Dear Board Members, Associate Members and Colleagues:

The Southern States Energy Board (SSEB) is pleased to present this fifth edition of Southern Regional Energy Profiles, which provides an overview of energy trends in the South and compares the region’s energy profiles with the United States as a whole. This document is a cooperative venture between SSEB and Kentucky’s Office of Energy Policy within the Energy and Environment Cabinet.

Over the past decade, SSEB members have continued to request information regarding their state’s energy resources, production, consumption, generation, conservation, and exports. This document is intended as a tool that can be used in presentations to constituents, civic groups, legislative committees, regulators, and industry stakeholders. As with previous editions, this report serves as an informational resource and 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. Affordable, reliable energy is vital to the region’s economy. Fortunately for our members, given the diversity of resources and energy production, we can showcase relative energy stability overall, even as certain trends have an impact on how energy is produced or used. For example, when the first edition of this report was published in 2012, coal accounted for 44 percent of the region’s electricity generation. Today, coal-fueled generation accounts for 23 percent of the region’s electricity generation, with natural gas, wind, and solar primarily making up the difference. Across our member states and territories, economic and technological forces as well as many states’ policy objectives are creating significant growth in various energy sectors.

Multiple factors have caused 2020 to be a unique year with the most obvious one being the COVID-19 pandemic. The pandemic has caused much volatility in the energy sector, especially with respect to petroleum prices. Unfortunately, comprehensive and verified data for 2020 does not exist yet, so analyzing the fallout caused by the pandemic in the energy sector must wait until the next edition of these Profiles is published. The effects of the pandemic likely will be felt for years to come, and we will be among the first to analyze the data as it is made available.

We have made some additions and formatting changes to this year’s Profiles. Rather than grouping energy data solely by generation source and historical comparisons, this document instead groups data points by state after providing a general overview of the region. It is our hope that this formatting change makes it easier for our readers to quickly deduce a more complete picture of each state and territory’s specific energy sources, trends, and challenges while focusing on the region as a whole.

We would like to recognize the public sources used in aggregating data for this report. 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 all have provided data used in the report. This document compares energy resources, consumption, and sources; electricity generation, consumption, and emissions; electricity prices; and energy exports between all SSEB member states, the SSEB region, and the United States. We welcome your interest and appreciate your review and response to the 2020 edition of the Southern Regional Energy Profiles.

Kenneth J. Nemeth  
Secretary and Executive Director
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.

Membership Benefits

- SSEB obtains funding for state, territory, and regional projects at the request of its membership, committees, and working task forces. This funding provided to our states and territories typically exceeds the appropriations paid to SSEB by its members.
- SSEB negotiates collective funding for member states and territories on programs that support energy and environmental research, education and training, technology development, regulatory reform, and other key issue areas.
- SSEB funds the direct participation of state and territory officials in projects and activities to enable continuing work on new programs, trends, and technologies while decreasing the impact of travel on member state/territory budgets.
- SSEB works directly with businesses and industries on specific economic development projects that create and sustain jobs and expand the economy.
- SSEB provides regional forums, summits, conferences, and workshops in member states and territories that stimulate and promote economic development while facilitating peer and professional development.
- SSEB conducts training and professional development activities that address energy and environmental programs and technologies.
- SSEB conducts research and recommends solutions to specific issues at the request of its members.
- SSEB supports improved energy efficient technologies that pollute less and contribute to a clean global environment while protecting indigenous natural resources for future generations.
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Executive Summary

The Southern States Energy Board (SSEB) is pleased to offer the 5th edition of these Southern Regional Energy Profiles to provide a general overview of energy consumption within the SSEB region. The Profiles also should 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 Office of Energy Policy (OEP). 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 always 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. Natural gas generation accounts for the majority of electricity production, followed by coal and nuclear. Electricity produced from coal in the SSEB region, once the largest source of fuel in the region, has decreased from 33 percent in 2015 to 22 percent in 2019. Natural gas, meanwhile, has gone from 33 percent of generation in 2015 to 47 percent of generation in 2019, far higher than national natural gas generation which currently accounts for 39 percent of total generation. Electricity generated from renewable energy resources increased by 4.3 percent in the SSEB region in 2019. Solar power is the fastest growing renewable technology regionally, generating 21 terawatt-hours in 2019. Hydroelectric generation, which varies from year to year due to rainfall and temperature, is now the second largest source of renewable electricity overall at 23 percent of total generation.

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 (SO$_2$) emissions from electricity generation have been reduced by 90.7 percent since 1995. Despite a substantial increase in electricity consumption over the same period, carbon dioxide (CO$_2$) emissions in the SSEB region have decreased by 28.3 percent.

Stable Electricity Prices
Electricity prices in the SSEB region in 2019 were 12 percent lower than the national average and have remained approximately stable over the past decade (in real terms). Industrial and residential prices averaged 5.20 and 9.68 cents/kilowatt-hour while commercial rates were 9.09 cents in 2019.

Energy Consumption
The sixteen states in the SSEB region consumed 46 percent of the total energy used in the United States in the year 2019. Energy consumption per capita and per unit of GDP is higher than the national average but has remained stable in recent years. Petroleum, used primarily for transportation fuels such as diesel and motor gasoline, continues to be the region's primary energy source, accounting for 37 percent of all energy consumed. Natural gas is the second largest energy resource, supplying 31 percent of energy demand in 2019, and is used primarily for industrial processes, electricity generation and home heating. Coal is the region's third largest energy resource, supplying 13 percent of energy requirements in 2019, 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 8 percent of the energy consumed in the region in 2019.
Overall electricity generation has declined in the SSEB region—this trend is occurring nationally, as well. Declining electricity generation reflects a number of factors, including increased energy efficiency, increased adoption of on-site energy resources such as roof-top solar, and shifting patterns in industrial usage. Solar power was the fastest growing source of electricity generation in the region.
### SSEB Operating Power Plants by Summer Capacity and Fuel Group

