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Santee Cooper Business Forecast



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1 EXECUTIVE SUMMARY

Santee Cooper's mission - to serve as the state's leading resource for improving the quality of life for the people of South Carolina - remains the central guiding tenet of the organization.

Santee Cooper has taken a number of steps to address the challenging issues facing our company:

- 1. Engaged stakeholders transparently and responsively
- 2. Brought on board an experienced public power CEO and Deputy CEO with specific expertise in the critical matters confronting Santee Cooper
- 3. Maintained stable customer prices through aggressive expense management, the prudent and strategic use of the Toshiba settlement and deployment of available cash flow to manage debt
- 4. Examined long-term load expectations and generation and transmission needs to develop a plan to revitalize Santee Cooper's resource mix and prepare the company for a cleaner energy future

Santee Cooper is pleased to present its 2019 Business Forecast. The Forecast features an innovative and significantly greener resource mix, strategic financial transactions that will use approximately \$925 million of internal funds in the next two years to pay down nuclear debt, partnerships with neighboring utilities to reduce costs and generate operating efficiencies, and a broad set of other initiatives that will preserve reliability, reduce Santee Cooper's costs and carbon emissions, and accelerate the rollout of new customer service technologies. Santee Cooper's customer prices, in real terms, have declined since 2014. The new plan will reduce future costs and thus keep prices stable at, or likely below, today's levels for at least 5 more years.

Santee Cooper's cost allocation process ensures equitable treatment of customer classes (Residential, Commercial, Industrial, and Central), irrespective of whether rates are established through contracts or rate schedules. Our "returns" by customer class are relatively consistent and are within a narrow range.

The new resource plan:

- 1. Phases out the coal fired Winyah Generating Station. Two of the four units will retire in 2023 and the remaining two units will retire in 2027. These unit retirements will reduce reliance on coal by approximately 40% at that time.
- 2. Increases Santee Cooper's solar generation by more than 500%, adding some 1000 MW by 2024, over and above the 160 MW expected to be added to the system by 2020.
- 3. Provides 200 MW of battery storage the largest commitment in South Carolina to this technology phasing in between 2024 and 2028.
- 4. Adds at least 100 MW of dual-fuel aeroderivative turbines by 2023 in order to preserve reliability in the near term, with 500 MW of gas fired capacity added in 2027 and another 500 MW early in the next decade.
- 5. Locates solar and battery storage strategically to support system reliability and evaluates multiple sites for new gas-fired generation to leverage possible alliances.
- 6. Reduces Santee Cooper's carbon emissions by ~30% over the next decade.

The Coordination Agreement provides for Santee Cooper and Central Electric Power Cooperative ("Central") to coordinate planning of new resources. We look forward to discussing this forecast with them when permitted by

the Department of Administration process. They and Santee Cooper's other customers will directly benefit from this plan.

The Forecast also contemplates several strategic financial transactions and cost saving initiatives including:

- 1. Committing over \$925 million to nuclear debt payoff in the near term \$350 million from currently available internal funds, an additional \$150 million in internal funds in 2020, and \$425 million that we anticipate receiving from the sale of the V.C. Summer Units 2 and 3 equipment over the next year or two.
- 2. Refunding \$175 million of outstanding mini-bonds with lower interest rates debt.
- 3. Maintaining a reduction in staffing levels of at least 10% compared to 2017.
- 4. Hedging purchased power for several years to create greater certainty on costs, and thus customer rates.

Santee Cooper is seeking opportunities for strategic alliances with other utilities, where possible, to provide economic benefits and increased efficiencies through coordinated operations and joint planning efforts. As we enter into these alliances, estimates of savings will be developed and included in our plans once available.

The Forecast assumes acceleration of the rollout of modern smart meter technology in Santee Cooper's direct served territory. This effort will be the focal point of a new emphasis on innovation in convenience, conservation, choice and information to our customers. We are evaluating the potential benefits of issuing securitized debt (a financing mechanism that can yield savings) to refinance nuclear debt and opportunities in fiber utilization (rental opportunities which can yield new revenues). These initiatives may require new or different statutory and/or regulatory authorizations for Santee Cooper.

The Forecast maintains Santee Cooper's broad mission including the maintenance of the lakes and economic development. Santee Cooper incurs a number of costs and obligations not typical of an investor owned utility. These items are all included in the Business Forecast. As the Forecast will show, we are fully committed to Santee Cooper's broad mission and our role as a positive agent of change for the state of South Carolina.

Optimizing Santee Cooper's business is a continual effort and a substantial amount of time and energy has been committed by the new management team to put this Forecast forward. With this Forecast, we put our best foot forward at this moment in time, given where we are and what we know today. As such, as we progress over the coming months, we may find further ways to enhance this plan for the benefit of our customers and the state of South Carolina.

It is our belief that the Business Forecast will transform Santee Cooper into an innovative 21st century utility serving its core purpose of providing affordable, reliable electricity and water to customers and providing economic development benefits to South Carolina. We believe that our plan represents the best use of Santee Cooper's assets and are confident of delivering value to all our customers, the State and other stakeholders.

New Power Supply Roadmap for Santee Cooper

Santee Cooper has identified a series of changes to its generation and transmission systems that will result in more affordable and competitive service to wholesale and retail customers that rely on Santee Cooper for their electricity needs. In addition to making the future cost of electricity more affordable, the changes identified will preserve the reliability of our supply and will significantly reduce the carbon footprint of our generation fleet. The new plan enhances the diversity of Santee Cooper's resource portfolio and thereby better positions Santee Cooper to adapt as conditions change in the future.

More specifically, Santee Cooper plans to restructure its power supply portfolio in the following ways.

