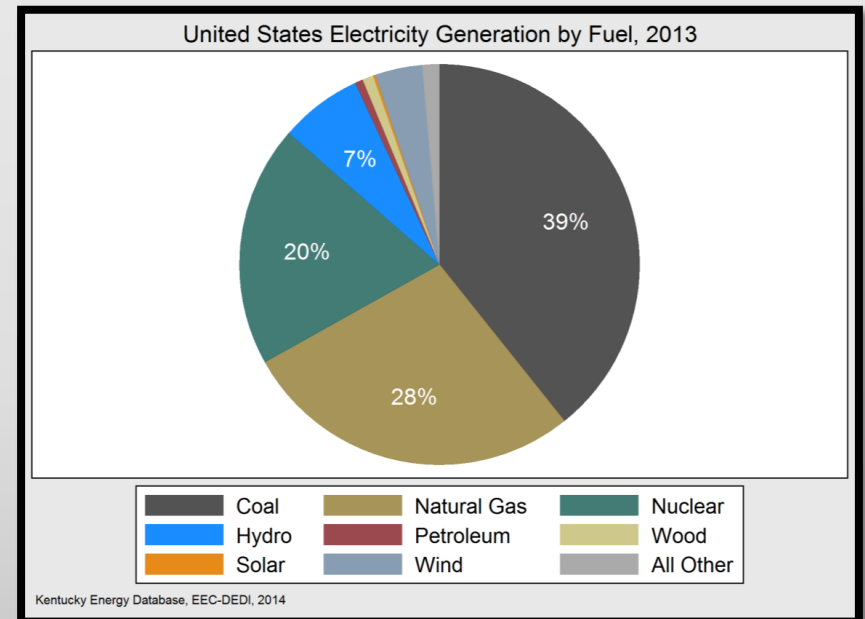
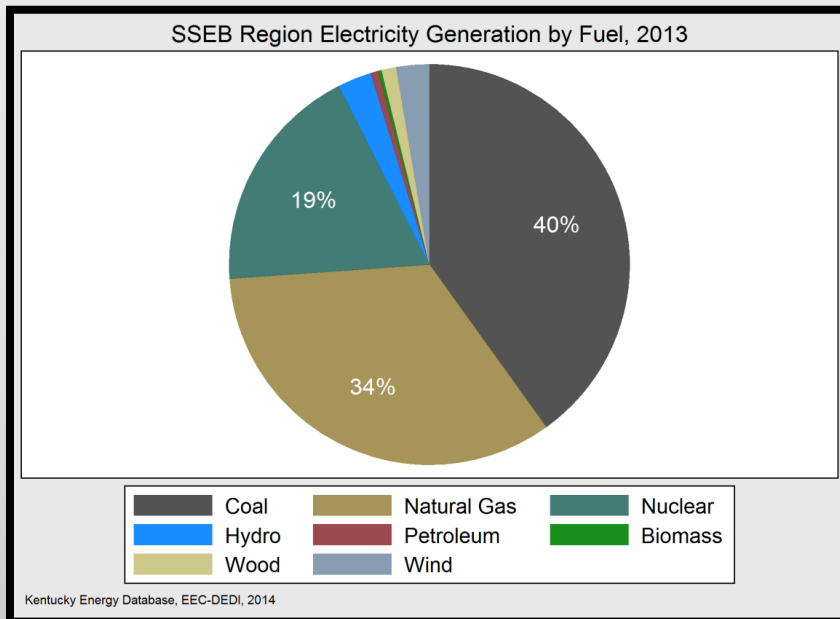
Kentucky Energy Database, EEC-DEDI, 2014
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Electricity Generation – SSEB & U.S.



