

# South Carolina EMRM Study

BRATTLE GROUP UPDATE

PRESENTED BY  
JOHN TSOUKALIS

PRESENTED FOR  
ELECTRICITY MARKET REFORM  
MEASURES STUDY COMMITTEE

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# Review of Market Reform Options being Studied

In July we discussed our recommendation and plan to simulate the power system in the Southeast and analyze four market reform options

## Recommended Market Reform Options

Joint Dispatch Agreement in the Carolinas

Energy Imbalance Market in the Southeast

Southeast RTO  
(w/ Vertically Integrated Utilities)

Carolinas in PJM RTO  
(w/ Vertically Integrated Utilities)

*The analysis will need to start with an assessment of the Status Quo, including the SEEM*

- To study the SEEM we would develop a model of the power system in the entire Southeast
- We would simulate one scenario for each option and compare against the Status Quo
- We recommend studying one near-term future year
- We will ask the Advisory Board to provide data and information to build and accurate model

# Review of Market Reform Options being Studied *(continued)*

**We also discussed our plan to analyze additional market reform options outside of the simulation model, based on previous analyses and the experience in other jurisdictions if applicable to South Carolina**

## **Additional Market Reform Options to be Analyzed**

**Partial Retail Choice (large C&I Customers)**

**Alternative Retail Rate Design Options**

**Increased Tx Access for Generation**

**Third Party Energy Efficiency Admin**

**Securitization of Retiring Assets**

**Competitive Solicitation in Existing IRPs**

**Regional/State Transmission Planning**

**Statewide IRP Process**

# Work In-Progress

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- Our modeling team has **licensed, received, and begun testing** the power system simulation model for the Southeast and PJM
  - Testing the model assumptions such as, thermal generation retirements, new generation resource additions, load forecasts, and
  - Confirmed and updated modeling assumptions for utilities outside of South Carolina, such as Louisville Gas & Electric, SoCo ,TVA, and in the PJM region based on the most recent public IRPs
- Our team is finalizing a multi-party NDA with the utilities in South Carolina, to allow us to work with those entities to ensure our simulated power system reflects actual operation for their transmission and generation resources
  - We hope to have the NDA finalized within the next week
- We have begun calibrating the simulation against historical outcomes from recent years, including resource generation, system costs, and power flows.

# Modeling Tasks Next-Up

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- **Finalize NDA with South Carolina utilities**
- **Work with South Carolina utilities to incorporate data on their system and resources**
  - This includes forecasted demand, the variability of renewable resources, updates to generation resource mix, fuel cost projections, and constraints/limitations of their transmission systems
- **Finish calibrating model against historical outcomes**
  - Fine-tune the model to closely match historic year generation and system costs
  - We will show results to Advisory Board (scheduling meeting for mid-September with Advisory Board) to gather input on calibration efforts and feedback on replication of system operation
- **Create simulation cases for each of the four market reform options, and the status quo case that includes the SEEM**
  - This includes working with entities that will participate in the SEEM on modeling the market design, and testing the reasonableness of market outcomes
- **Simulate status quo and market reform options, and estimate costs and benefits of each option**
  - This includes showing Advisory Board preliminary results and getting feedback on model results, generation fuel mix, transmission flows, prices, and benefit/cost results

# Study Timeline