- 1. **Improve Resource Diversity** Progressively work to implement a much more diverse portfolio of resources in terms of types of energy sources used, fuels used in production of electricity, and development of demand-side programs. Emphasis on diversity will allow Santee Cooper to provide more affordable and reliable service to customers under a wide range of future conditions.
- 2. Reduce Reliance on Coal and Increase Use of Sustainable Resources Increasingly harness more environmentally friendly resources in a cost-effective manner. This will involve replacing certain coal units on the system with renewable resources and clean, high-efficiency natural gas-fueled resources. Aggressively pursuing environmentally friendly resources will allow Santee Cooper to protect the environment while delivering reliable supply at the most affordable cost available.
- 3. Continue to Maximize Value to Our Customers from Favorable Regional Energy Markets Maximize purchases of lower-cost energy from resources connected to surrounding transmission systems. Over the past several years, Santee Cooper has taken advantage of favorable market conditions to save customers tens of millions of dollars per year by purchasing energy from natural gas-fueled resources connected to surrounding transmission systems. Maximizing benefits of this strategy will continue to make electric service more affordable for our customers and minimize carbon produced in the production of electricity a win for our customers and the environment. This strategy will complement other changes being made to reduce costs and lower carbon emissions. Santee Cooper also plans to lock in a certain level of these benefits into the future through multi-year contracts and other approaches.
- 4. **Right-Size New Generation Resources -** Plan future generation resources in smaller increments with the flexibility to closely match resource commitments to future loads. This strategy assures Santee Cooper will not make greater investments than needed to reliably serve its customers.
- 5. **Carefully Plan Generation Resources Considering Transmission System Impacts** Develop generation plans that are also efficient from the perspective of the need for new transmission lines. This strategy minimizes costs for Santee Cooper customers and is beneficial from an environmental stewardship point of view.

Overall, Santee Cooper is targeting a portfolio of resources with more innovative technology, significantly greater operating efficiency, diversity, and enhanced environmental performance with a lower carbon footprint. Santee Cooper will balance new generation and transmission additions to achieve the most economic results. Our bottom line - accomplish this transition to provide more affordable and reliable service to our customers.

Santee Cooper's Existing Power Supply Portfolio

Santee Cooper's current power supply portfolio is heavily weighted toward coal-fired resources. **Figure 1** below shows the projected mix of energy resources for 2020 and 2033 and the capacity resources in Santee Cooper's existing portfolio. As shown, unless the portfolio is changed, approximately 44% of Santee Cooper's energy would be projected to come from coal resources in 2020 increasing to approximately 52% by 2033. The increase would result from growth of our customers' energy needs and projections that suggest that Santee Cooper would have fewer opportunities by 2033 to save on fuel costs by purchasing energy from surrounding systems. (See the reduction in "Economy Energy Purchases" from other utilities shaded in blue.)





¹ Financial Forecast used in ICF Process.

Identifying Desired Changes

As explained more fully earlier, Santee Cooper has determined to move toward greater diversity of resources, less reliance on coal, greater use of renewable resources, increased emphasis on energy efficiency and demand response programs, and increased use of other environmentally friendly generation resources, including highly efficient natural gas generation units.

To determine the best course forward in restructuring its power supply portfolio in those directions, Santee Cooper embarked on a very significant planning effort. A wide range of power supply alternatives were considered including:

- 1. High efficiency natural gas combined cycle ("NGCC") generation plants ranging in size from 541 MW to 1,081 MW of capacity at multiple locations;
- Adding a heat recovery steam generator ("HRSG") and steam turbine to two existing combustion turbine units at Santee Cooper's Rainey Generating Station to result in an additional 540 MW NGCC at that location²;
- 3. High efficiency natural gas simple cycle combustion turbines ("NGCT") generation plants ranging in size from 221 MW to 337 MW of capacity at multiple locations;
- 4. Small aeroderivative NGCTs with special quick start capabilities at various sites near Santee Cooper's load centers;
- 5. Various demand side programs aimed at reducing customer demand for electricity during the highest load periods, particularly in the winter, and improving efficiency of our customers' use of energy;
- 6. Solar resources that would be obtained by contracting to purchase output of plants owned by specialists in the development of solar power;
- 7. Utility-scale battery storage devices;
- 8. Purchases of output from NGCCs connected to adjacent transmission systems under power purchase agreements expected to have terms of 5 years or longer; and
- 9. Purchases of so-called "economy energy" from adjacent market areas, which is typically done for hours or days at a time and may be interruptible by the seller.

Siting and Fuel Supply Options for New Natural Gas Fueled Resources

The consideration of potential new NGCCs and NGCTs required analysis of potential natural gas supply arrangements with interstate natural gas pipelines, regional networks, and lateral extensions from various pipeline systems. The consideration of many of the above options also involved consideration of impacts on Santee Cooper's electric transmission system.

² The Rainey site currently includes a 540 MW NGCC, two F-Class NGCTs, and three smaller E-Class NGCTs. The change analyzed would not result in more generation capacity at Rainey because of existing constraints on the transmission system in that area that would be extremely costly to resolve. The two existing F-Class NGCTs would be combined with the new HRSG and steam turbine to achieve the new NGCC resource. Operation of other smaller NGCTs at Rainey would be restricted when the two 540 MW NGCCs at the site are in operation.

Figure 2, below, shows options being considered for siting new NGCC and NGCT generation units. Among the site options in Santee Cooper's area (shown with red symbols), sites at PeeDee, Winyah, and near Summer rise to the top as having the most economic potential.

