

A Leaner, Greener Resource Plan for Santee Cooper

Three Key Takeaways:

- Santee Cooper’s resource roadmap was prepared jointly with Central, in a process that included numerous meetings to develop assumptions, identify relevant scenarios, and review results.
- The resulting resource roadmap will retire one of two remaining coal generating stations, increase use of solar power and other resources that reduce environmental impacts, incorporate advanced technologies like battery energy storage, encourage demand-side management and demand response implementation, ensure system reliability and plan for a diversified, low-cost resource portfolio that reduces our carbon footprint 55%.
- The resource roadmap creates operating efficiencies that reduce annual revenue requirements by at least \$220 million, an 11% reduction, savings that will help us hold retail rates stable for at least 10 years.

Santee Cooper’s recently completed ‘2020 Integrated Resource Plan’ provides a roadmap to achieve a diversified and environmentally sustainable portfolio of resources. This roadmap appropriately balances our core Resource Planning Principles, which were initially adopted for our Reform Plan and continue to guide our resource planning efforts today. In this paper, we summarize the key elements of our resource roadmap and highlight its benefits to our customers and the environment. This roadmap was prepared jointly with our largest customer, Central Electric Power Cooperative, a collaboration made possible through Act 135. Central and Santee Cooper’s staff and consultants participated in numerous meetings to develop key assumptions, identify relevant scenarios, and review results.

Resource Planning Principles

- Ensure Reliability
- Customer Focus
- Cost Management
- Environmental Stewardship
- Long-term View
- Reduce Financial and Planning Risk
- Embrace Innovation
- Transparency

Recent Resource Planning Actions

Santee Cooper implemented the following important resource actions and planning steps in 2020, as permitted by Act 135:

- Issued a Request for Proposals (RFP) to solicit up to 500 megawatts (MW) of solar generation, jointly with Central, and started executing contracts originating from this RFP.
 - Filed an Integrated Resource Plan with the Office of Regulatory Staff in December 2020 in accordance with provisions of Act 62.
 - Idled Winyah Unit 4 in December 2020 (accelerated from a planned date of 2023 in the Reform Plan), with planned retirement of the entire generating station by 2027 or 2028.
 - Conducted planning studies related to installation of 20 megawatts of quick-start capability near our Conway substation to ensure system reliability and enable idling of Winyah coal units. We expect to deploy quick-start resources already owned by Santee Cooper that are currently located at the V.C. Summer site.
 - Performed studies of transmission system upgrades to support the resource roadmap and initiated such upgrades.
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Key Elements of Our Resource Roadmap

Guided by our Resource Planning Principles, Santee Cooper has established a roadmap that provides a dramatic transformation to a diversified and environmentally sustainable portfolio of resources. This resource roadmap is designed to provide reliable service to customers, is based on realistic assumptions, can adapt as future conditions change (not dependent on a single set of future assumptions), provides affordable and competitive service to customers relative to other alternatives studied, and improves environmental performance under a wide range of market conditions. Key provisions would:

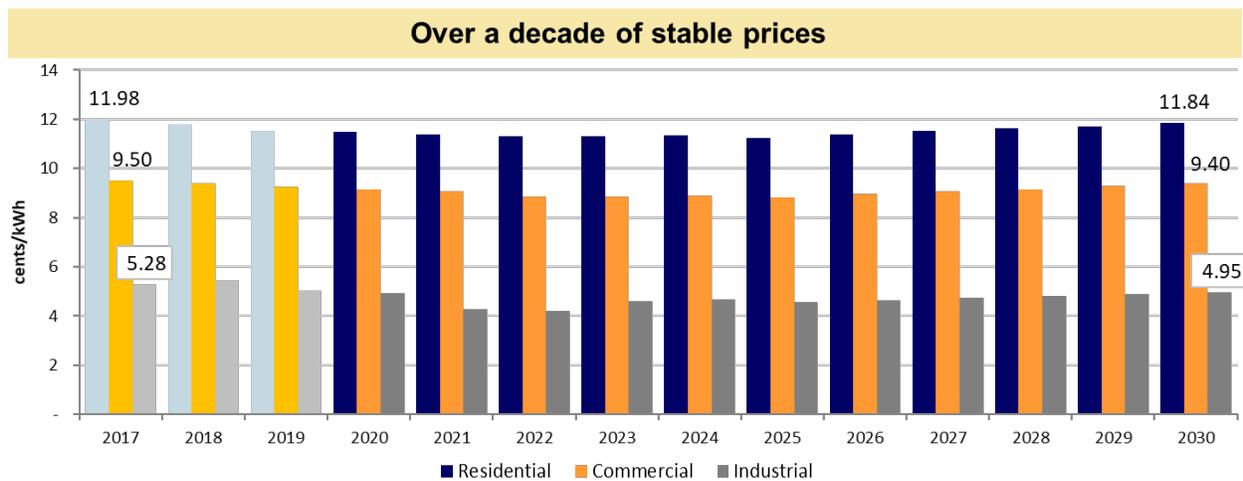
- Retire 1,150 MW of coal resources at the Winyah Generating Station in a phased manner.
- Add 1,500 MW of new solar resources by the mid-2030's, including adding 500 MW by 2023 under a current RFP process.
- Add 200 MW of utility-scale battery storage in phases starting in the mid-2020's.
- Add approximately 550 MW of new natural gas-fired resources to replace the Winyah resources once all units are retired.
- Identify opportunities for purchasing power to meet future load growth and resource needs in a flexible and economic manner.
- Implement demand response programs to avoid approximately 85 MW of winter peak load by 2027, increasing to 106 MW by the mid-2030's.
- Ensure system reliability by upgrading the transmission system to accommodate resource additions.

