Electric utility service has three components: generation, transmission, and distribution.
Natural gas utility service has transmission and distribution components.
Differences among states

• Are utilities vertically integrated (do they own power plants)?
• What is the current rate environment?
• What is the current fuel mix? What regulatory challenges are there to this fuel mix?
• How robust is the state’s natural gas pipeline capacity?
• What are the state’s most cost effective renewable energy options?
Electric Production by Fuel Type*

**2007**
- Coal: 41%
- Nuclear: 51%
- Natural Gas: 2%
- Renewables/Other: 1%
- Oil: 5%

**2013**
- Coal: 41%
- Nuclear: 37%
- Natural Gas: 20%
- Renewables/Other: 2%

**2020~ (projected)**
- Coal: 31%
- Nuclear: 27%
- Natural Gas: 39%
- Renewables/Other: 3%

* Electric Production by fuel proportions exclude non-utility generation (NUG) under contract and pumping. 

Dominion industrial rates: lower than statewide averages in any CNBC “Top 10 for Business” state (cents per kilowatt hour)

Dominion’s 2008 rate was 6.2 cents/kWh

CNBC rankings as of June 2014 shown in red. Virginia was tied for eighth place.

Source: EEI “Typical Bills and Average Rates Reports: Summer 2014” for rates effective July 2014 (based on 1,000 kW demand, 650,000 kWh monthly usage)
DVP: Company information for rates effective September 1, 2014
Dominion Virginia Power residential rates are second lowest in the Commonwealth

Source: State Corporation Commission survey of electric rates as of July 1, 2014
* DVP rates effective September 1, 2014
Residential rates vary widely among states

Dominion Virginia Power bill: Rates effective September 1, 2014 shown as cents/kilowatt hour.
Dominion is among the lowest for CO2 emissions for the largest U.S. power producers.

Dominion Virginia Power is closing or converting seven coal plants

**Conversions:**
- Altavista (coal to biomass) – 51MW
- Bremo (coal to natural gas) – 227MW
- Hopewell (coal to biomass) – 51MW
- Southampton (coal to biomass) – 51MW

**Closures:**
- North Branch (WV) – 74 MW
- Chesapeake Energy Center – 595MW
- Yorktown, Units 1-2 – 323MW
Levelized Cost of Energy from EIA 2014 Report

EIA - Estimated Levelized Cost of New Generation Resources (COD 2019)

Based on the 2014 EIA Annual Energy Outlook. All numbers are 2012 dollars.
### Generation resources in perspective

<table>
<thead>
<tr>
<th>Generation Type</th>
<th>Capacity Factor</th>
<th>Carbon-free?</th>
<th>Dispatchable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar PV</td>
<td>25%</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Onshore Wind</td>
<td>34%</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Offshore Wind</td>
<td>37%</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Biomass</td>
<td>83%</td>
<td>YES*</td>
<td>YES</td>
</tr>
<tr>
<td>Advanced Combine Cycle</td>
<td>87%</td>
<td>NO (1/2 carbon of coal)</td>
<td>YES</td>
</tr>
<tr>
<td>Natural Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Nuclear</td>
<td>90%</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

*EPA has viewed biomass as carbon free but is reviewing this determination

Source: U.S. Energy Information Administration
Clean Power Plan goal varies among states (lbs/mWh)

U.S. has growing domestic natural gas production

*(trillion cubic feet)*

“Polar Vortex” Winter of 2014: Pipeline capacity was a key constraint

(Average natural gas prices during January 2014)

Henry Hub: Energy Information Administration, Henry Hub Natural Gas Spot Price.
prices pulled from ICE: https://www.theice.com/marketdata/reports/ReportCenter.shtml?reportId=76#report/76
Weather (Low Temperature °F) from WSI Trader:
http://www.wsitrader.com/Historical/Queries/HistoricalDailyObserved#HistoricalDailyObserved/?r=0&_suid=139040361553307459083507692854