Note that supply of natural gas for the PeeDee and Winyah sites is expected to be via the Atlantic Coast Pipeline ("ACP"), which is under development and scheduled to be completed early in the 2020s. The ACP is a joint venture of Dominion Energy, Duke Energy, Southern Company Gas, and Piedmont Natural Gas. The pipeline would extend 600 miles with the capacity to transport 1.5 billion cubic feet of natural gas per day from Appalachian shale gas sources to the mid-Atlantic region, terminating in North Carolina near Lumberton. Natural gas transported from the terminus of the ACP to Santee Cooper sites would be delivered into South Carolina via new natural gas pipeline networks or laterals that could be developed by Dominion or Santee Cooper. Natural gas supply would also be available for sites near or at the Virgil C. Summer Nuclear Generating Station ("Summer") from the existing Transcontinental Gas Pipeline ("Transco"). Transco advises that supplying fuel to new Santee Cooper NGCC resources would require upgrades to Transco's system.

Other sites shown on **Figure 2** below with green symbols are existing Dominion Energy South Carolina ("Dominion SC" plant sites. Notice that Dominion SC's system overlaps with Santee Cooper's system. The proximity of our system areas may offer opportunities to collaborate in the future on generation plans and fuel supply arrangements.



Figure 2 - Potential Sites for New Generation Resources

Figure 3 below is a map of the area electric transmission system. Santee Cooper's system has been optimized over the years to serve load from generation resources currently in Santee Cooper's portfolio. Retirement of the Winyah

Generating Station requires very costly improvements to the system unless replacement generation is installed in specific areas. Accordingly, assessments of each option for siting a new power generation facility requires balancing the cost of resolving impacts on the Santee Cooper transmission system against the cost of natural gas pipeline access and fuel delivered via that pipeline path.



Figure 3 - Area Transmission System Map

Significant transfer limits can exist, reducing Santee Cooper's ability to transfer power into the system from adjacent systems. This capability is often used to maximum effect when making near-term economy energy purchases. Significant upgrades to the transmission system intended to increase the transfer capability with adjacent systems are very costly and can require upgrades to adjacent systems to realize the desired capability increase.

Factors Driving Santee Cooper's New Plan

The analysis of potential resource plans identified most economic combinations of Santee Cooper's existing resources and the above types of potential new resources consistent with flexibility to adapt as conditions change and with providing reliable service to customers that depend on Santee Cooper for their electricity needs.

Key factors that impacted the analysis Santee Cooper performed of potential alternative plans included:

1. Sites at which new NGCCs could be developed at the most favorable total costs of natural gas pipeline access and delivered costs, and required upgrades to the electric transmission system needed because of the resource changes being considered;

- 2. Projections of the costs of construction, operation, and maintenance of potential new resources, pipelines, and electric transmission upgrades;
- 3. Time periods required to plan, permit, procure, construct and place into service new generation facilities, electric transmission system improvements, and extensions and upgrades to natural gas delivery systems which range from three to ten years depending on the option being considered;
- 4. Assumed costs of purchasing energy from solar projects, the profile of energy that would be provided from those projects on a must-take basis, variability of output of solar resources as weather conditions change, and initial analyses as to the amount of solar capacity Santee Cooper should include in the plan pending more detailed operational studies and more information about future load levels;
- 5. Estimates of costs that would be avoided by retiring existing coal units and stations and time required for appropriate personnel transition processes;
- Expectations and assumptions regarding inflation and escalation of labor and material costs, environmental compliance costs, and delivered costs of coal and natural gas for the necessary longterm planning horizon (through the 2030s and beyond to consider cost implications of decisions to undertake resources that would have useful lives extending into the 2050s);
- 7. Long-term forecasts of customer demand for and patterns of use of electricity; and
- 8. Governmental policy regarding legislation to impose a tax or other means to constrain production of carbon in generation of electricity

Santee Cooper and its advisors assembled internally consistent assumptions with respect to the above factors and performed comparisons of numerous alternatives to arrive at the plan discussed below.

To be more specific, the assessment of alternative resource plans identified the most favorable combinations for Santee Cooper's customers of the following metrics:

- 1. System operational reliability;
- 2. Projected required costs to customers over the long-term;
- 3. Capital and debt requirements;
- 4. Competitive considerations alignment of Santee Cooper's costs and charges with surrounding utilities under various scenarios;
- 5. Potential impact on economy energy purchase opportunities;
- 6. Projected reduction in carbon emissions;
- 7. Impact on Santee Cooper's customers of various sensitivity/risk analyses;
- 8. Qualitative assessments of factors that are best considered by experienced judgement; and
- 9. Other key factors to be addressed as more information becomes available.

Roadmap to the Future

Importantly, Santee Cooper has built flexibility into the plan to adapt to dynamic future scenarios. Accordingly, the following roadmap can and would be modified as more information becomes available, additional studies are completed, discussions with potential partners progress, and needs of our customers change.

Our commitment to our customers and other stakeholders is to move toward the future described above in an aggressive, yet responsible, manner consistent with providing affordable and reliable service to our customers.

Accordingly, Santee Cooper's current initial road map to its power supply future is as follows.

1. Retire the Winyah Generating Station by early 2027 using a Phased Retirement Approach

The Winyah Generating Station would be retired by removing two of the four generation units at the station from service in 2023, which will reduce the capacity available to serve load by approximately 580 MW.

To ensure reliable supply to customers without the two retired Winyah units, Santee Cooper plans to:

- Install two quick-start dual-fueled combustion turbine generation units totaling approximately 100 MW of capacity to be used during peak load periods and contingencies on the transmission system near Santee Cooper's load centers;
- Purchase from parties connected to adjacent transmission systems approximately 30 MW of capacity in winter months of 2023 or such other amounts as may prove necessary in the 2023-2036 period if loads are different than now forecast; and
- Adjust maintenance outage schedules in the spring and fall seasons to assure adequate reserves during those periods.

