Energy in the South – Fueling the Nation's Economy

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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.

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

<table>
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<tr>
<th>Sector</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Residential</td>
<td>42%</td>
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<tr>
<td>Commercial</td>
<td>38%</td>
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<td>Industrial</td>
<td>20%</td>
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Florida Electricity Consumption by Sector, 2013

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>51%</td>
</tr>
<tr>
<td>Commercial</td>
<td>41%</td>
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<tr>
<td>Industrial</td>
<td>8%</td>
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Electricity Consumption Per Capita – 1960 – 2013: Alabama & 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

Kentucky Energy Database, EEC-DED, 2014
Data Source: EIA Form 861 & 822 & Census
Florida Consumption Per Capita (1960-2013)
Industrial, Commercial, Residential
Electricity Generation – SSEB & U.S.

SSEB Region Electricity Generation by Fuel, 2013

United States Electricity Generation by Fuel, 2013

![SSEB Region Electricity Generation by Fuel, 2013](image1)

![United States Electricity Generation by Fuel, 2013](image2)
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
Renewable Electricity Generation
1990 – 2013
Tennessee & Texas

Tennessee Renewable Electricity Generation by Fuel, 1990-2013

Texas Renewable Electricity Generation by Fuel, 1990-2013

Kentucky Energy Database, EEC-DEDI, 2014
Data Source: EIA Electric Power Annual
Historical Net Energy Imports or Exports (1960 – 2012)
Mississippi & North Carolina

Mississippi Energy Consumption & Production, 1960-2012
North Carolina Energy Consumption & Production, 1960-2012

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

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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)

- natural gas: 6,861
- solar: 2,959
- coal: 1,507
- wind: 1,032
- biomass: 549
- hydroelectric: 384
- other: 214

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