

South Carolina Electricity Market Reform Measures Study

FINAL REPORT PRESENTATION

PRESENTED BY

JOHN TSOUKALIS

KATHLEEN SPEES

JOHANNES PFEIFENBERGER

ANDREW LEVITT

ANDREW W. THOMPSON

PRESENTED FOR

SOUTH CAROLINA ELECTRICITY
MARKET REFORM MEASURES
STUDY COMMITTEE

MAY 1, 2023



Review of Study Process and Timeline

- 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

Review of Study Process and Timeline *(continued)*

- 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

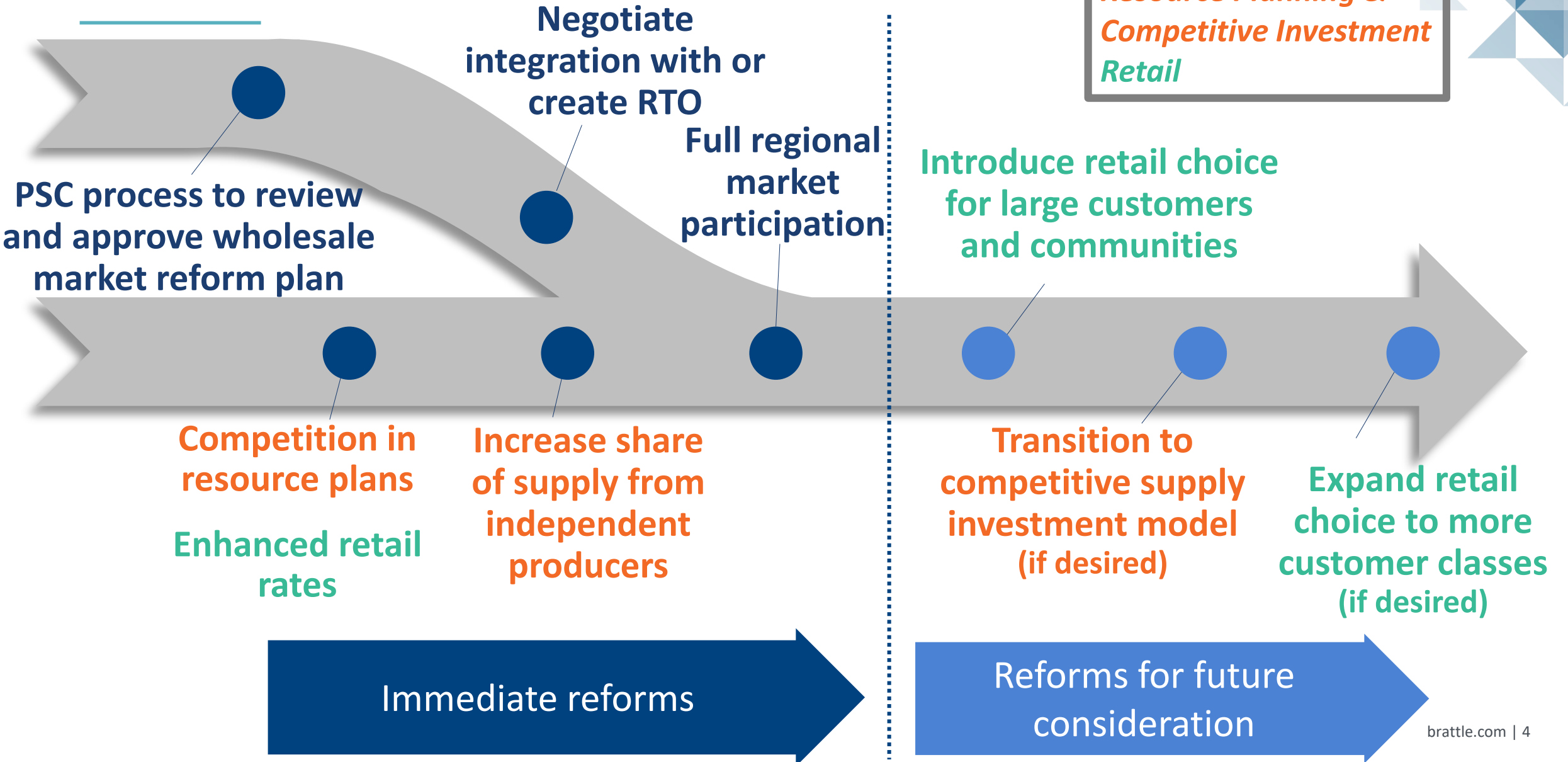
Types of Market Reforms Studied

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

Wholesale
*Resource Planning &
Competitive Investment*
Retail



Wholesale Reforms

Potential reforms related to increasing generation cost-effectiveness and trade opportunities through resource pooling and participation in a regional market