<table>
<thead>
<tr>
<th>State</th>
<th>Coal</th>
<th>Hydro</th>
<th>Natural Gas</th>
<th>Nuclear</th>
<th>Other</th>
<th>Other Biomass</th>
<th>Petroleum</th>
<th>Pumped Storage</th>
<th>Solar</th>
<th>Wind</th>
<th>Wood</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td>5,284</td>
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<td>14,281</td>
<td>5,525</td>
<td>21</td>
<td>6</td>
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<td>-</td>
<td>194</td>
<td>-</td>
<td>612</td>
<td>29,258</td>
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<tr>
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<td>5,146</td>
<td>1,266</td>
<td>6,102</td>
<td>1,818</td>
<td>12</td>
<td>18</td>
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<td>28</td>
<td>112</td>
<td>-</td>
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<td>42,197</td>
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<td>721</td>
<td>3,356</td>
<td>-</td>
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<td>-</td>
<td>463</td>
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<td>60</td>
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<td>6,986</td>
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<td>-</td>
<td>22</td>
<td>12</td>
<td>-</td>
<td>26</td>
<td>-</td>
<td>52</td>
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<td>192</td>
<td>17,886</td>
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<td>925</td>
<td>14</td>
<td>918</td>
<td>-</td>
<td>1</td>
<td>-</td>
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<td>138</td>
<td>1,256</td>
<td>-</td>
<td>328</td>
<td>190</td>
<td>3</td>
<td>14,406</td>
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<tr>
<td>Missouri</td>
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<td>549</td>
<td>6,055</td>
<td>1,190</td>
<td>2</td>
<td>14</td>
<td>1,106</td>
<td>657</td>
<td>62</td>
<td>954</td>
<td>-</td>
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<td>Mississippi</td>
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<td>-</td>
<td>11,194</td>
<td>1,401</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>-</td>
<td>218</td>
<td>-</td>
<td>301</td>
<td>14,570</td>
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<td>North Carolina</td>
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<td>11,566</td>
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<td>55</td>
<td>99</td>
<td>502</td>
<td>86</td>
<td>4,581</td>
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<td>864</td>
<td>14,650</td>
<td>-</td>
<td>10</td>
<td>18</td>
<td>74</td>
<td>258</td>
<td>31</td>
<td>8,171</td>
<td>58</td>
<td>27,379</td>
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<tr>
<td>Puerto Rico</td>
<td>454</td>
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<td>1,346</td>
<td>-</td>
<td>31</td>
<td>2</td>
<td>3,607</td>
<td>-</td>
<td>155</td>
<td>99</td>
<td>-</td>
<td>5,791</td>
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<td>South Carolina</td>
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<td>6,760</td>
<td>6,576</td>
<td>4</td>
<td>46</td>
<td>235</td>
<td>2,716</td>
<td>735</td>
<td>-</td>
<td>508</td>
<td>23,674</td>
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<td>2,617</td>
<td>6,354</td>
<td>4,523</td>
<td>-</td>
<td>14</td>
<td>43</td>
<td>1,616</td>
<td>182</td>
<td>29</td>
<td>182</td>
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<tr>
<td>Texas</td>
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<td>670</td>
<td>68,976</td>
<td>4,960</td>
<td>780</td>
<td>89</td>
<td>108</td>
<td>-</td>
<td>2,688</td>
<td>28,669</td>
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<td>126,124</td>
</tr>
<tr>
<td>Virginia</td>
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<td>866</td>
<td>13,699</td>
<td>3,568</td>
<td>96</td>
<td>309</td>
<td>2,341</td>
<td>3,241</td>
<td>560</td>
<td>-</td>
<td>496</td>
<td>28,055</td>
</tr>
<tr>
<td>West Virginia</td>
<td>12,518</td>
<td>341</td>
<td>1,209</td>
<td>-</td>
<td>50</td>
<td>3</td>
<td>11</td>
<td>-</td>
<td>686</td>
<td>-</td>
<td>14,818</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>113,834</td>
<td>17,895</td>
<td>251,945</td>
<td>46,238</td>
<td>2,326</td>
<td>1,578</td>
<td>14,657</td>
<td>10,466</td>
<td>14,294</td>
<td>39,006</td>
<td>5,106</td>
<td>517,345</td>
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<tr>
<td>United States Total</td>
<td>223,199</td>
<td>79,886</td>
<td>478,471</td>
<td>97,103</td>
<td>5,388</td>
<td>4,769</td>
<td>35,360</td>
<td>22,882</td>
<td>39,351</td>
<td>106,018</td>
<td>8,403</td>
<td>1,103,386</td>
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</tbody>
</table>

Source: EIA Preliminary Monthly Electric Generator Inventory
Renewable electricity generation in the United States continues to grow as costs decline and also as a result of state and federal policies supporting renewable energy development. As with the SSEB region, wind power made the largest increase in 2019, and wood products generation declined as a percentage of overall renewable generation.
## SSEB Region

<table>
<thead>
<tr>
<th>State</th>
<th>Solar (GWh)</th>
<th>Hydro (GWh)</th>
<th>Biomass (GWh)</th>
<th>Pumped Storage (GWh)</th>
<th>Wind (GWh)</th>
<th>Wood (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>390</td>
<td>10,839</td>
<td>34</td>
<td>-</td>
<td>-</td>
<td>3,428</td>
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<tr>
<td>Arkansas</td>
<td>208</td>
<td>2,719</td>
<td>78</td>
<td>51</td>
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<td>1,276</td>
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<tr>
<td>Florida</td>
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<td>220</td>
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<td>2,333</td>
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<td>Georgia</td>
<td>2,070</td>
<td>3,485</td>
<td>326</td>
<td>-599</td>
<td>-</td>
<td>2,333</td>
</tr>
<tr>
<td>Kentucky</td>
<td>39</td>
<td>4,007</td>
<td>92</td>
<td>-</td>
<td>-</td>
<td>343</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1</td>
<td>1,147</td>
<td>76</td>
<td>-</td>
<td>-</td>
<td>2,131</td>
</tr>
<tr>
<td>Maryland</td>
<td>506</td>
<td>2,205</td>
<td>344</td>
<td>-</td>
<td>577</td>
<td>60</td>
</tr>
<tr>
<td>Missouri</td>
<td>106</td>
<td>764</td>
<td>64</td>
<td>337</td>
<td>2,872</td>
<td>44</td>
</tr>
<tr>
<td>Mississippi</td>
<td>321</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>1,406</td>
</tr>
<tr>
<td>North Carolina</td>
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<td>571</td>
<td>-</td>
<td>523</td>
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</tr>
<tr>
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<td>-104</td>
<td>28,883</td>
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</tr>
<tr>
<td>South Carolina</td>
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<td>-</td>
<td>2,275</td>
</tr>
<tr>
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</tr>
<tr>
<td>Texas</td>
<td>4,321</td>
<td>998</td>
<td>497</td>
<td>-</td>
<td>84,429</td>
<td>832</td>
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<td>Virginia</td>
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<td>-</td>
<td>2,729</td>
</tr>
<tr>
<td>West Virginia</td>
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<td>1,776</td>
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<td>-1,737</td>
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<td>-</td>
</tr>
<tr>
<td><strong>SSEB Total</strong></td>
<td><strong>21,201</strong></td>
<td><strong>50,434</strong></td>
<td><strong>5,633</strong></td>
<td><strong>-2,944</strong></td>
<td><strong>119,062</strong></td>
<td><strong>24,724</strong></td>
</tr>
</tbody>
</table>
Electricity consumption across the SSEB region declined by almost 2.6 percent in 2019, with declines in all sectors. Industrial consumption declined the most at almost five percent. While there are a number of reasons for the overall decline in energy consumption, more energy efficient products and buildings are the primary drivers. States within the region show much more variability in sector specific consumption, especially in the industrial sector.

As with the region, overall electricity consumption declined in 2019, and all sectors consumed less than in previous years. Since the mid-1980s, residential demand has accounted for the largest proportion of electricity consumption in both the SSEB region and the United States.
For the region as a whole, emissions from the electric power sector continue to decrease compared with 2005. Overall, most states in the region have had a decline in emissions since 2015. The region has had a drop in sulfur dioxide emissions of 32 percent since 2015.

Nationally, power sector emissions reductions have continued at a slightly higher rate than those for the SSEB region. Sulfur dioxide emissions have declined 39 percent since 2015. Nationally, emissions have declined substantially since 2005 and continue to drop.
SSEB Region

Carbon Dioxide Emissions, 2019

CO₂ Intensity of Electric Power (Lbs. per MWh), 2019

Southern States Energy Board
Electricity price is measured in terms of cents per kilowatt-hour (kWh) 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.

A number of factors can affect the price of electricity. In many utility territories, declining load has had an impact on prices as fixed utility costs are made up by a smaller share of sales. Other factors can include utility costs incurred to comply with environmental regulations (capital expenditures on pollution control technology at a power plant) and increased costs of providing service (inflation).

The SSEB region’s average prices across all sectors are lower than the average real prices for all sectors. The gap between total national average real prices and total SSEB region prices has remained relatively unchanged since 2015 from 1.15 cents/kWh to 1.14 cents/kWh.

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).
The relatively energy-intensive industrial and manufacturing processes in the SSEB region continue to consume more energy than other economic sectors. Energy consumption is not to be confused with electricity consumption. So, note that while electricity demand decreased in the industrial sector, energy consumption actually increased. Energy consumption refers to transportation fuels, petroleum products, natural gas, and renewables. Electricity is just one element of energy consumption.