SSEB Region Electricity Generation by Fuel, 2013

United States Electricity Generation by Fuel, 2013

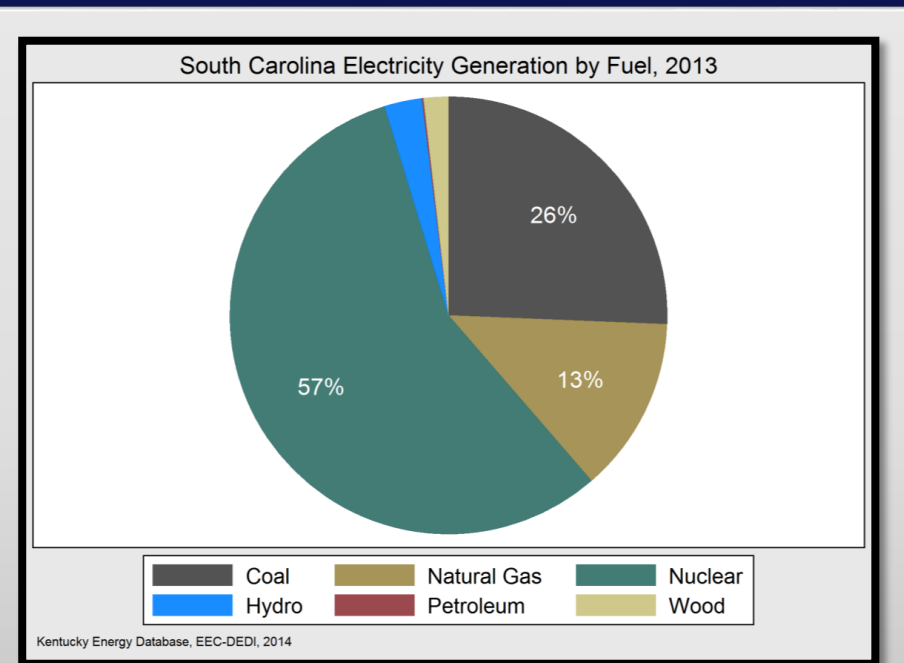
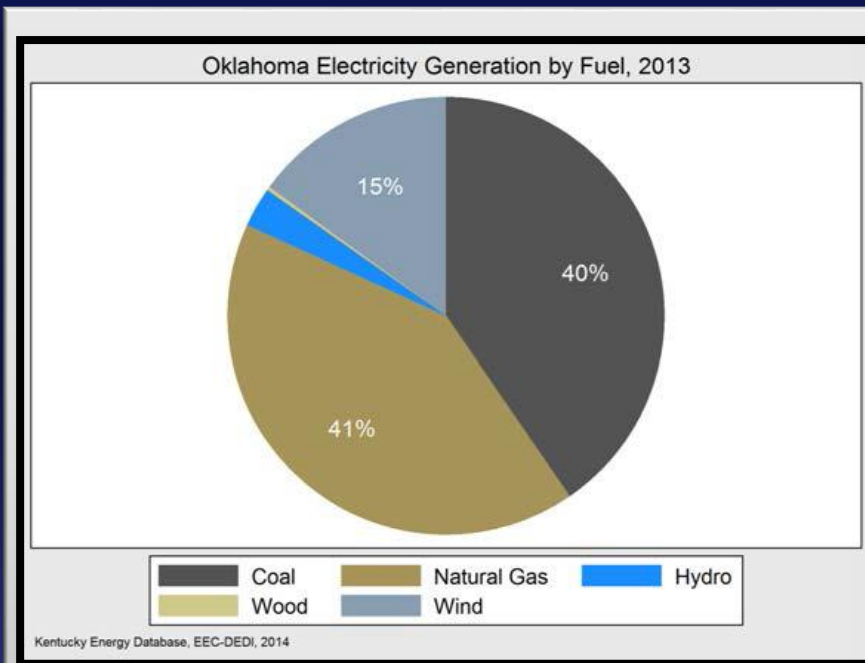