Retirement of the other two generation units at Winyah would then occur in 2027, which will reduce generation capacity available to serve load by approximately 570 MW. Santee Cooper will coordinate the final timing of the retirement with development of approximately 500 MW of capacity from a high-efficiency NGCC generation unit. Santee Cooper intends to work with other utilities to explore the most effective ways to provide this additional NGCC capacity that best matches Santee Cooper's capacity needs and allows customers to benefit from economies of scale from developing larger-sized generation units.

As the retirement of Winyah progresses, Santee Cooper will work to minimize expenditures at the plant and to productively and appropriately transition the approximately 200 loyal employees at Winyah.

2. Add approximately 1,000 MW of renewable generation on the Santee Cooper system by 2024

Santee Cooper plans to enter contracts with multiple development companies to purchase the output of renewable generation assets the developers would finance and construct at multiple sites. Santee Cooper anticipates that the preponderance of this 1,000 MW of renewable capacity would be obtained under contracts with companies that specialize in development of photovoltaic solar projects. To acquire market intelligence on costs and timelines for solar projects, Santee Cooper intends to issue a Request for Information in 2019.

Weather conditions can interrupt supply of energy from solar resources. Therefore, Santee Cooper's plan anticipates installation of the new solar resources at diverse locations relatively near our load center. Specifically, Santee Cooper is targeting multiple sites in the eastern third of the State to achieve geographic diversity of solar resources. As a rule of thumb, 7 to 10 acres of land are typically required per MW of solar generation capacity. Therefore, installing 1,000 MW of solar capacity can be expected to require approximately 7,000 to 10,000 acres of property.

Solar capacity produces energy only as solar conditions allow. Santee Cooper anticipates that very little energy would be produced by the solar resources during times of day in the winter and summer in which customers' demand for electricity from the Santee Cooper system is highest. Accordingly, adding solar resources is not expected to reduce the amount of generation capacity Santee Cooper will need to reliably serve its customers' loads during the highest customer demand periods. Instead, the addition of solar resources is expected to mainly offset the amount of energy that would otherwise be produced from carbon-producing generation resources.

During the hours of the day when output of solar resources normally would be highest, energy from 1,000 MW of solar capacity would represent approximately 20% to 30% of the total demand for energy of Santee Cooper's customers in summer and winter months. However, in minimum load months such as March, April, October and November, Santee Cooper's loads during the hours of solar energy production are much lower and therefore the amount of solar energy provided to the system would represent a much higher proportion of Santee Cooper's total load.

Figure 4 below illustrates use of 1,400 MW of solar capacity on a peak load day in April 2030. Note that the amount of solar energy (yellow shaded area) available represents a larger portion (approximately 50% or more) of Santee Cooper's total demand for energy of approximately 2,500 MW in the applicable hours. The green shaded area represents energy provided from NGCC resources needed to serve load in the hours before, during and after the hours in which solar energy is being provided to the system.





The issue illustrated by **Figure 4** is that the NGCC resources represented by the green areas are shown to operate very near their minimum output levels in the hours when solar output is highest. Dispatchable generation plants can be throttled back from full output, but only to specified minimum limits. If load were to be insufficient for those plants to operate at least at minimum output levels, Santee Cooper would either need to use less cost-effective resources during the day to serve its load or sell excess energy into adjacent markets (even if the price is well below cost of production). Considering this analysis is based on projected 2030 load levels, the potential for Santee Cooper's loads to be lower than projected also has to be considered.

In the analysis underlying **Figure 4**, Santee Cooper modeled various amounts of solar capacity up to 1,400 MWs. Based in part on that analysis, Santee Cooper has assumed it could fully use the energy from up to 1,000 MW of solar capacity under a wide range of future load forecasts and readily manage various operational issues related to that use. However, before planning solar capacity amounts above 1,000 MW,

Santee Cooper will conduct further analyses because those larger amounts would create operational issues that would need to be addressed.

Accordingly, at this time, Santee Cooper has targeted adding 1,000 MW of solar capacity by 2024³. As Santee Cooper performs additional simulations, considers advanced storage devices as technology in that area improves, and learns more about future load levels, it hopes that installing additional solar resources would be advantageous for its customers and address all issues that could adversely impact system reliability, quality of power delivered, or economical use of other resources.

3. Progressively add 200 MW of energy storage devices to Santee Cooper's system

Santee Cooper has initially targeted the installation of energy storage devices that would meet approximately 200 MW of customer demand by 2028.

Capabilities and costs of energy storage devices are expected to improve significantly over the next several years. By phasing in the addition of storage devices, Santee Cooper intends to capture the greatest benefit for its customers at the most reasonable cost available.

Storage devices will be helpful in managing:

- Abrupt early morning changes in demand of Santee Cooper's customers during the winter season;
- Early evening peak customer demands during summer months;
- Abrupt change in the output of solar facilities as weather conditions change;
- Use of energy produced by solar resources in minimum load periods; and
- In certain cases, abrupt changes in demand of certain large customers

Colocation of battery and solar capacity makes sense for many reasons including economy of project development to operational considerations. Battery resources are often thought of as being used to store energy produced by solar resources. On an integrated electric system like Santee Cooper's, conventional resources would typically be called upon to produce additional energy for the battery storage. This energy is used later to manage fluctuations in solar plant output, regulate balance of energy demand and supply, and meet loads during highest load periods.