Total energy consumption in the United States grew by about 3.6 percent in 2019, with the residential sector accounting for most of the increase. As with the SSEB region, residential consumption experienced the largest increase. Although energy demand by industrial consumers nationally remains higher than other economic sectors, it is proportionally less than in the SSEB region.
### Planned Fossil Fuel Retirements by Nameplate Capacity for SSEB States (2020-2058)

<table>
<thead>
<tr>
<th>State</th>
<th>Coal (MW)</th>
<th>Natural Gas (MW)</th>
<th>Petroleum (MW)</th>
<th>Grand Total (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>538</td>
<td></td>
<td></td>
<td>538</td>
</tr>
<tr>
<td>Arkansas</td>
<td>553</td>
<td></td>
<td></td>
<td>553</td>
</tr>
<tr>
<td>Florida</td>
<td>841</td>
<td>123</td>
<td>1,760</td>
<td>2,724</td>
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<tr>
<td>Kentucky</td>
<td>445</td>
<td></td>
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<td>445</td>
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<tr>
<td>Louisiana</td>
<td>3,423</td>
<td></td>
<td></td>
<td>3,423</td>
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<tr>
<td>Maryland</td>
<td>136</td>
<td>194</td>
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<td>330</td>
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<tr>
<td>Missouri</td>
<td>648</td>
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<td>1,472</td>
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<td>Mississippi</td>
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<tr>
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<tr>
<td>Texas</td>
<td>8,454</td>
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<td>Virginia</td>
<td>115</td>
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<td>882</td>
<td>997</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>12,726</strong></td>
<td><strong>16,350</strong></td>
<td><strong>2,646</strong></td>
<td><strong>31,722</strong></td>
</tr>
</tbody>
</table>

Source: EIA Preliminary Monthly Electric Generator Inventory
## Planned Fossil Fuel Retirements by Year and Fuel Group for SSEB States (2020-2058)

<table>
<thead>
<tr>
<th>Announced Retirement Year</th>
<th>Coal (MW)</th>
<th>Natural Gas (MW)</th>
<th>Petroleum (MW)</th>
<th>Total (MW)</th>
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<tr>
<td>2020</td>
<td>2,235</td>
<td>490</td>
<td>36</td>
<td>2,761</td>
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<tr>
<td>2021</td>
<td>560</td>
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<td>884</td>
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<td>2022</td>
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<td>1,727</td>
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<td>2037</td>
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<td>2045</td>
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<td>2058</td>
<td></td>
<td>183</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>12,726</strong></td>
<td><strong>16,350</strong></td>
<td><strong>2,646</strong></td>
<td><strong>31,722</strong></td>
</tr>
</tbody>
</table>

Source: EIA Preliminary Monthly Electric Generator Inventory
Natural gas infrastructure refers to the pipelines used to gather, transport, and distribute natural gas to the facilities used to compress, store, and process the natural gas. The U.S. natural gas industry has experienced unprecedented growth resulting in increased infrastructure demands. Production has shifted from traditional regions, such as the Gulf of Mexico, toward onshore shale gas regions. Natural gas infrastructure data is sourced from the Department of Homeland Security’s Homeland Infrastructure Foundation-Level Data. In addition, the U.S. Energy Information Administration offers the interactive U.S. Energy Mapping System.
SSEB Region

Alternative Fuel Stations by Fuel Type

Fuel Type:
- Liquified Natural Gas
- Biodiesel
- Compressed Natural Gas
- Ethanol (E85)
- Liquid Petroleum Gas
- Electricity

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SSEB Region Energy Efficiency

There are a number of ways to measure the effects of energy efficiency programs—one common way is incremental savings. Incremental savings is defined as the energy savings from the stated year, excluding all savings from the start of an energy efficiency program.

### 2018 Incremental Savings (GWh)

<table>
<thead>
<tr>
<th>State</th>
<th>Commercial Savings (MWh)</th>
<th>Industrial Savings (MWh)</th>
<th>Residential Savings (MWh)</th>
<th>Total Savings (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>11,449</td>
<td>22,647</td>
<td>14,131</td>
<td>48,226</td>
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<tr>
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<td>150,065</td>
<td>67,648</td>
<td>106,455</td>
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<tr>
<td>Florida</td>
<td>201,717</td>
<td>3,201</td>
<td>135,990</td>
<td>340,908</td>
</tr>
<tr>
<td>Georgia</td>
<td>296,082</td>
<td>2,792</td>
<td>135,633</td>
<td>434,507</td>
</tr>
<tr>
<td>Kentucky</td>
<td>137,310</td>
<td>9,957</td>
<td>64,545</td>
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<tr>
<td>Louisiana</td>
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<td>496</td>
<td>39,444</td>
<td>78,374</td>
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<tr>
<td>Maryland</td>
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<td>4,633</td>
<td>390,244</td>
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<tr>
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<td>19,172</td>
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<tr>
<td>Oklahoma</td>
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<td>42,427</td>
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<tr>
<td>South Carolina</td>
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<td>5,673</td>
<td>267,700</td>
<td>441,615</td>
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<tr>
<td>Tennessee</td>
<td>70,783</td>
<td>53,098</td>
<td>22,614</td>
<td>146,495</td>
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<tr>
<td>Texas</td>
<td>394,354</td>
<td>13,805</td>
<td>286,676</td>
<td>694,834</td>
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<tr>
<td>Virginia</td>
<td>100,768</td>
<td>4,446</td>
<td>12,482</td>
<td>117,696</td>
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<td>West Virginia</td>
<td>34,492</td>
<td>5,468</td>
<td>28,075</td>
<td>68,035</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>2,806,180</strong></td>
<td><strong>276,071</strong></td>
<td><strong>2,679,725</strong></td>
<td><strong>5,761,972</strong></td>
</tr>
</tbody>
</table>
In demand-side management programs (DSM), energy efficiency measures are used to reduce electricity load and load during times of intense electricity. During these times of intense demand, electricity supplies can be constrained or expensive to produce, helping to save utilities and their customers money.
Alabama

Alabama is the second-largest hydroelectric power producer east of the Rocky Mountains, after New York. Nineteen hydroelectric dams provided almost 8 percent of the state’s electricity net generation in 2019, according to the Energy Information Administration (EIA).

In 2019, Mobile was the largest port of entry for U.S. coal imports by volume and the third-largest port for coal exports. About three-fourths of the coal mined in Alabama is exported.
Alabama

Alabama is the fifth-largest generator of electricity from nuclear power in the nation. The Browns Ferry nuclear power plant, with three reactors, is the second-largest U.S. nuclear electric generating facility after Arizona’s Palo Verde nuclear power plant. The state has about 4 percent of U.S. total wood pellet production capacity, including one wood pellet manufacturing plant that uses peanut hulls as feedstock.

Alabama is also the fifth-largest producer of electricity from biomass in the nation, and the state ranks third in timber acreage among the lower 48 states.
According to the U.S Energy Administration (EIA), Alabama’s electricity production exceeds its consumption, and about one-third of the electricity generated is delivered to neighboring states over high-voltage interstate transmission lines. Alabama’s residential sector and industrial sector each account for almost two-fifths of the electricity sold in the state.

Electricity consumption per capita in Alabama’s residential sector is the third-highest in the nation, due in part to the high demand for air conditioning in the hot summers and the widespread use of electricity for home heating in the winter. Nearly 7 out of 10 Alabama households heat with electricity.
Alabama

Alabama ranks among the top 15 states in energy consumption per capita, mainly because of high energy demand from the state’s industrial sector, which accounts for more than two-fifths of the state’s total energy consumption, according to the EIA. Alabama ranks among the 10 states with the highest industrial sector energy use. The manufacture of automobiles and other transportation equipment, chemicals, paper and wood products, as well as mining and energy extraction, agriculture, and forestry, are major contributors to Alabama’s economy. The transportation sector accounts for about one-fourth of the state’s total energy consumption.

Despite high energy use for cooling during the state’s hot, humid summers and the widespread use of electricity for home heating in the winter, the residential sector makes up less than one-fifth of energy use and the commercial sector accounts for about one-eighth of Alabama’s energy consumption.
Arkansas accounts for about 1.5 percent of U.S. total natural gas production, and, according to EIA data, it holds almost 1.5 percent of the nation’s natural gas reserves.

