The Brattle team began work in March 2022

We conducted one-on-one interviews with the Advisory Board members, to understand important concerns for the member organizations
   - Advisory Board members drafted written comments and spoke to the Study Committee in July

In meetings with the Advisory Board, our team:
   - Reviewed the modeling tools to be used in the study,
   - Discussed potential reform options to analyze,
   - Reviewed the data to be used in the analysis
   - Shared preliminary results

In July 2022, our team presented a final list of potential market reform options to be analyzed to the Study Committee
In September, we executed a multi-party NDA with Santee Cooper, Dominion South Carolina, Duke Energy, Piedmont Municipal Power Agency, and Central Coop

- Between October and December, our team conducted discussions with internal experts at the organizations that are parties to the NDA, and collected data/information to be used in benefits-cost analysis of potential market reforms

The draft report was delivered to Study Committee staff and the Advisory Board on February 22, 2023

The Advisory Board members provided over 100 comments on the draft report

- Our team reviewed each comment, made revisions/additions to the report where appropriate, and provided written responses to comments
- Written responses to Advisory Board comments were provided to Study Committee staff

The final report was delivered to Study Committee staff on April 27, 2023
Consistent with Act 187, suggestions from the Advisory Board, and feedback from the Study Committee, we analyzed three types of possible electricity market reform measures for South Carolina:

1. **Wholesale Reforms:** potential reforms related to increasing generation cost-effectiveness and trade opportunities through resource pooling and participation in a regional market

2. **Resource Planning and Competitive Investment Reforms:** potential reforms related to how power plants are planned for and built in the state

3. **Retail Reforms:** potential reform to expand the types of rates available to customers, and allow customers to buy power from non-incumbent utilities
Overview of Recommended Market Reforms

**Immediate reforms**
- PSC process to review and approve wholesale market reform plan
- Competition in resource plans
- Enhanced retail rates
- Negotiate integration with or create RTO
- Increase share of supply from independent producers

**Reforms for future consideration**
- Full regional market participation
- Introduce retail choice for large customers and communities
- Transition to competitive supply investment model (if desired)
- Expand retail choice to more customer classes (if desired)
Wholesale Reforms

Potential reforms related to increasing generation cost-effectiveness and trade opportunities through resource pooling and participation in a regional market.
Our benefit-cost analysis indicates that South Carolina customers can save up to $360 million per year if the state participated in a regional wholesale market.

We estimated benefits and costs for participation in a range of potential market options, from a joint dispatch agreement (JDA), similar to the Duke JDA in operation today, to a combined day-ahead and real-time regional market, as exist in the RTO regions of the country.

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>Operational Savings</th>
<th>Investment Cost Savings</th>
<th>Administrative Costs</th>
<th>Annual Net Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carolinas JDA</td>
<td>$ Mln/year</td>
<td>$10-$13</td>
<td>N/A</td>
<td>$2 – $4</td>
<td>$6-$11</td>
</tr>
<tr>
<td>Southeast EIM</td>
<td>$ Mln/year</td>
<td>$22-$27</td>
<td>N/A</td>
<td>$2 – $5</td>
<td>$17-$25</td>
</tr>
<tr>
<td>Southeast RTO</td>
<td>$ Mln/year</td>
<td>$87-$106</td>
<td>$94–$117</td>
<td>$36 – $66</td>
<td>$115-$187</td>
</tr>
<tr>
<td>Integrate w/ PJM</td>
<td>$ Mln/year</td>
<td>$163-$200</td>
<td>$158–$198</td>
<td>$36 – $40</td>
<td>$281-$362</td>
</tr>
</tbody>
</table>
## Recommended Wholesale Reforms

<table>
<thead>
<tr>
<th>Reform Option</th>
<th>When?</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Join or Participate in Regional</td>
<td>Immediate</td>
<td>Establish a policy and timeframe for integrating with an RTO, considering at least three pathways that can achieve the estimated net benefits for South Carolina customers:</td>
</tr>
<tr>
<td>Wholesale Market</td>
<td></td>
<td>1. Join an existing RTO (i.e., PJM) under their existing governance and membership model. South Carolina would maintain all authorities over vertically integrated utility planning and ratemaking, but would not be in a position to dictate any changes to the existing RTO governance structure; or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Create a new Southeast RTO provided that neighboring states and utilities show interest in initiating the multi-state effort to create a new RTO; or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Integrate with an existing RTO but under a new governance model, such that regional energy and resource adequacy benefits can be achieved, but under a governance structure that is suited to the prevailing state regulatory model in South Carolina and other states in the Southeast (e.g. possibly modeled after the Western EIM, EDAM, SPP’s Markets+, and WPP’s WRAP)</td>
</tr>
<tr>
<td>Coordinate with Other States</td>
<td>Immediate</td>
<td>Seek coordination with states and utilities across the Southeast, particularly North Carolina, toward a regional market footprint and coordinated use of transmission infrastructure</td>
</tr>
<tr>
<td>Timeframe</td>
<td>Immediate</td>
<td>Authorize the PSC to review and approve each utility’s regional market integration plan subject to defined criteria and timelines.</td>
</tr>
</tbody>
</table>