4. Progressively implement programs that would reduce the loads of customers during peak demand periods, particularly in the winter

Santee Cooper has initially targeted demand-side programs to meet approximately 150 MW of customer winter peak load by 2027 and growing to 200 MW by 2037.

The planned programs would allow Santee Cooper to control key loads or incentivize customers to reduce demand for electricity during the winter periods of highest demand, which typically occur in the hour ending 8 am from December through February.

Examples of these programs are demand reduction through conservation, conservation voltage reduction, direct load control of residential and commercial equipment, and critical period pricing.

Central comprises a very large proportion of Santee Cooper's load. Therefore, coordination of these efforts with Central, particularly targeting the winter peak demand periods, will be very important.

³ Utility scale solar capacity resources can be added within a two- to three-year period. Waiting until more information is available reduces risks of over committing to solar resources while allowing Santee Cooper to gain further information from installation and operations of the planned 1,000 MW.

5. Further Evaluate Retiring the Cross Units

Should the Federal government impose a modest to significant carbon tax on utilities' emissions of CO₂, Santee Cooper would be able to significantly mitigate the impact of that tax on its customers by retiring Cross Generating Station.

Retirement of all four units at Cross Generating Station under current conditions would increase projected costs to Santee Cooper's customers and reduce the fuel diversity of Santee Cooper's power supply portfolio.

Santee Cooper has also considered the potential costs of retiring only Cross Units 1 & 2.

In evaluating whether to retire Cross 1 & 2, Santee Cooper considers that the units are projected to be used very infrequently to produce energy and therefore produce very low amounts of carbon each year. In addition, the units provide low cost capacity necessary to meet load during the highest demand periods of the year as well as when other generation units are out of service for maintenance, which allows Santee Cooper to defer investment in generation capacity needed without Cross 1 & 2.

6. Add High Efficiency NGCC Capacity in Increments Closely Matched to Peak Load Requirements

Due to the retirement of the Winyah Generating Station coupled with future growth in customer peak demand for electricity, Santee Cooper is projected to need additional generation capacity⁴. We assume this need will be met with capacity increments of approximately 500 MW from high-efficiency NGCCs and 350 MW from high-efficiency NGCTs.

Santee Cooper believes it will be successful in working with other utilities to achieve the economies of scale associated with larger-size generation units in the 1,000 MW size range. Participating with others in the development of future NGCC resources should allow Santee Cooper to better match the total capacity of its power supply portfolio with the capacity required to reliably meet winter and summer peak demands of its wholesale and retail customers.

Santee Cooper also expects to identify more favorable fuel supply arrangements by working with other utilities in the area.

7. Continue Maximizing Benefits of Energy Purchases from Surrounding Markets

As discussed above, favorable market conditions currently present Santee Cooper with opportunities to purchase energy from natural gas-fueled resources connected to surrounding transmission systems. Those opportunities can be expected to be fewer as markets change in future years. Maximizing benefits of this strategy in the interim will continue to make electric service more affordable for our customers and minimize carbon produced in production of electricity – a win for the Santee Cooper customers and the environment.

8. Work together with Surrounding Utilities to Find Mutual Benefits for Our Customers

Santee Cooper will seek opportunities to work with other utilities to explore various alternatives for mutual benefit to our customers, ranging from coordination of system dispatch, developing new generation, more favorable natural gas supply, capacity and energy transactions, and other efforts to reduce operational costs.

⁴ As noted above, the 1,000 MW of planned solar capacity is not expected to provided energy to serve Santee Cooper's customers during the hours when peak demand occurs.

Projected Key Outcomes

The changes to Santee Cooper's resource plan described above have been structured to result in improved portfolio diversity, more affordable electricity for Santee Cooper's customers, and significant reductions in carbon emissions.

In addition, the resource plan changes will increase flexibility to successfully adapt as the following conditions change:

- Government policy regarding carbon emissions;
- Growth or reduction in customers' demand for electricity and changes in patterns of customers' use of electricity;
- Market conditions impacting availability of attractively priced capacity and energy from power suppliers connected to adjacent transmission systems; and
- Costs of fuel commodities and fuel transportation options.

Figure 5 below demonstrates the flexibility in the new plan to adapt to changes in circumstances.

Flexibility to Changing Conditions											
Potential Changes in Conditions	Retire Cross 1 & 2	Retire Cross 3 & 4	Source of N Gas for NGCCs	latural New	Change Use of Resources	Change Sch of Res Additions	edule ource	Capacity Purchases from Others			
Carbon Tax Imposed	\checkmark	\checkmark			More solar / storage						
Higher Customer Demand						Advance increase resources DSM	/ and	Solicit capacity purchases			
Lower Customer Demand	\checkmark					Delay resources	new				
ACP Cancelled or Indefinitely Delayed			Supply Transco	from							
Lower Prices for Economy Energy from Adjacent Systems					Reduce use of coal units			Increase energy purchases			
Very High NG Prices					Reduce NG use by adding solar & storage and increasing coal unit production when economical						

Figure 5 - Potential Changes to the Plan to Adapt to Different Circumstances

During the 2023-2027 period, cost reductions compared to the Business as Usual ("BAU") case used by ICF are approximately \$90-120 million per year, and thereafter through 2040, approximately \$170 million annually. These cost reductions under the new plan are the result of the planned power supply changes as well as updated assumptions and projections.

As shown in Figure 6 below, by 2033 the new plan is projected to:

- Reduce Santee Cooper's reliance on coal from 52% to 30% of total energy needed for customers, a reduction of approximately 42%;
- Increase total energy supplied from renewable resources from 5% to 14% of Santee Cooper's total load, almost a three-fold increase⁵; and
- Increase use of natural gas resources (including economy energy purchases) from 33% to 46%, an increase of almost 40%.