Arkansas is the largest rice-producing state and sees an increase in natural gas use by the industrial sector in the fall, when gas is used to dry the harvested crop.

Coal is the largest energy source for electricity generation in Arkansas, producing 38 percent of the in-state power supply in 2019.
Arkansas

Arkansas ranks among the 10 states with the lowest average retail price for electricity, and half the state’s households rely on electricity for heating.

Arkansas’s only nuclear power plant generated 22 percent of the state’s electricity in 2019 and is the second-largest power plant in the state by generation capacity.
Arkansas

The U.S Energy Administration (EIA) asserts that coal is the leading fuel used for generating electricity in Arkansas and accounts for almost two-fifths of the state’s net generation. Four of the 10 largest power plants in Arkansas are natural gas-fueled, and natural gas fueled about one-third of the state’s net generation in 2019. The state has one nuclear power plant—with two reactors—that provides about one-fifth of net generation. Almost all the rest of the state’s electricity net generation is from hydroelectric power and biomass-fueled generating facilities.

The residential sector accounts for the most electricity use in Arkansas, with about two-fifths of the state’s total power sales. Half of households in the state use electricity as their primary energy source for home heating. The industrial sector closely follows the residential, with more than one-third of the state’s electricity consumption. The commercial sector accounts for one-fourth of electricity use. Arkansas ranks among the 10 states with the lowest average retail electricity price for all sectors.
Arkansas consumes slightly more energy than it produces, and its per capita total energy consumption is usually in the top one-third of the states, according to EIA data. The industrial sector, which includes agriculture, consumes the most energy of any end-use sector in Arkansas, accounting for almost two-fifths of the state total. Soybeans, rice, and poultry are three of the state's most important agricultural products. Several energy-intensive industries also are major contributors to Arkansas' gross domestic product. They include natural gas and crude oil extraction; utilities; farming; food processing; and the manufacture of paper, fabricated metal products, machinery, primary metals, chemicals, and plastics.

Arkansas has a relatively mild climate, but changes in terrain and increases in elevation from the coastal plain to the state's northern highlands can cause weather extremes. Per capita energy use by the residential sector in Arkansas ranks near the national median for the states. About half of Arkansas households heat with electricity, almost two-fifths use natural gas, and most of the remaining homes use propane or wood for heating.
According to the EIA, Florida is the fourth-largest energy-consuming state, and it uses almost eight times as much energy as it produces.

Florida's robust tourism industry contributes to the state having the third-highest motor gasoline demand and sixth-highest jet fuel use in the nation.

Florida is the second-largest producer of electricity after Texas, and natural gas fueled about 70 percent of the Florida's electricity net generation in 2018.
Florida

Coal consumption in Florida’s electric power sector has fallen from about 29 million tons in 2008 to about 12 million tons in 2018, as natural gas-fueled power plants replaced older coal-fueled units.

In 2018, solar energy accounted for more than one-third of Florida’s renewable-sourced electricity generation, with solar power generation increasing from 429,000 megawatt-hours (MWh) in 2016 to about 2.9 million MWh in 2018.
Two nuclear power stations on Florida’s Atlantic Coast produced about 12 percent of the state’s net generation in 2018, according to the U.S. Energy Administration (EIA). A third nuclear power plant, on the state’s Gulf coast, ceased power generation in 2009. Two proposed nuclear reactors at an existing nuclear power station south of Miami have received licenses. However, those plans have been put on hold as the plant’s owner reconsiders the project because of increased construction costs and competition from other low-cost generating fuels.

Renewables, mainly biomass and solar energy, accounted for most of the state’s remaining net generation. Almost all of the state’s recent and planned additions of generating capacity are natural gas-fueled or solar powered.

Although Florida is one of the top producers of electricity in the nation, the state does not produce enough electricity to meet its power demand, and electricity demand in Florida is expected to increase in the years ahead along with the state’s population. The residential sector consumes just over half of the electricity used in Florida and the commercial sector accounts for most of the rest. More than 9 in 10 Florida households use electricity as their primary energy source for home heating and air conditioning.
Florida consumes almost eight times as much energy as it produces, as stated by EIA. Until the 20th century, the state was largely rural and sparsely populated, but Florida has been one of the fastest growing states in recent decades, in part because air conditioning became widely available and the state is popular with retirees and tourists. Florida is the third-most populated state and is the fourth-largest energy-consuming state. However, Florida ranks among the five lowest states in per capita energy consumption, mainly because of its large population and below-average industrial sector energy use.

The transportation sector, which includes the automobiles, trains, planes, and ships that bring the many tourists who visit Florida’s beaches and attractions, leads end-use energy consumption and accounts for almost two-fifths of the state’s total energy use. The residential sector, where more Florida homes—19 out of 20—use air conditioning than use heating systems, accounts for just over one-fourth of state energy consumption. Florida’s commercial sector accounts for nearly one-fourth of energy use and its industrial sector makes up more than one-tenth of state energy consumption.
The Elba Island liquefied natural gas import terminal, with capacity to receive 1.6 billion cubic feet of natural gas per day, is in the process of adding liquefaction and export facilities with a planned capacity of about 350 million cubic feet per day, according to the EIA.

Two new nuclear reactors under construction at the Vogtle nuclear power plant are the first reactors approved by the U.S. Nuclear Regulatory Commission in more than 30 years. The two reactors have planned startup dates in 2021 and 2022.
Georgia

Natural gas accounted for 41 percent of Georgia's net electricity generation in 2018, the state's four operating nuclear reactors accounted for 26 percent, coal for 25 percent, and renewable energy, including hydroelectric power, contributed 8 percent.

Georgia ranks second in the nation in densified biomass fuel manufacturing capacity and is a leading wood pellet exporter.

In 2018, Georgia ranked 9th in the nation in electricity net generation and 8th in retail sales of electricity. Because the state uses more electricity than it generates, Georgia receives additional electricity from other states.
Although Georgia is among the top 10 electricity-producing states, the state typically needs more electricity than it produces, according to the U.S Energy Administration (EIA). During the past decade, Georgia has acquired more than 10 percent of the electricity it needs each year from other states.

The residential sector, where more than half of the state’s households use electricity for heating and almost all homes have air conditioning, accounts for about two-fifths of electricity retail sales in Georgia. The commercial sector accounts for about one-third of sales and the industrial sector accounts for almost all the rest. A small amount of the electricity retail sales goes to the transportation sector. Georgia is one of the top states in the number of plug-in electric vehicles per capita.
Georgia is among the top 10 states in the nation in total energy consumption, but per capita energy consumption in the state is below the national average, the EIA states. Major interstate highways and the world’s busiest airport in Atlanta help make the transportation sector the state’s largest energy-consuming end-use sector. The industrial sector is the second-largest.

The state has several energy-intensive industries, including the manufacture of food, beverages, and tobacco products; chemicals; and paper, as well as agriculture and forestry. With the state’s warm and humid climate, air conditioning is widely used, and the residential sector’s per capita energy consumption is above the national average.
Kentucky

Kentucky is the fifth-largest coal-producing state in the nation. About one-fifth of all operating U.S. coal mines are in Kentucky, more than any other state besides West Virginia and Pennsylvania, according to the EIA.

Kentucky also has two oil refineries with a combined processing capacity of about 283,000 barrels per calendar day. In 2019, about 73 percent of Kentucky’s electricity net generation was coal-fueled, the fourth-largest share of any state after West Virginia, Wyoming, and Missouri.
Kentucky’s natural gas-fueled electricity generation reached a record 14.8 million MWh in 2019 and accounted for about one-fifth of the state's net generation.