Electricity Generation – Oklahoma & South Carolina



Oklahoma Electricity Generation by Fuel, 2013

South Carolina Electricity Generation by Fuel, 2013



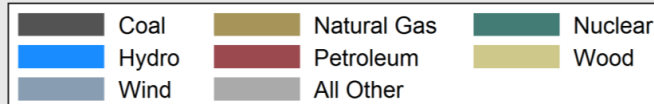
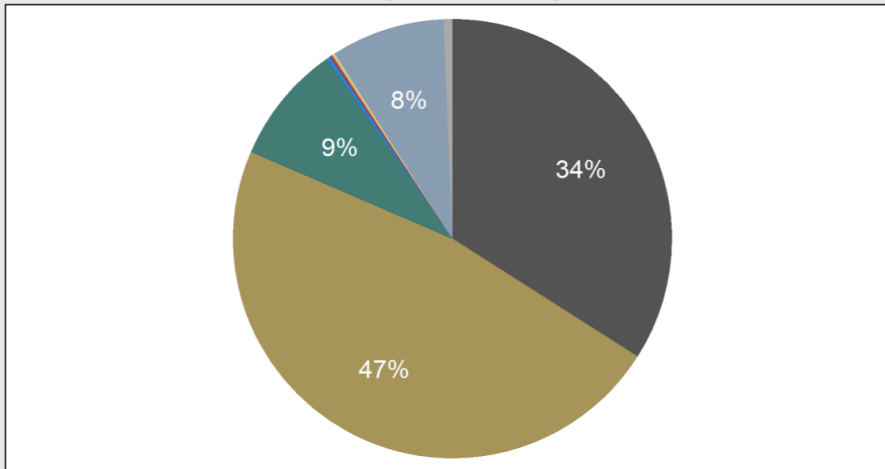
Electricity Generation – Texas & Arkansas



Texas Electricity Generation by Fuel, 2013

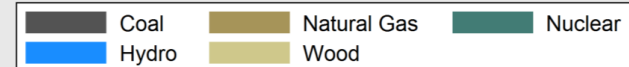
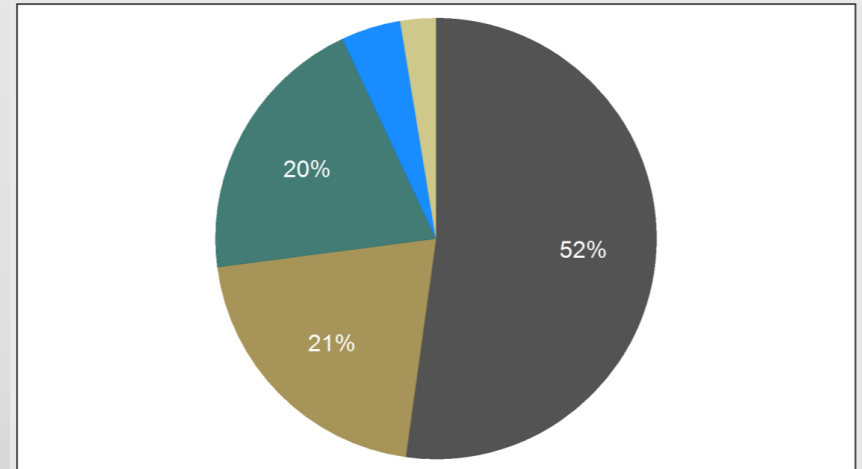
Arkansas Electricity Generation by Fuel, 2013