Figure 6 - Santee Cooper's New Power Supply Plan

Under the new plan, carbon emissions would be substantially less on average during the 2030s than in 2005 and 2015, which are the years most often referenced in discussions concerning carbon-limiting legislation. As shown below in **Figure 7**, carbon emissions associated with electricity supplied to Santee Cooper's customers are projected to be 43% less than in 2005 and 30% less than in 2015, even though

⁵ Santee Cooper's hydroelectric, solar, and waste-to-energy carbon-free resources. Solar resources would increase by more than 500%.

by the 2030s, Santee Cooper's total load is projected to be 4% and 10% higher than in 2005 and 2015, respectively.



Figure 7 - Reductions in Carbon Emissions under the New Plan

Future Power Supply for Santee Cooper's Customers

Santee Cooper's approach to supplying power to its customers will be very different in the future. The changes being made today and planned for the coming years will result in more affordable and competitive service to our wholesale and retail customers without sacrificing reliability of service.

The new plan was structured specifically to avoid pitfalls that have created concerns in the past. The plan will significantly reduce Santee Cooper's dependence on coal and dramatically increase its use of renewable and clean, environmentally friendly resources, while minimizing capital investment required to make those shifts. These changes are good for the environment and reduce exposure to potential high costs of carbon tax legislation.

The plan will better align Santee Cooper's portfolio with the portfolios planned by surrounding suppliers, which will allow Santee Cooper to maintain competitive costs under a wide set of future conditions.

All power supply planning necessarily involves projecting costs and other conditions decades into the future. Understanding that those projections and assumptions will change, the new plan was specifically structured to be adaptable.

3 ORGANIZATIONAL AND COST REFORM PLAN

Santee Cooper has taken several steps to identify and execute on organizational and cost reform opportunities:

- 1. Reduce Headcount
- 2. Strategic Alliances
- 3. Other Initiatives Under Consideration

Reduce Headcount

Santee Cooper has an excellent workforce dedicated to serving customers and the state of South Carolina. The Company is consistently among the top state agencies ranked for diversity by the South Carolina Human Affairs Commission. In the Commission's most recent report, Santee Cooper finished first for agencies with 1,000 or more employees and third overall. Santee Cooper employees also earned the American Public Power Association's (APPA) Safety Award of Excellence for safe operating practices in 2018, earning first place in the category for utilities with 1,000,000 to 3,999,999 worker-hours of annual worker exposure.

Santee Cooper has reduced our staffing levels by approximately 10% since 2017. The utility is committed to maintaining that reduced headcount far into the future, producing ~\$18 million in annual savings in payroll compared to the 2017 budget.

- In July 2017, Santee Cooper withdrew from the VC Summer 2&3 Project and Santee Cooper's budgeted headcount for the 2017 fiscal year was 1,863
- In 2020, Santee Cooper's budgeted headcount will be approximately 1,675 (which is close to our current actual staffing level) reflecting a 10% reduction

Santee Cooper should see additional headcount reductions based on our new resource plan, and perhaps through strategic alliances with other utilities. These potential reductions are not reflected in the numbers above and would represent additional savings.

Later this year, as part of the ongoing effort to optimize operations, Santee Cooper is looking to develop a new organizational structure that aligns resources with key corporate priorities, normalizes management titles (including roles and responsibilities) and establishes management span-of-control expectations moving forward.

Strategic Alliances

Santee Cooper is seeking opportunities for strategic alliances with other utilities, where possible, to provide economic benefits and increased efficiencies through coordinated operations and joint planning efforts. As we enter into these alliances, estimates of savings will be developed and included in our plans once available.

- Examining coordinated planning and potential construction or acquisition of future infrastructure necessary to meet the generation and natural gas transportation capacity resulting from projected future demand
- Reviewing procurement policies and practices for standardization and volume buying opportunities to determine opportunities for coordinated management of these areas
- Optimizing utilization of existing generation resources
- Exploring synergies for partnership opportunities to meet coal combustion product (CCP) commitments
- Leveraging market intelligence on energy efficiency, grid modernization and demand side management options

As Santee Cooper establishes and analyzes these alliances, we will establish planning level estimates of expected cost savings resulting from these efforts. As the savings are identified, they will be added to the plan.

Other Initiatives Under Consideration

Organizational Benchmarking

Santee Cooper is appropriately staffed, and we benchmark with industry best practices on an ongoing basis. In 2018, a third-party consulting group, with no prior history with Santee Cooper, was hired to evaluate our organizational structure and staffing levels relative to industry best practices. The consulting group concluded that Santee Cooper's core operations are "quite strong" and its staffing levels are generally appropriate and align with comparable utilities.

In 2019, Santee Cooper hired another third-party consulting group, again with no prior history with Santee Cooper, to evaluate corporate procurement policies and coal-fired maintenance practices for potential cost savings and efficiencies. That evaluation is ongoing.

Employee Brainstorming

Earlier this year, Santee Cooper challenged employees to provide ideas for cost reductions, operational efficiencies, providing value to customers and the state, and other operational improvements. This multi-week effort yielded more than 1,000 ideas from employees across the organization.

Many of these ideas align with elements of this Business Forecast, such as increasing solar generation and pursuing strategic alliances. Dozens of additional ideas, some very focused and some far-reaching, will be considered for future implementation or a continuous improvement project. A team is in place to prioritize and pursue the most promising ideas.

Acceleration of Advanced Metering Infrastructure ("AMI") Technology

AMI technology helps utilities and customers be more efficient and save money. These smart meters feature twoway communication capability, which allows utilities to identify meters without power and thus speed up power restoration. Smart meters also eliminate the need for in-person meter reading, and the data provided helps utilities better understand customer energy use and devise energy-efficiency programs that meet customers' needs.