In 2019, Kentucky had the ninth-lowest average electricity retail price of any state and the second-lowest price for a state east of the Mississippi River.
Kentucky

Natural gas provides an increasing amount of Kentucky’s net generation, fueling more than one-tenth for the first time in 2016, according to the U.S. Energy Administration (EIA). In 2019, the share of the state’s electricity generation from natural gas-fueled power plants increased to one-fifth, reaching a record 14.8 million megawatthours. The rest of Kentucky’s electricity generation, less than one-tenth, comes mostly from hydroelectric power plants, with small contributions from biomass, petroleum, and solar energy generation.

Electricity is supplied to Kentucky consumers by three investor-owned electric utilities, 24 cooperatives, and 20 municipal utilities. Electricity prices vary by supplier, but, in 2019, Kentucky had the ninth-lowest overall average retail power price for all sectors of any state and the second-lowest price east of the Mississippi River. Slightly more than half of Kentucky households use electricity as their primary heating source.
The EIA states that Kentucky has an energy-intensive economy and is among the top 15 states in using the most energy to produce a dollar of gross domestic product (GDP). The industrial sector is the state’s largest energy consumer, accounting for slightly more than one-third of total energy use.

Kentucky’s location and low energy prices have helped attract manufacturing to the state. The industrial activities that make large contributions to Kentucky’s GDP include the manufacture of motor vehicles; food and beverages; tobacco products; and chemicals, as well as agriculture and forestry. The state also has a large coal mining sector and numerous petroleum refineries, both energy-intensive industries.
Louisiana

Louisiana is one of the top five states in both natural gas production and reserves. The state accounted for 9 percent of U.S. total gas production in 2019 and it has about 7 percent of the nation's gas reserves, according to EIA data.

Louisiana’s 17 oil refineries account for nearly one-fifth of the nation’s refining capacity and can process 3.3 million barrels of crude oil per day.

New Orleans is the nation’s third-largest coal exporting port, with about one-eighth of total U.S. coal exports shipped out of the port through the third quarter of 2019.
Louisiana’s total energy consumption and per capita energy consumption both rank among the top three states in the nation, largely because of its energy-intensive chemical, petroleum, and natural gas industries.

Louisiana has the second-highest per capita residential sector electricity consumption in the nation. More than 6 in 10 Louisiana households rely on electric heating and almost all households have air conditioning.
The U.S. Energy Administration (EIA) states that Louisiana does not generate enough electricity to meet in-state consumer demand and receives about 15 percent of its needed power supplies from other states by way of the interstate grid.

The state ranks third among the states in total electricity consumption on a per capita basis. In 2019, the industrial sector consumed the most electricity in the state, accounting for about 38 percent of the state total, followed by the residential sector at 35 percent and the commercial sector at 27 percent.

Louisiana has the second-highest per capita residential sector electricity consumption in the nation. More than 6 in 10 state households rely on electricity for home heating and almost all households have air conditioning.
In addition to crude oil and natural gas, Louisiana’s energy resources include minor deposits of coal and substantial biomass resources from agricultural byproducts, wood, and wood waste, according to the EIA. Louisiana’s subtropical climate—with the highest annual rainfall of any state on the U.S. mainland—and rich soils create a diverse agricultural economy that includes sugarcane, rice, and livestock, as well as forest products from upland pine and hardwood forests.

Louisiana’s total energy consumption and per capita energy consumption both rank among the top three states in the nation, largely because of the energy-intensive chemical, petroleum, and natural gas industries in the state’s industrial sector. Energy consumption in Louisiana’s industrial sector is second only to that of Texas.

Although demand for air conditioning in Louisiana is high during the hot, humid summer months, heating demand is limited in the mild winters, and the state’s total and per capita energy consumption in the residential sector are both near the national median.
Maryland

Maryland consumes more than five times as much energy as it produces, but it ranks among the 10 lowest states in per capita energy consumption, according to the EIA.

Maryland’s Dominion Cove Point Terminal on the Chesapeake Bay became the second operating U.S. liquefied natural gas export terminal in early 2018.

Baltimore is the nation’s second-largest coal exporting port after Norfolk, Virginia, and coal exports from Baltimore reached a record high in 2018. Nearly one-fifth of U.S. coal exports left through the port.
Maryland increased its Renewable Portfolio Standard in 2019 to require that 50 percent of the state's electricity sales be generated from renewable sources by 2030. About 12 percent of the state’s electricity generation was from renewables in 2018.

In 2018, Maryland’s only nuclear power plant—the Calvert Cliffs power station—accounted for 34 percent of the state’s electricity net generation.
Maryland

Coal-fueled generating plants historically supplied more than half the state's net electricity generation, but the U.S. Energy Administration (EIA) asserts coal's share has been below 50 percent since 2012 and fell to 23 percent in 2018 as natural gas-fueled generation increased. As of mid-2019, all but two of the 14 generating units at Maryland's seven remaining coal-fueled power plants were more than 30 years old. Three of those older units were scheduled to shut down in 2019 and in 2020. Hydroelectric power and other renewable energy sources account for most of the state's remaining utility-scale net generation.

Maryland encourages construction of generating facilities to meet growing electricity demand, and since 2015 almost all the state's new generating capacity has been natural gas-fueled or solar powered. The state also pursues efficiency goals to reduce electricity use. The state's public utility commission set an energy efficiency goal for retail electricity distributors—a two percent reduction in retail electricity sales by 2020. More than 90 percent of the electricity consumed in Maryland is used by the commercial and the residential sectors. Four in 10 Maryland households use electricity as their primary heating source.
Maryland

Maryland consumes more than five times as much energy as it produces, according to the EIA. Baltimore, Maryland, one of the 20 largest ports in the nation, moves both coal and petroleum products.

The state’s economy ranks among the 10 least energy-intensive among the states. Major contributors to the state’s gross domestic product (GDP) include finance, insurance, and real estate; government; professional and business services; education and healthcare; and manufacturing. The transportation, commercial, and residential sectors each consume about 30 percent of the energy used in Maryland, and the industrial sector consumes nearly 10 percent.

Maryland ranks among the 10 lowest states in per capita energy consumption.
The 1,443-megawatt Grand Gulf Nuclear Power Station in Port Gibson, Mississippi, has the largest U.S. reactor in terms of generating capacity. The plant generated about 17 percent of the state’s electricity in 2019, according to EIA data.

Mississippi’s Pascagoula oil refinery is the nation’s 9th-largest refinery, with a capacity to process about 356,000 barrels of oil per calendar day into motor gasoline, diesel fuel, and other petroleum products.
Mississippi is one of the few states with large underground salt caverns capable of storing natural gas, and the state holds almost 4 percent of total U.S. underground natural gas storage capacity. Natural gas itself accounted for about 74 percent of Mississippi’s electricity net generation in 2019 and was the primary fuel used at 9 of the state’s 10 largest power plants.

About 11 in 100 Mississippi households rely on propane as their main heating fuel, which is more than double the national rate.
Mississippi generates more electricity than it uses according to the U.S. Energy Administration (EIA), and the surplus power is sent to other states over the regional grid. The largest share of electricity retail sales in Mississippi goes to the residential sector, accounting for more than two-fifths of the state’s total, followed closely by the industrial sector at about one-third of retail sales and the commercial sector at more than one-fourth.

Air-conditioning use during the hot summer months and the widespread use of electricity for home heating during the mild winter months drives demand for electricity from Mississippi’s residential sector. Nearly 6 out of 10 of the state’s households use electricity for home heating.
Mississippi

The EIA states Mississippi has an energy-intensive economy and ranks among the top five states in the amount of energy needed to produce one dollar of GDP. The transportation sector consumes the most energy in Mississippi—nearly two-fifths of the state total—followed by the industrial sector at about one-third.

The strong demand for electricity for cooling during summer and heating in winter, along with the state’s energy-intensive industries, puts Mississippi near the top one-fourth of states in per capita energy consumption. Overall, Mississippi consumes almost four times more energy than it produces.
The Rockies Express Pipeline’s (REX) eastern section is bidirectional and can deliver natural gas to Missouri that is produced from shale areas in Ohio and Pennsylvania, according to the EIA.