Texas Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

Arkansas Electricity Generation by Fuel, 2013



Kentucky Energy Database, EEC-DEDI, 2014

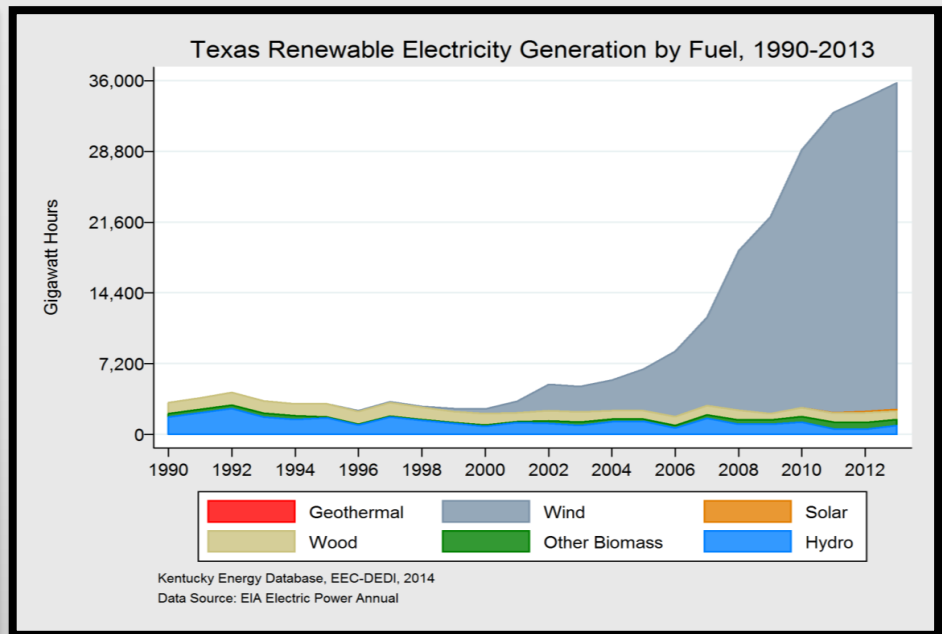
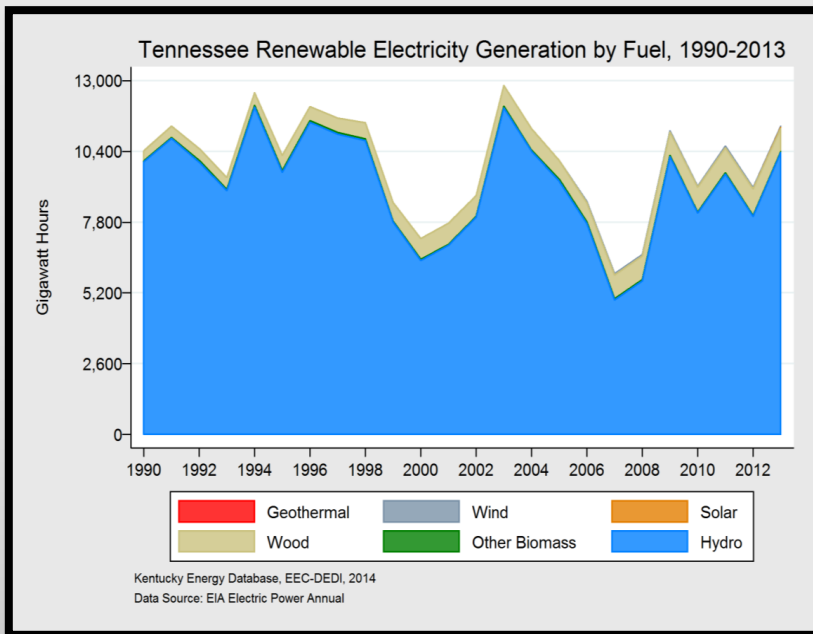
Renewable Electricity Generation 1990 – 2013