*Examples of legislation in other states: Colorado Senate Bill 21-072 and Nevada Senate Bill 448 establish relevant authorities, timelines, and evaluation criteria for regional market integration*
Our regional market participation recommendation can be achieved without altering core elements of South Carolina’s current state-jurisdictional regulatory model:

- South Carolina maintains oversight and regulation over the utility integrated resource plans, resource siting, transmission siting, retail rate design, local distribution planning and investment, and local reliability standards
- Local utilities remain vertically integrated: maintain ownership and operation of generation, transmission, and distribution assets (no generation divestiture or transmission unbundling is necessary)
- Retail rates remain bundled and state regulated; does not require that retail choice is introduced for any customers
- South Carolina maintains the ability to pursue independent energy policy apart from other states in the regional market

Recommended Wholesale Reforms (continued)
Resource Planning and Competitive Investment Reforms

Potential reforms related to how power plants are planned for and built in the state
Recommended Reforms: Resource Planning & Investment

**Immediate reforms**

- Competition in resource plans
- Enhanced retail rates
- Increase share of supply from independent producers

**PSC process to review and approve wholesale market reform plan**

**Negotiate integration with or create RTO**

**Full regional market participation**

**Introduce retail choice for large customers and communities**

**Transition to competitive supply investment model (if desired)**

**Expand retail choice to more customer classes (if desired)**

**Reforms for future consideration**
# Recommended Resource Planning and Investment Reforms

<table>
<thead>
<tr>
<th>Reform Option</th>
<th>When?</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide IRP Across All South Carolina Utilities</td>
<td>Immediate</td>
<td>Authorize the PSC or other state agencies to consider or conduct statewide IRP processes</td>
</tr>
<tr>
<td>Expanding the Role of Competitive Solicitations in Utility IRPs</td>
<td>Immediate</td>
<td>Incrementally introduce and expand the role of competitive solicitations within utility and/or state IRP processes</td>
</tr>
<tr>
<td>Securitization of Costs Related to Retiring Stranded Thermal Assets</td>
<td>Immediate</td>
<td>Confirm or clarify regulatory policies related to the retirement of uneconomic aging resources</td>
</tr>
<tr>
<td>Transition to Partial or Full Competitive Supply Investments</td>
<td>Future (After RTO Participation)</td>
<td>Consider additional competitive investment reforms in the future</td>
</tr>
</tbody>
</table>
Our benefit-cost analysis indicates that South Carolina customers can save $25-$120 million in the near term and $150-$370 million in the long-term if the state transitioned to full or partial reliance on competitive supply investments.

Recommended Resource Planning and Investment Reforms

- **Full Participation in Competitive Supply Investments**
- **Partial Participation in Competitive Supply Investments**
Retail Reforms

Potential reforms to expand the types of rates available to customers, and allow customers to buy power from non-incumbent utilities
Recommended Reforms: Retail

- PSC process to review and approve wholesale market reform plan
- Competition in resource plans
- Enhanced retail rates
- Negotiate integration with or create RTO
- Increase share of supply from independent producers
- Full regional market participation
- Introduce retail choice for large customers and communities
- Transition to competitive supply investment model (if desired)
- Expand retail choice to more customer classes (if desired)
- Immediate reforms
- Reforms for future consideration
# Recommended Retail Reforms

<table>
<thead>
<tr>
<th>Reform Option</th>
<th>When?</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility Retail Rate Reforms</strong></td>
<td>Immediate</td>
<td>Authorize (and perhaps require) the PSC and regulated utilities to evaluate options for expanded and enhanced retail rate choices</td>
</tr>
<tr>
<td><strong>Partial Retail Choice (large C&amp;I customers)</strong></td>
<td>Future (After RTO Participation)</td>
<td>Introduce partial retail choice for large C&amp;I customers</td>
</tr>
<tr>
<td><strong>Community Choice Aggregation (CCA)</strong></td>
<td>Future (After RTO Participation)</td>
<td>Introduce a path for Community Choice Aggregation</td>
</tr>
<tr>
<td><strong>Full Retail Choice (including residential and small businesses)</strong></td>
<td>Future (After RTO Participation)</td>
<td>Defer consideration of retail choice for residential and small business customers until after other reforms are implemented</td>
</tr>
<tr>
<td><strong>Competitive Reforms to Enable DERs</strong></td>
<td>Immediate &amp; Future</td>
<td>Enable distributed energy resources and demand response from third-party providers to compete in all-source supply solicitation</td>
</tr>
<tr>
<td><strong>Third-Party Energy Efficiency Administrator</strong></td>
<td>Immediate</td>
<td>Authorize the PSC to appoint a third-party EE administrator to support energy efficiency program development in utility territories where substantial cost-effective EE opportunities exists to reduce customer electricity bills but that have not been fully pursued under existing structures</td>
</tr>
</tbody>
</table>