Coal-fueled power plants provided 73 percent of Missouri’s electricity net generation in 2019 and more coal was consumed for generation in Missouri than in any other state except for Texas and Indiana.

Missouri uses nearly 10 times as much energy as it produces, but the state’s energy consumption on a per capita basis is close to the national median.
Missouri has 9 biodiesel plants with a combined annual production capacity of 247 million gallons, the third largest in the nation.

At the end of 2019, Missouri had about 1,000 megawatts of wind power generating capacity from 500 wind turbines, and nearly 900 additional megawatts of wind power was under construction.
Missouri

The U.S. Energy Administration (EIA) finds that on an annual basis, Missouri typically uses more electricity than it generates and has to import power from other states via the regional grid. Almost all of the electricity generated in Missouri is provided by electric utilities. The northeast corner and southeastern part of the state is served primarily by electric cooperatives. However, most of the state's population is concentrated in the urban areas—mainly St. Louis and Kansas City—and receives retail electric service from investor-owned utilities.

The residential sector uses the most electricity in the state, accounting for almost half of total power sales. The average retail price for electricity in Missouri's residential sector is near the lowest one-fifth of the states. Nearly 4 out of 10 Missouri households rely on electricity as their primary energy source for home heating.
Missouri has a moderate climate, and EIA data states that extended periods of very cold or very hot weather are uncommon. The state’s energy consumption per capita is close to the national median.

The state consumes almost 10 times more energy than it produces. Transportation is the largest energy-consuming sector, accounting for slightly more than three-tenths of the state’s total energy use, and the residential sector accounts for more than one-fourth. Nearly one-fourth of the state’s energy consumption comes from the commercial sector. The industrial sector—which includes agriculture and the manufacture of food and beverage products, chemicals, and automobiles and vehicle parts—accounts for nearly one-fifth of the state’s energy consumption.
In 2018, natural gas fueled the largest share of North Carolina’s electricity generation, surpassing nuclear power for the first time. Natural gas accounted for 33 percent of state generation and nuclear power contributed 31 percent, according to EIA data.

In 2017, North Carolina ranked fourth among the states in the amount of electricity consumed by its residential sector and 12th in per capita residential sector electricity consumption.
Nationally, North Carolina ranked second after California in its amount of installed solar power generating capacity with more than 4,100 megawatts in 2018.

North Carolina has 114 public and private fueling stations that supply diesel fuel that is 20 percent or greater biodiesel. Almost one-fifth of the nation’s total number of biodiesel fueling stations are in North Carolina.

North Carolina was fifth among the states in electricity net generation from nuclear power in 2018, producing nearly 5 percent of the nation’s total.
Even though North Carolina is among the top 10 electricity-generating states in the nation, its electricity consumers use more power than is generated in the state. Additional electricity is supplied from the regional grid, according to the U.S. Energy Administration (EIA).

The residential sector accounts for about two-fifths of the total retail sales of electricity in North Carolina, the largest share among the end-use sectors. Almost two of every three North Carolina households use electricity for home heating, and, because of the hot and humid summers, almost all of the state’s households use air conditioning as well.
North Carolina

Total energy consumption per capita in North Carolina is among the lowest one-third of all states. The residents, tourists, and truckers who use motor gasoline and diesel fuel on North Carolina’s heavily traveled highway system and the jet fuel consumed at the busy Charlotte Douglas International Airport—one of the top U.S. airports as ranked by passenger traffic—make the transportation sector the largest end-use energy-consuming sector in the state. The residential sector follows the transportation sector, accounting for one-fourth of North Carolina energy consumption.

North Carolina has a large agricultural industry and is a leading producer of poultry, hogs, and tobacco. The state’s other key industries include aerospace and defense; auto and truck manufacturing; biotechnology and pharmaceuticals; business and financial services; energy; food processing and manufacturing; furniture; information technology; plastics and chemicals; and textiles. The energy-intensive chemical industry and the food, beverage, and tobacco product manufacturing industries, together, account for nearly half of the state’s gross domestic product from manufacturing.
Oklahoma was the fourth-largest crude oil producer among the states in 2019, and it accounted for nearly 5 percent of the nation's crude oil production, according to the EIA. As of January 2019, Oklahoma had 5 operable petroleum refineries with a combined daily processing capacity of almost 523,000 barrels per day, nearly 3 percent of the total U.S. capacity.

The benchmark price in the domestic spot market for the U.S. crude oil known as West Texas Intermediate (WTI) is set at Cushing, Oklahoma, home to about 15 percent of the nation’s commercial crude oil storage capacity.
Oklahoma had the fourth-largest gross withdrawals of natural gas among the states in 2019 and accounted for about 9 percent of the nation's marketed production.

In 2019, Oklahoma ranked second after Texas in total electricity net generation from wind and was third in wind's share of state generation after Iowa and Kansas. Wind supplied nearly 35 percent of Oklahoma's net generation, more than any other source.
Although Oklahoma’s largest power plant by capacity is coal-fueled, the U.S. Energy Administration (EIA) states that natural gas fuels the largest share of state generation. Coal-fueled generation decreased from more than half to less than one-tenth of in-state net generation between 2005 and 2019.

Electricity consumption per capita in Oklahoma is greater than it is in four-fifths of the states. However, more electricity is generated in Oklahoma than is consumed there, and the surplus is sent out of state. Electricity consumption is greatest in the residential sector, where two in five Oklahoma households rely on electricity as their primary energy source for home heating.
Oklahoma

Oklahoma has substantial shale gas and coalbed methane resources, according to the EIA. In 2018, the state accounted for more than 7 percent of the nation’s proved shale gas reserves and was the seventh-largest shale gas producer that year. Oklahoma shale wells produced more than 8 trillion cubic feet of natural gas between 2007 and 2018.

Coalbed methane production in the state has declined from a peak of 82 billion cubic feet in 2007 to 36 billion cubic feet in 2017. However, by the beginning of 2018, Oklahoma’s remaining proved coalbed methane reserves still equaled more than one-fourth of the nation’s total.

Oklahoma is the fifth-largest consumer of natural gas per capita in the nation. About two-fifths of the natural gas consumed in the state is used for electric power generation. The industrial sector uses about one-fourth, and although half of Oklahoma households heat with natural gas, the residential sector and the commercial sectors together account for only one-seventh of the natural gas consumed in the state. Because of the many natural gas fields in Oklahoma, more natural gas is used for gathering and processing natural gas—about one-fifth of deliveries—than is used by the residential and commercial sectors combined.
Limited energy data is available for Puerto Rico.

In September 2017, Hurricanes Irma and Maria made landfall two weeks apart and destroyed much of Puerto Rico’s electricity transmission and distribution infrastructure.

More than nine-tenths of Puerto Rico’s petroleum imports are motor gasoline, distillate fuel oil, and residual fuel oil that serve the Commonwealth’s electric power and transportation sectors.

For fiscal year 2019, petroleum fueled 40 percent of Puerto Rico’s total electricity generation and natural gas accounted for 39 percent. Coal continued to fuel 18 percent of generation, while renewables supplied 2.3 percent, according to EIA data.

<table>
<thead>
<tr>
<th>Fuel Group</th>
<th>Nameplate Capacity (MW)</th>
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</thead>
<tbody>
<tr>
<td>Petroleum</td>
<td>3,607</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>1,346</td>
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<tr>
<td>Coal</td>
<td>454</td>
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<tr>
<td>Solar</td>
<td>186</td>
</tr>
<tr>
<td>Wind</td>
<td>99</td>
</tr>
<tr>
<td>Hydroelectric</td>
<td>98</td>
</tr>
<tr>
<td>Other Biomass</td>
<td>2</td>
</tr>
<tr>
<td>Grand Total</td>
<td>5,791</td>
</tr>
</tbody>
</table>
Puerto Rico

Puerto Rico has 2 utility-scale wind farms that became operational in 2012: the 101.2-megawatt Santa Isabel facility on the southern coast and the 23.4-megawatt Punta Lima facility at Naguabo.