Tennessee & Texas

Tennessee Renewable Electricity Generation by Fuel, 1990-2013

Texas Renewable Electricity Generation by Fuel, 1990-2013



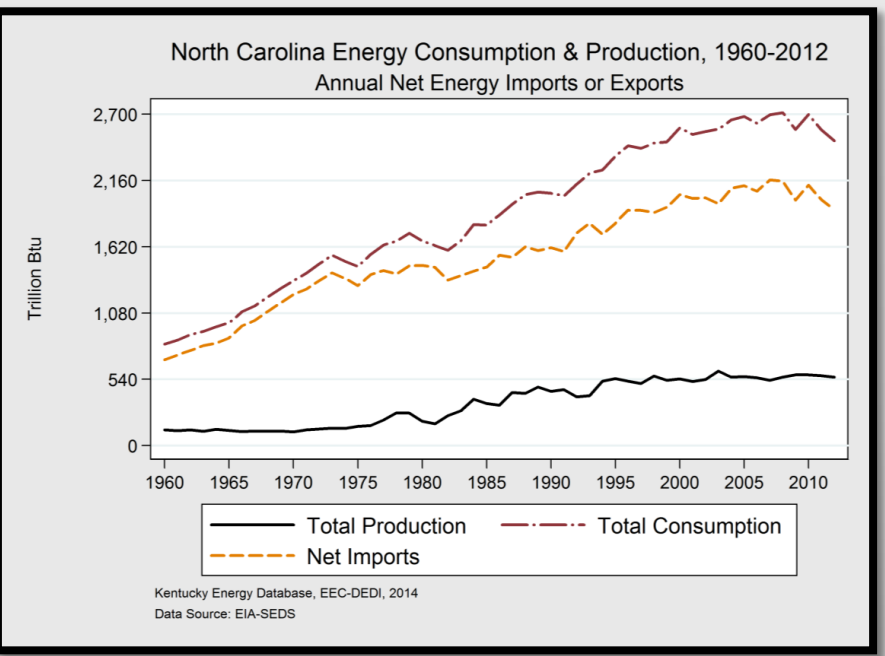
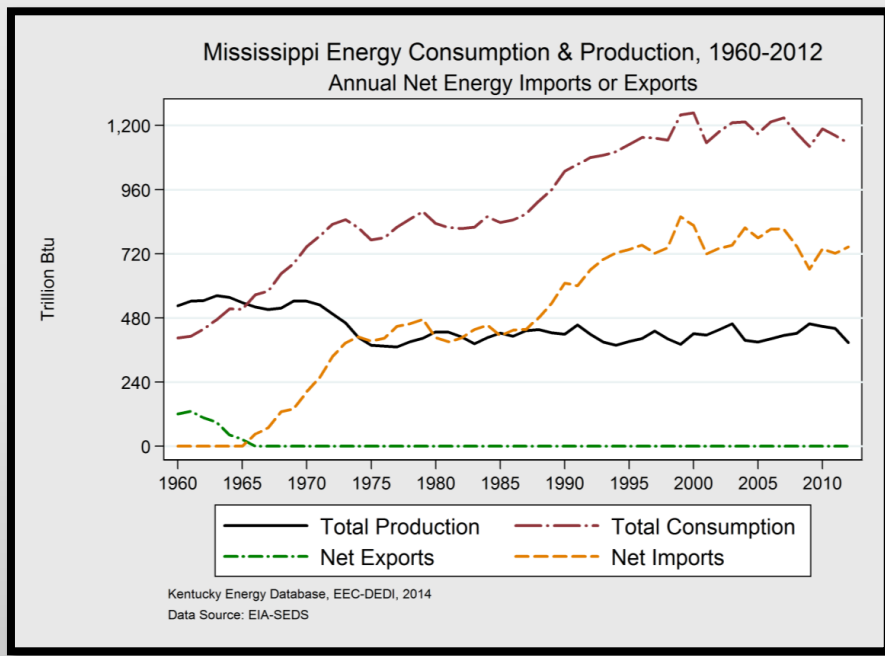
Historical Net Energy Imports or Exports (1960 – 2012)