Benefit-Cost Analysis Results

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

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

Recommended Wholesale Reforms

Reform Option	When?	Recommendations
Join or Participate in Regional Wholesale Market	Immediate	<p>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:</p> <ol style="list-style-type: none"> 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 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 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)
Coordinate with Other States	Immediate	<p>Seek coordination with states and utilities across the Southeast, particularly North Carolina, toward a regional market footprint and coordinated use of transmission infrastructure</p>
Timeframe	Immediate	<p>Authorize the PSC to review and approve each utility’s regional market integration plan subject to defined criteria and timelines.</p> <p><i>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</i></p>

Recommended Wholesale Reforms *(continued)*

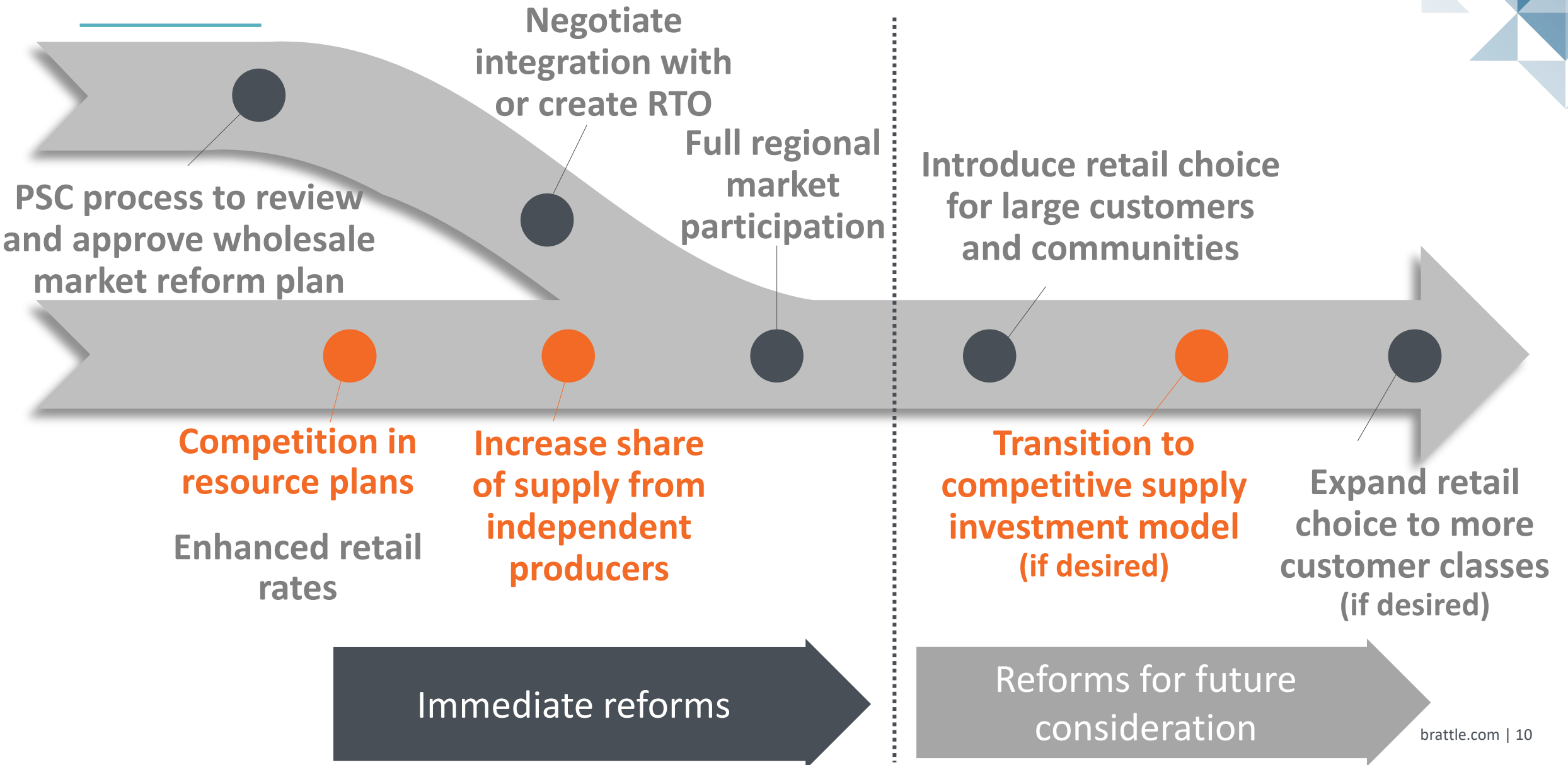
Our regional market participation recommendation can be achieved without altering core elements of South Carolina's current state-jurisdictional regulatory model:

- 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

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

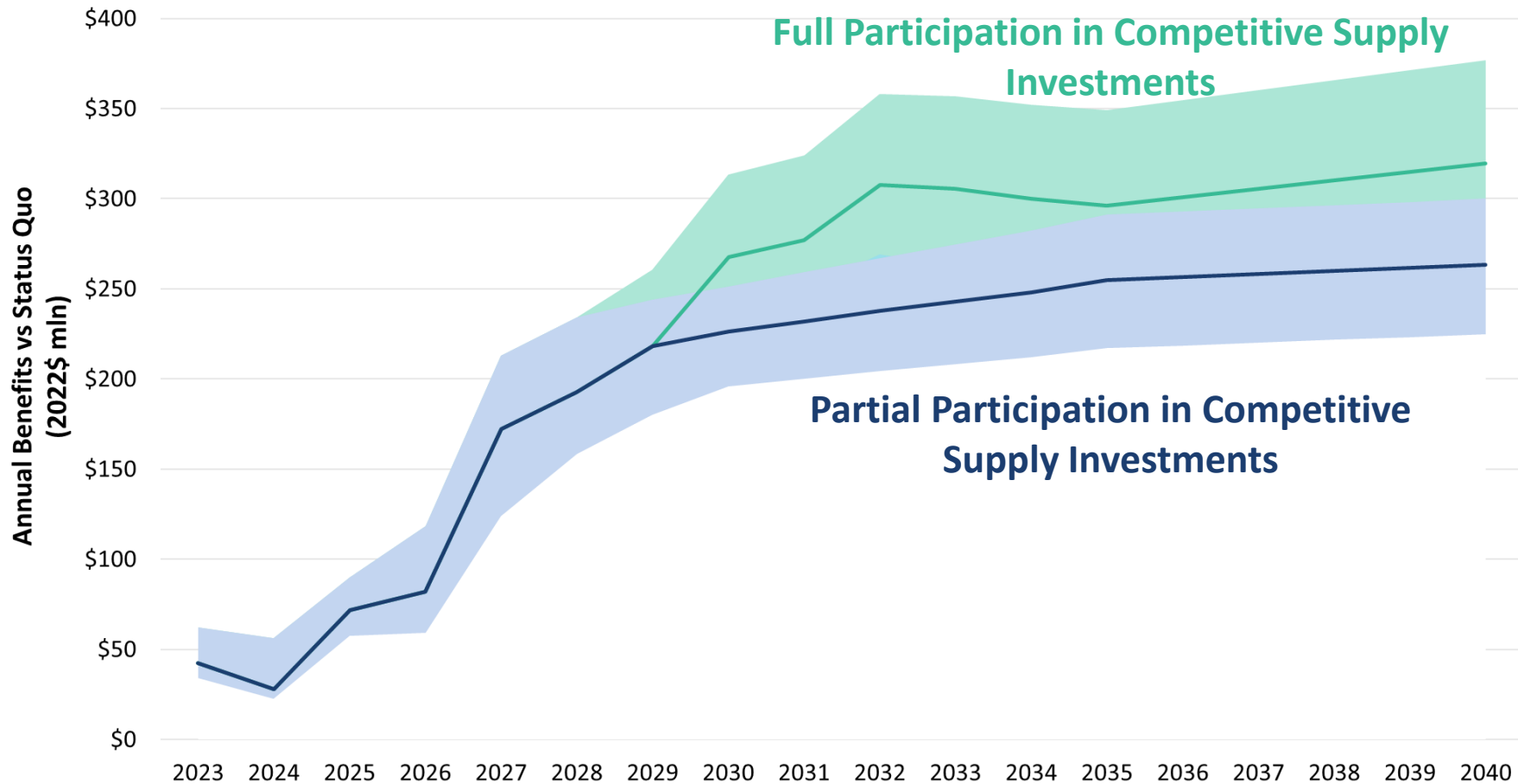


Recommended Resource Planning and Investment Reforms

Reform Option	When?	Recommendations
Statewide IRP Across All South Carolina Utilities	Immediate	Authorize the PSC or other state agencies to consider or conduct statewide IRP processes
Expanding the Role of Competitive Solicitations in Utility IRPs	Immediate	Incrementally introduce and expand the role of competitive solicitations within utility and/or state IRP processes
Securitization of Costs Related to Retiring Stranded Thermal Assets	Immediate	Confirm or clarify regulatory policies related to the retirement of uneconomic aging resources
Transition to Partial or Full Competitive Supply Investments	Future (After RTO Participation)	Consider additional competitive investment reforms in the future