Under the Puerto Rico Energy Public Policy Act, which was signed into law in May 2019, PREPA has to obtain 40 percent of its electricity from renewable resources by 2025, 60 percent by 2040, and 100 percent by 2050.

![Puerto Rico Electric Power Sales by Sector](image)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Sales (MWh)</th>
<th>Price (Cents per KWh)</th>
<th>Avg Electricity Bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>6,205,140</td>
<td>21.43</td>
<td>$82.39</td>
</tr>
<tr>
<td>Commercial</td>
<td>7,899,312</td>
<td>22.90</td>
<td>$1,201.80</td>
</tr>
<tr>
<td>Industrial</td>
<td>2,048,192</td>
<td>20.51</td>
<td>$58,848.46</td>
</tr>
<tr>
<td>Total</td>
<td>16,152,644</td>
<td>22.03</td>
<td>—</td>
</tr>
</tbody>
</table>
South Carolina

Natural gas deliveries to South Carolina’s electric power sector have almost quadrupled in the past decade, from 46.2 billion cubic feet of natural gas in 2008 to 176.8 billion cubic feet in 2018, according to the EIA.

Electricity generation at South Carolina’s natural gas-fueled power plants exceeded the state’s coal-fueled generation in 2018 for the first time.
South Carolina's four nuclear power plants supplied just over half of the state's net electricity generation in 2018, and the state was the third-largest producer of nuclear power in the nation.

In 2018, renewable energy resources—mainly hydropower, biomass, and solar energy—accounted for about 6 percent of South Carolina's electricity net generation.

Nearly 9 out of 10 barrels of petroleum used in South Carolina is consumed by the transportation sector, mostly in the form of motor gasoline.
South Carolina generates more electricity than it consumes and sends its surplus power across the regional grid to other states, according to the U.S. Energy Administration (EIA). Per capita retail sales of electricity in South Carolina are among the highest in the nation, in part because of the high demand for air conditioning during the state’s hot and humid summer months.

The largest share of retail electricity sales—about 40 percent of the state’s total—are to the residential sector, where 7 in 10 South Carolina households also use electricity as their primary energy source for home heating. South Carolina ranks among the top 10 states in residential sector per capita electricity sales.
The largest end-use energy-consuming sector in South Carolina is the industrial sector, which accounts for about one-third of the state’s energy use, the EIA asserts. The state’s manufacturing activities are a major contributor to South Carolina’s economy, and include automotive and aeronautical assembly; chemicals and plastics; paper and wood products; fabricated metal products and primary metals; machinery; electrical equipment, computers, and electronic products; food products and processing; and textiles.

The transportation sector is the second-largest energy-consuming sector and uses almost one-third of the state’s energy, primarily as motor gasoline. South Carolina’s coastal islands, beaches, and mild winters draw tourists and new residents to the state and contribute to residential and commercial energy consumption. The residential sector consumes about one-fifth of the state’s energy and the commercial sector consumes about one-sixth.
The Tennessee Valley Authority (TVA) is the nation’s largest public power corporation. It owns more than 90 percent of Tennessee’s electric generating capacity and three-fifths of the power plants, including the 10 largest power plants in the state, according to the EIA.

TVA’s Watts Bar 2 generating plant, which began commercial operations in October 2016, is the nation’s first new nuclear power reactor to enter service in the 21st century. Tennessee’s two nuclear power plants provided 43 percent of in-state electricity in 2019.
Tennessee's one petroleum refinery, located in Memphis, can process about 180,000 barrels of crude oil per calendar day.

In 2019, natural gas use by Tennessee's electric power sector was about 32 times greater than a decade earlier as the state's natural gas-fueled generation reached a record high and coal-fueled generation declined. Tennessee is the largest ethanol-producing state in the Southeast and is the 14th-largest ethanol supplier in the nation.
Tennessee

The U.S. Energy Administration (EIA) states that Tennessee helped usher in the nuclear age with the nation's first nuclear fuel enrichment plant, built at the Oak Ridge National Laboratory as part of the World War II Manhattan Project to develop a nuclear bomb. Today, Tennessee has two nuclear power generating sites, the Sequoyah Nuclear Power Plant and the Watts Bar Nuclear Power Plant, both located in southeastern Tennessee. The Watts Bar power plant has the nation's newest nuclear power reactors. Watts Bar Unit 1 began operating in 1996, and Watts Bar Unit 2 entered service in 2016—becoming the nation's first, and, so far, only new nuclear reactor to come online in the 21st century. The TVA is pursuing a federal permit for a possible new nuclear power plant using small modular reactors at a site near Oak Ridge.

Tennessee is among the top 15 states in total electricity consumption for all sectors combined, and among the top 5 states in residential electricity consumption per capita. The average price for electricity across all sectors in Tennessee is below the national average, and the average price for the residential sector alone is among the lowest 10 states. About 6 out of 10 households in Tennessee use electricity as their primary energy source for home heating.
Tennessee ranks among the top one-third of the states in total energy consumption and near the median of the states in energy consumption per capita, according to the EIA. The long travel distances across Tennessee, combined with the state’s role as a logistics hub, contribute to the transportation sector accounting for about three-tenths of the state’s total energy consumption. Manufacturing is a leading component of the state’s economy, and the industrial sector uses slightly less energy than the transportation sector. The industrial activities that make the largest contributions to Tennessee’s gross domestic product (GDP) include the manufacture of chemicals; computers and electronic products; food, beverages, and tobacco products; motor vehicles and automotive parts; and petroleum and coal products. Overall, the amount of energy used to produce one dollar of GDP in Tennessee is slightly greater than the median of the states.

Tennessee’s climate is relatively mild, but it is greatly influenced by the state’s topography. Much of the state experiences hot summers and mild winters. However, the mountains of eastern Tennessee, which includes the Great Smoky Mountains National Park, are much colder. The residential sector, where both heating and air conditioning are widely used, accounts for almost one-fourth of the state’s total energy consumption.
Texas is the top U.S. producer of both crude oil and natural gas. In 2019, the state accounted for 41 percent of the nation’s crude oil production and 25 percent of its marketed natural gas production, according to the EIA.

As of January 2019, the 30 petroleum refineries in Texas were able to process about 5.8 million barrels of crude oil per day and accounted for 31 percent of the nation’s refining capacity.

Texas produces more electricity than any other state, generating almost twice as much as Florida, the second-highest electricity-producing state.
Texas

Texas is the largest energy-producing and energy-consuming state in the nation. The industrial sector, including its refineries and petrochemical plants, accounts for half of the energy consumed in the state.

Texas leads the nation in wind-powered generation and produced about 28 percent of all the U.S. wind-powered electricity in 2019. Texas wind turbines have produced more electricity than both of the state's nuclear power plants since 2014.
Among the contiguous 48 states, Texas is the only state with a stand-alone electricity grid, according to the U.S. Energy Administration (EIA). Although there are four electricity grids that serve Texas, the state’s main electricity grid is operated by the Electricity Reliability Council of Texas (ERCOT). The ERCOT grid serves about three-fourths of the state and is largely isolated from the other interconnected power systems serving the eastern and western contiguous United States.

The state’s electricity supply has increased each year alongside demand. Texas is the largest electricity consumer among the states. The largest share of its electricity retail sales go to the residential sector, followed by the commercial sector, and then the industrial sector. Three in five households in Texas use electricity as their primary source for home heating, but demand peaks during the summer months with the increased use of electricity for cooling.