Mississippi & North Carolina

Mississippi Energy Consumption & Production, 1960-2012

North Carolina Energy Consumption & Production, 1960-2012



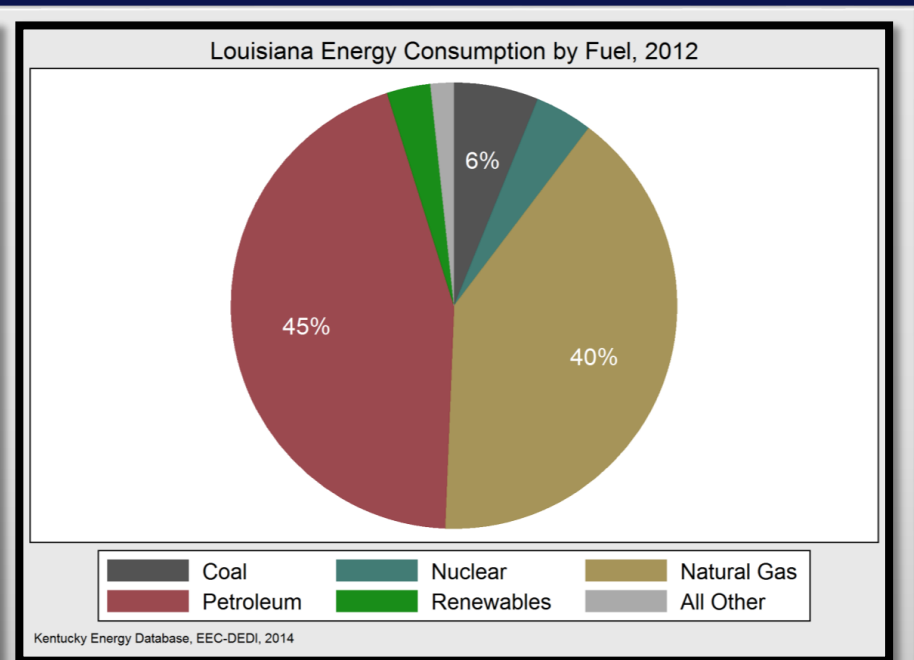
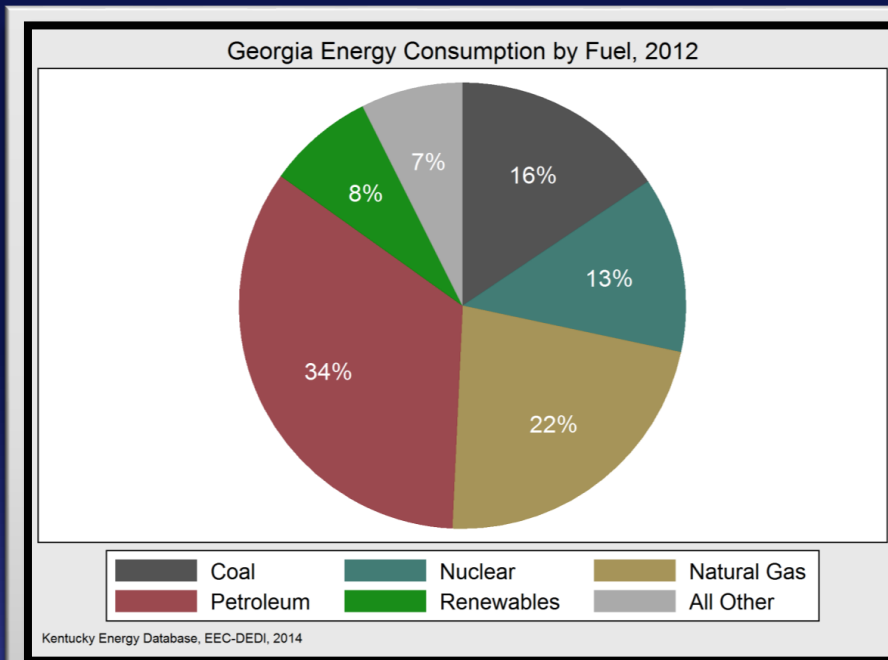
Energy Consumption 2012