Projected Impacts and Benefits

Santee Cooper's resource roadmap creates a diverse and reliable portfolio that improves operating efficiency, incorporates innovative technologies, and reduces environmental impacts for the benefit of Santee Cooper's retail and wholesale customers. Benefits include:

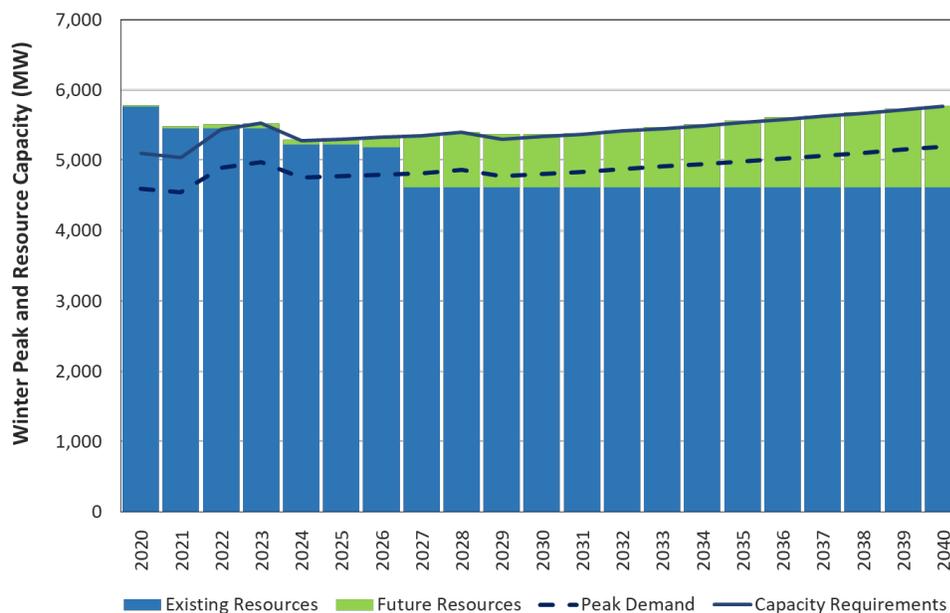
- **Low Cost** – Financial projections of the new resource roadmap reflect a reduction in average annual revenue requirements of at least \$220 million, an 11% reduction. The roadmap enables projected stable retail rates over at least 10 years, improving on benefits projected for the Reform Plan. (See projections of retail rates in Figure 1, below.)
- **Resources Balanced to Loads** – The resource roadmap retires existing resources, adds new natural gas-fired resources, and adds purchase power arrangements as needed, yielding a resource plan that closely matches installed capacity to future peak demands plus reserves. (See supply and demand balance depicted in Figure 2, below.)
- **Improved Resource Diversity** – Santee Cooper's power supply portfolio will become significantly more diversified under the resource roadmap by replacing coal-fired resources with lower-emitting natural gas, solar and energy storage resources. (See Figure 3, below, depicting the evolution of Santee Cooper's projected energy mix for 2033 since the pre-Reform Plan outlook.)
- **Carbon Footprint Reduction** – Incorporating renewable and lower-emitting resource in its resource plans allows Santee Cooper to reduce its CO₂ emissions by 55% relative to 2005. (See projections of CO₂ emissions in Figure 4, below.)
- **Lower Financial Risk** – Our capital-light resource roadmap minimizes new debt issuance by favoring smaller generating resources and power purchase agreements, as needed. Santee Cooper's not-for-profit business model means we are not incentivized to undertake large capital projects to earn a return on rate base, and we plan to shift capital and development risks to private developers if it results in lower rates (for example, our ongoing solar project).