Customers benefit from AMI technology in other ways as well. Smart meters allow customers to track power outages remotely. These meters also provide a customer with real-time energy usage data, so that customers can adjust their energy use and save money.

Santee Cooper currently has over 30,000 AMI meters deployed in its retail service territory. We intend to fast-track full deployment so that all retail customers have AMI meters by the end of 2021.

4 BROAD MISSION, UNIQUE CONTRIBUTIONS & OTHER OBLIGATIONS

Santee Cooper's mission is to be the state's leading resource for improving the quality of life for the people of South Carolina. We have a unique mandate and an extensive stakeholder footprint that goes well beyond that of a typical electric or water utility. In our current form and as part of our ongoing commitment to the State, we make and solicit investments, manage critical infrastructure, generate employment and take on several responsibilities that benefit the residents of the State. The 2019 Business Forecast includes resources necessary for Santee Cooper to continue to provide existing programs and services and drive economic development.

Summary of Santee Cooper's Economic Development Impact

As a state-owned electric utility with an economic development mission, Santee Cooper has a long history of contributions to stakeholders in the state of South Carolina since its formation in 1934. Our operations provide jobs and economic stimulus throughout the State. We have played a vital role in economic development, providing grants and loans to help local governments and electric cooperatives attract industry, as well as developing commerce parks and providing technical assistance. Santee Cooper and the state's electric cooperatives have supported industrial development in all 46 counties of the State and helped secure more than \$15 billion in capital investment and 80,335 jobs across South Carolina since 1988. In addition, our lakes have become a tourist magnet for fishing, hunting, water sports and other outdoor recreational opportunities.

Capital Investment Attracted	>\$15bn since 1988
Job Creation Stimulated	> 80,000 since 1988
Direct Employment	1,600+ FTEs // >\$150mm Annual Payroll
Economic Development Loan Program	> \$102mm since 2012
Economic Development Grants	>\$50mm since 2014
Tourism from Lakes	>\$430mm annually

Santee Cooper, along with the state's electric cooperatives, has helped bring a number of major new employers into the region since 1998. Some notable recent examples of innovative industrial recruitment include Volvo, Google, Samsung, Mercom, Sigmatext, Startek, Wyman-Gordon, Executive HeliJet and Coca-Cola Consolidated. We were instrumental in creating the Charleston Regional Development Alliance after closure of the Charleston Navy Base in 1993. The CRDA continues to work today to strengthen regional employment and prosperity by recruiting leading global corporations, talent and entrepreneurs to the tri-county area of Berkeley, Charleston and Dorchester. We have contributed to the development of both inland ports, in Greer and in Dillon County, helping attract industry to those parts of the State.

Santee Cooper will continue to provide the following programs

Activity	Description
Revolving Credit ED Loans	 Loan program to help localities or cooperatives build industrial spec buildings or other infrastructure that attracts industry and jobs \$85mm cap
Site Readiness Grants	 Grants to assist local governments and cooperatives with projects involving the acquisition, improvement, or enhancement of valuable economic development sites and buildings \$4.5mm/year in electric cooperative service territory \$1.5mm/year in municipal customer territory
Santee Cooper Economic Development Investment Funds	 Closing funds offered as an incentive to prospective companies to locate or expand in South Carolina \$1.725mm/year in electric cooperative service territory \$1mm/year in municipal customer territory

Responsibility for Several Critical Public Services

Activity	Description
Lakes and Dams	 The Santee Cooper Hydroelectric and Navigation Project was created to impound the Santee River, transform its power into electricity and spark prosperity in Depression-ravaged rural South Carolina. Santee Cooper's activities include: Management of 170,000 acres spanning Berkeley, Calhoun, Clarendon, Orangeburg and Sumter counties Maintenance of over 40 miles of dams and dikes Management of 162 miles of waterways and navigational locks Analysis of samples from 48 water quality monitoring stations Weed regulation to prevent recreational/navigational blockages Mosquito control to prevent the spread of disease Property management for properties along the lakes
Regional Water Systems	 Santee Cooper operates the Santee Cooper Regional Water System on Lake Moultrie and the Lake Marion Regional Water System The Lake Moultrie System started in 1994 and expanded in 2017 and again in 2019 The system serves >182,000 people and has a capacity of 40 MGD The Lake Marion System, started in 2008 serves over 2900 people and has a capacity of 8 MGD

Activity	Description
Environmental Stewardship	 Santee Cooper serves as the primary sponsor of a number of environmental initiatives: Energy conservation (>200mm kWh saved a year vs. 2008) >\$50mm in low-interest Smart Energy Loans Giveaway programs for energy-efficient compact fluorescent light bulbs and LED bulbs Free online and in-home energy check-ups to help customers find ways to be more energy efficient and save money on their power bills Rebates to help customers install efficient HVAC systems, lighting, refrigeration systems and other energy-efficient products at home and work Wildlife support Help manage >18,000 acres of fisheries and state wildlife management areas Partnership with S.C.U.T.E. to protect loggerhead sea turtles in Georgetown and Horry counties Recycling Give Oil for Energy Recovery ("GOFER") program has resulted in recycling of 31mm gallons since 1990 Gypsum from SO2 removal used to produce drywall Beneficially used more than 3mm tons of pond ash since 2014
Education	 Santee Cooper administers numerous educational programs, materials and opportunities for students and educators to learn more about electricity, electrical safety and environmental stewardship Green Power Solar Schools College and university donations and scholarship support Energy Educators Institute Old Santee Canal Park

Santee Cooper is Currently Servicing Several Unique Long-Term Contractual Obligations as Part of Its Business Forecast

In the ordinary course of running its operations, Santee Cooper is exposed to a number of obligations and considerations. Such items include employee benefits, such as healthcare, funding pensions and other post-employment benefits ("OPEB"), nuclear decommissioning, as well as contracts to supply fuel or other services in the operation of its facilities. Santee Cooper's Business Forecast as outlined in this plan assumes that Santee Cooper continues to meet its obligations in the ordinary course of business.