Georgia & Louisiana



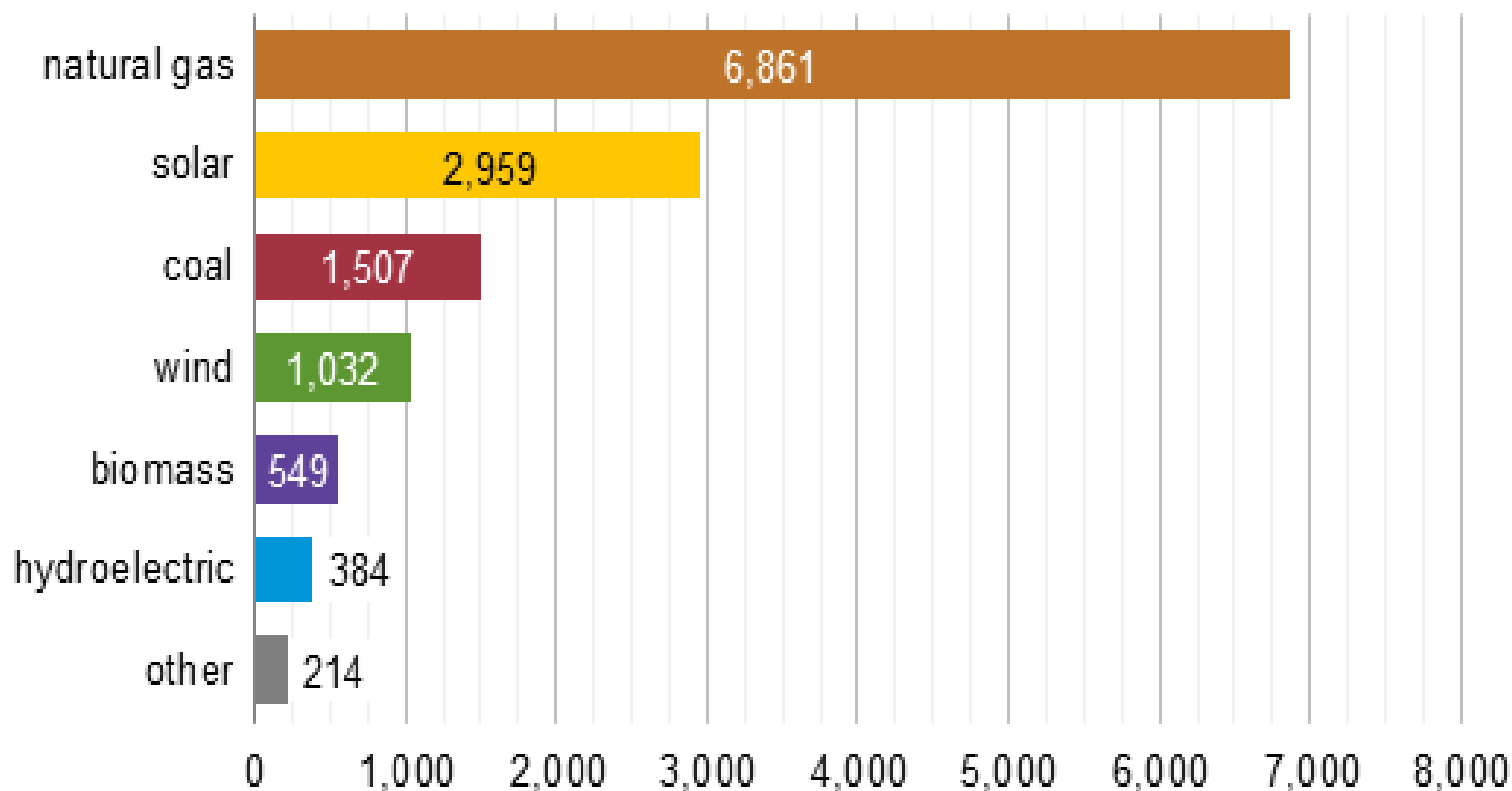
Georgia Energy Consumption by Fuel, 2012

Louisiana Energy Consumption by Fuel, 2012



U.S. Power Plant Additions 2013

U.S. power plant capacity additions in 2013
megawatts (MW)





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