- **Lower Planning Risk** – Our small, modular and phased approach to acquiring purchased power capacity, solar energy, and storage reduces risk and provides Santee Cooper an opportunity to adapt our plan to changing load and market conditions as well as benefit from declining costs and improving technologies.
- **Ensured Reliability** – Santee Cooper has developed its resource roadmap with consideration of transmission system upgrades necessary to assure system reliability, including the installation of quick-start resources following the idling and retirement of the Winyah resources.
- **Robust** – In developing its roadmap, Santee Cooper evaluated resource plans under a range of assumptions for future loads, natural gas prices, and greenhouse gas regulations to assure the resource roadmap provides a robust and flexible power supply plan.



Note: Industrial rates are based on aggregate industrial revenues and sales including non-firm.

Figure 1: Projected Retail Rates



Note: Excludes solar capacity, which is assumed to provide no contribution to meeting the winter peak demand.

Figure 2: Supply and Demand Balance

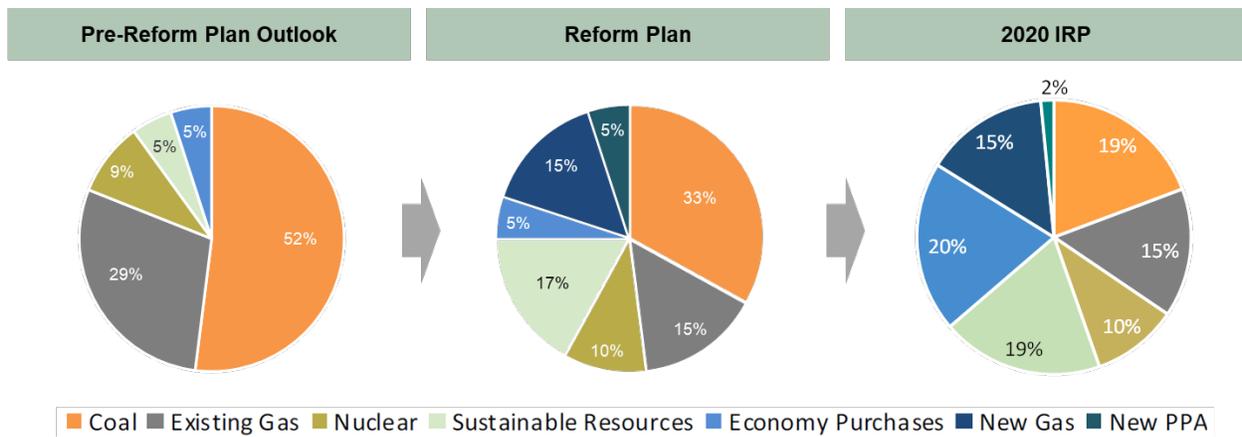


Figure 3: Evolution of Projected Santee Cooper Generation Mix for 2033

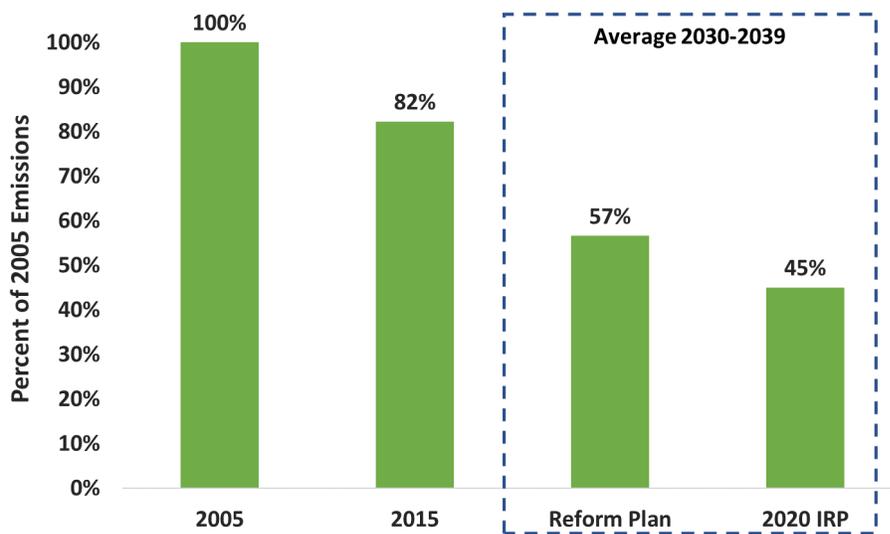


Figure 4: Projected CO₂ Emissions of the Santee Cooper System

A Leaner, Greener Resource Plan

By focusing on these planning strategies, Santee Cooper’s resource roadmap will create a diverse and reliable portfolio of resources that incorporates innovative technologies, improves operating efficiency, reduces environmental impacts, adapts to market conditions, and results in significantly lower overall cost as compared to the pre-Reform Plan outlook.