Recommended Resource Planning and Investment Reforms

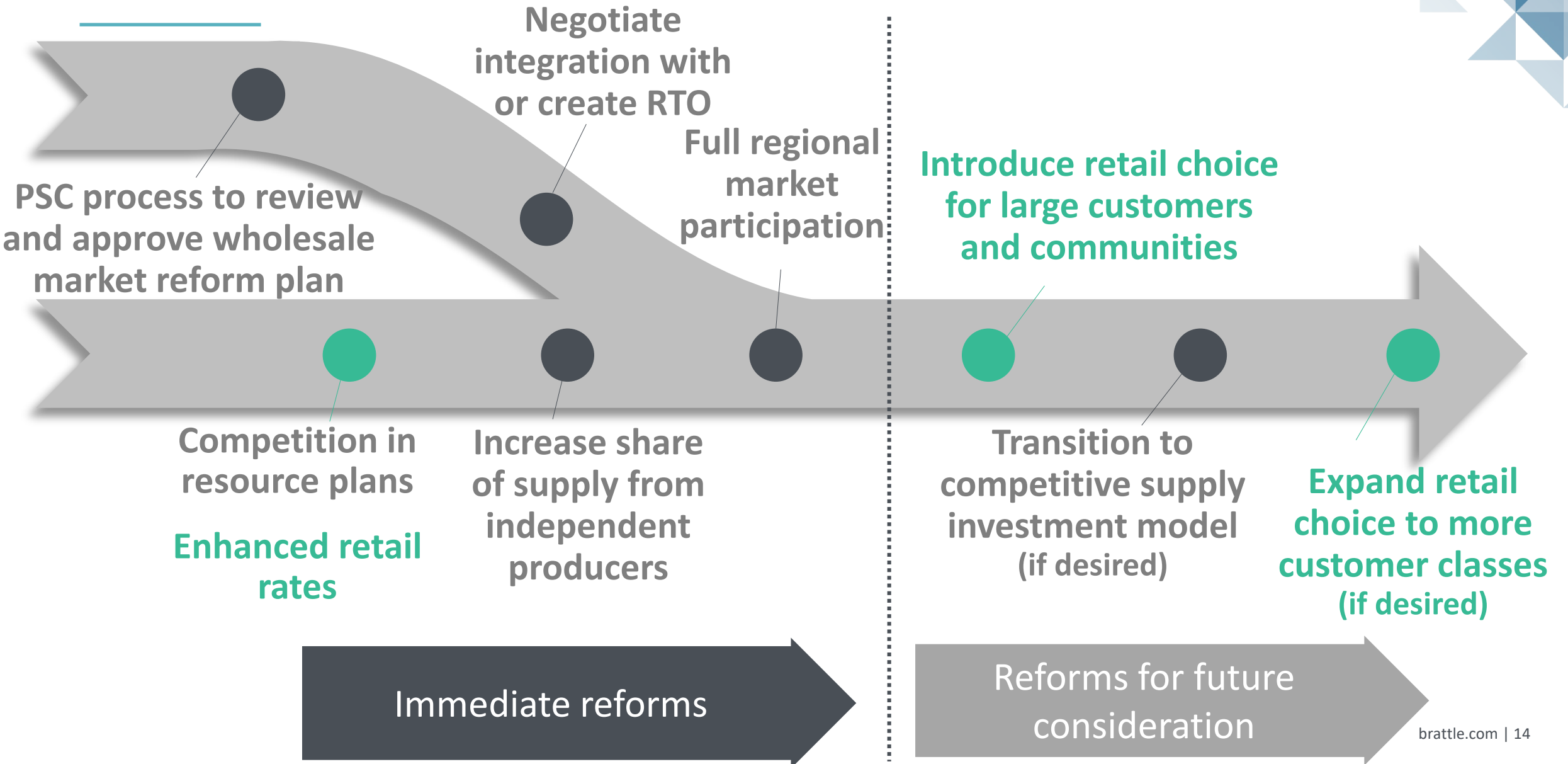
Our benefit-cost analysis indicates that South Carolina customers can save \$25-\$120 million in the near term and \$150-\$370 million in the long-term if the state transitioned to full or partial reliance on competitive supply investments



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



Recommended Retail Reforms

Reform Option	When?	Recommendations
Utility Retail Rate Reforms	Immediate	Authorize (and perhaps require) the PSC and regulated utilities to evaluate options for expanded and enhanced retail rate choices
Partial Retail Choice (large C&I customers)	Future (After RTO Participation)	Introduce partial retail choice for large C&I customers
Community Choice Aggregation (CCA)	Future (After RTO Participation)	Introduce a path for Community Choice Aggregation
Full Retail Choice (including residential and small businesses)	Future (After RTO Participation)	Defer consideration of retail choice for residential and small business customers until after other reforms are implemented
Competitive Reforms to Enable DERs	Immediate & Future	Enable distributed energy resources and demand response from third-party providers to compete in all-source supply solicitation
Third-Party Energy Efficiency Administrator	Immediate	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 exist to reduce customer electricity bills but that have not been fully pursued under existing structures