In 1999, Texas became the first state to establish an energy efficiency resource standard (EERS). The standard requires investor-owned electric utilities in the state to reduce energy use and demand. The initial savings goal for each utility is equal to 30 percent of the utility’s annual growth in peak demand. After that target is met, the EERS requires that annual savings equal up to 0.4 percent of each utility’s peak demand.
Texas

The EIA states that Texas uses more energy than any other state and accounts for almost one-seventh of the U.S. total consumption. The state is sixth in the nation in per capita energy consumption and is the third-largest net energy supplier despite its high energy use. The industrial sector, which includes the energy-intensive petroleum refining and chemical manufacturing industries, is the largest energy consuming end-use sector and accounts for half of the state’s end-use energy consumption. Transportation is the second-largest end user, in part because of the large number of registered motor vehicles in Texas, the great distances across the state, and the high number of vehicle miles traveled annually.

The Texas climate varies significantly from east to west. Warm, moist air from the Gulf of Mexico sweeps westward across the state, losing moisture as it goes. The result is a climate that ranges from humid and subtropical along the coast, where much of the state’s population resides, to semi-arid on the high plains of central and western Texas, and arid in the state’s mountainous west. Frequent freezing temperatures occur in winter in the lightly populated high plains, and summer temperatures average above 90°F in the most densely populated parts of Texas where energy use for cooling is high. Even so, the residential sector accounts for just one-eighth of state end-use energy consumption. Because of the state’s large population, Texas leads the nation in state residential energy use, but it ranks near the lowest one-fifth of states in per capita residential energy consumption.
U.S. Virgin Islands

Limited energy data is available for the U.S. Virgin Islands.

The U.S. Virgin Islands Water and Power Authority is increasing propane use at its electric generating facilities to reduce its imported fuel costs and carbon dioxide emissions, according to the EIA.

The average price of electricity paid by U.S. Virgin Island residents in mid-2019 was about three times higher than the average power price in the 50 U.S. states.

Diesel fuel, residual fuel, and propane account for about four-fifths of all petroleum products consumed in the U.S. Virgin Islands, where they are used for electricity generation and the production of drinkable water supplies.

A portion of the Hovensa petroleum refinery, which closed in 2012, is scheduled to reopen and make marine fuels that meet new international low-sulfur requirements taking effect this year.

The U.S. Virgin Islands has a goal for 25 percent of the islands’ peak demand electricity generating capacity to come from renewable sources by the end of 2020 and 30 percent by 2025.

### 2017 Total Petroleum Products Consumption (Thousand Barrels per Day)

<table>
<thead>
<tr>
<th>Product</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>16</td>
</tr>
<tr>
<td>Motor Gasoline</td>
<td>1</td>
</tr>
<tr>
<td>Distillate Fuel</td>
<td>9</td>
</tr>
<tr>
<td>Liquified Refinery Gases</td>
<td>2</td>
</tr>
<tr>
<td>Jet Fuel</td>
<td>2</td>
</tr>
<tr>
<td>Kerosene</td>
<td>-</td>
</tr>
<tr>
<td>Residual Fuel</td>
<td>2</td>
</tr>
<tr>
<td>Other Petroleum Products</td>
<td>-</td>
</tr>
</tbody>
</table>
The ports in Virginia's Norfolk Customs District processed about 36 percent of U.S. coal exports in 2018, making it the largest U.S. coal export center, according to the EIA.

At the end of 2017, Virginia ranked third in the nation, after Colorado and New Mexico, in coalbed methane proved reserves, and two Virginia coalbed methane fields are ranked among the top 100 natural gas fields in the United States.

In 2018, natural gas fueled 53 percent of Virginia's electricity net generation, nuclear power provided almost 31 percent, coal fueled about 10 percent and renewable resources, primarily biomass, supplied nearly 7 percent.
Virginia established a voluntary renewable portfolio standard (RPS) to encourage investor-owned utilities to procure a portion of the electricity sold in Virginia from renewable energy resources. The RPS goal is for 15 percent of base year 2007 sales to come from eligible renewable energy sources by 2025.

Virginia’s Bath County Pumped Storage Station, with a net generating capacity of 3,003 megawatts, is the largest hydroelectric pumped storage facility in the nation.
Electricity consumption is greater than electricity generation in Virginia, and, as stated by the U.S. Energy Administration (EIA), the state receives additional power from the regional grid managed by the PJM Interconnection. All but a few counties in Virginia are within the PJM Interconnection, a regional transmission organization that coordinates the movement of electricity in all or parts of 13 Mid-Atlantic and Midwestern states plus the District of Columbia. The four counties in southwestern Virginia that are not served by PJM are supplied by the Tennessee Valley Authority.

Retail sales of electricity in Virginia are highest in the commercial sector, followed closely by the residential sector, and average electricity prices across all sectors are below the national averages. Most Virginia households have air conditioning, and more than half of all state households use electricity for home heating. Virginia has a voluntary energy efficiency resource goal for investor-owned utilities that aims to reduce electricity use by consumers by 10 percent from 2006 levels by 2022.
Virginia

The EIA states that energy consumption in Virginia is about two and a half times greater than the state’s energy production. The transportation sector consumes three-tenths of the energy used in the state. Virginia has the third-largest state-maintained transportation network in the nation, including six major interstate highways. More than a dozen railroads operate on 3,500 miles of railway in the state. Virginia also has several commercial airports, including two near Washington, DC, that are among the nation’s busiest, and one of the nation’s largest seaports, the Port of Virginia at Hampton Roads.

The commercial and residential sectors each account for about one-fourth of the energy consumed in the state, and the state’s industrial sector consumes nearly one-fifth. Although Virginia is among the top one-third of states in energy consumption, the state’s per capita energy consumption is below the national average and is less than in 31 other states.
West Virginia

West Virginia ranked fourth among the states in total energy production in 2017, accounting for 5 percent of the nation’s total, according to the EIA.

In 2017, West Virginia was the second-largest coal producer in the nation, after Wyoming, and accounted for 12 percent of U.S. total coal production. One-third of the almost 93 million tons of coal mined in West Virginia was exported to foreign markets.

Coal-fueled electric power plants accounted for 92 percent of West Virginia’s electricity net generation in 2018, renewable energy resources—primarily hydroelectric power and wind energy—contributed 5.3 percent, and natural gas provided 2.1 percent.
In 2018, West Virginia’s 1.8 trillion cubic feet of natural gas production was the seventh-largest amount of marketed natural gas in the nation.

Although West Virginia’s crude oil production accounts for less than 1 percent of the nation’s total, it has nearly quadrupled since 2012 because of production from the Marcellus Shale.
West Virginia

Much of West Virginia’s electricity generation is from wind, hydropower, and natural gas-fueled facilities, with wind and hydroelectric power generating record amounts of electricity in the state during 2018, according to the U.S. Energy Administration (EIA). West Virginia is one of only seven states east of the Mississippi River without an operating nuclear power plant.

West Virginia generates much more electricity than it consumes. Although more than two-fifths of West Virginia households use electricity as their primary source for home heating, electricity retail sales to all customers account for less than half of the net electricity generated in the state. As a result, West Virginia is a net supplier of electricity to the regional grid and is among the top 10 states in interstate sales of electricity.
West Virginia

The EIA states that West Virginia is a net energy supplier to other states and provides about 5 percent of the nation’s total energy, mostly from its coal production. West Virginia is also a significant consumer of energy and ranks among the top 10 states on a per capita basis. The industrial sector is the largest end-use energy-consuming sector in West Virginia, accounting for more than two-fifths of state energy use.

Mining—including coal, crude oil, and natural gas extraction—and chemical manufacturing are significant and energy-intensive parts of the state’s economy. The transportation sector is the second-largest energy-consuming sector, accounting for more than one-fifth of the state’s energy use, while the residential sector consumes nearly one-fifth. The commercial sector accounts for the rest.
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
- PUERTO RICO
- SOUTH CAROLINA
- TENNESSEE
- TEXAS
- U.S. VIRGIN ISLANDS
- VIRGINIA
- WEST VIRGINIA