Category	Net Exposure	Description & Observations					
Employee Matte	Employee Matters						
Pension	\$325mm ⁶	 Represents Santee Cooper's net unfunded pension obligation, including its share of the State's pension and its Supplemental Executive Retirement Plan (SERP) 					
OPEB	\$173mm ⁶	 Represents Santee Cooper's net underfunded OPEB liabilities Santee Cooper participates in the State's health insurance program for retirees and existing employees (managed by PEBA) 					

⁶ As of May 31, 2019.

Category	Net Exposure	Description & Observations					
		 Santee Cooper does not participate in the State's OPEB Trust and is responsible for funding its unfunded liability 					
Operations							
Nuclear Decom- missioning	\$414.8mm ⁷ (Total Asset Retirement Obligation) \$214.3mm ⁸ (Internal and External Trust Funding)	 Represents Santee Cooper's gross underfunded portion of its Summer 1 plant retirement obligation (\$414.8mm) and the accumulated funding to address it (\$214.3mm) Santee Cooper funds two accounts, its (i) External Trust to fund the Nuclear Regulatory Commission ("NRC") minimum; and its (ii) Internal Fund to fund projected costs in excess of the NRC minimum 					
Fuel, Transportation & Other Contracts	\$567mm ⁹	 Santee Cooper has various short- and long-term contracts in place to supply and transport nuclear fuel, coal and natural gas to its generation facilities 					
Hedges	\$39mm ¹⁰	 Santee Cooper has various hedges in place for natural gas and heating oil Santee Cooper has lines of credit (ISDA credit support agreements) in place to cover up to \$100mm of mark-to-market losses 					
American Gypsum	\$1.23b ¹¹	 As part of its economic development activities, Santee Cooper entered a contract to supply American Gypsum with a minimum quantity of gypsum each year for up to 60 years with output from its Cross and Winyah facilities. This solution was an environmentally friendly way to dispose of a byproduct and supported economic development 					
Environmental							
Ash Ponds	\$346mm ¹²	 Represents Santee Cooper's estimated remaining cost associated with the closure of its ash ponds Assumes either beneficial use or disposal in lined landfills 					
FERC License Renewal	\$84mm – \$179mm ¹³	 Santee Cooper's FERC license for its lake operations expired in 2006, and has been on year-to-year renewals since 					

⁷ Reflects total nuclear Asset Retirement Obligation as of December 31, 2016.

⁸ Internal and external trust funding as of December 31, 2018.

⁹ Coal supply contract exposure for remainder of contract period (2021) as of June 30, 2019. CSX rail contract exposure for remainder of contract period (2021) as of June 30, 2019. Natural Gas Transco Service Agreement exposure for remainder of contract period (2021) as of June 30, 2019. Natural Gas Transco Service Agreement exposure for remainder of contract period (2021) as of June 30, 2019. Natural Gas Transco Service Agreement exposure for remainder of contract period (2021) as of June 30, 2019. Natural Gas Transco Service Agreement exposure for remainder of contract period (2021) as of June 30, 2019. Natural Gas Transco Service Agreement exposure for remainder of contract period (2021) as of June 30, 2019. Natural Gas Transco Service Agreement with GEII as of June 30, 2019. Natural Gas Sequent / TEA Contract exposure of full contract period (November 2017 to December 2020).

¹⁰ Reflects loss / (gain) range of remaining hedge contract value as of July 10, 2019. Reflects open positions marked to market as of February 11, 2019 NYMEX settlement.

¹¹ Reflects approximate nominal exposure of remaining contract period.

¹² As of June 30, 2019.

¹³ Costs associated with increased flows not included.

Category	Net Exposure	Description & Observations			
		 Based on an executed settlement agreement with multiple stakeholders and, additional costs associated with the protection of certain endangered fish species (sturgeon) Santee Cooper's Business Forecast assumes that it funds the costs associated with its FERC license renewal as the costs are incurred 			

Santee Cooper and its customers have access to significant risk and cost mitigation options as a result of being a government-owned public power authority

As a public power authority, Santee Cooper has access to programs that benefit its customers by reducing energy procurement risk as well as costs in emergency situations.

- Santee Cooper can employ FEMA funding that is not available to investor owned utilities during and after emergencies such as hurricanes
- Santee Cooper currently has access to 300 MW of firm, low-cost hydroelectric capacity through its allocation from the Southeastern Power Administration ("SEPA") at cost-based wholesale rates
- Santee Cooper is able to issue tax-exempt debt to finance infrastructure projects than investor-owned utilities.

5 RELATIONSHIP WITH CENTRAL

Santee Cooper currently provides Central with power to serve approximately 75% of the load of the state's 20 electric cooperatives. This power is provided under the Central and Santee Cooper Coordination Agreement, as amended on May 20, 2013 (the "Coordination Agreement"). The Business Forecast reflects continued provision of service to Central under this Coordination Agreement and at the loads confirmed by Central on August 7, 2019.

The May 20, 2013 amendment provided many benefits to Central including favorable cost allocation changes, increased transparency and more coordination between the parties. Many of the new provisions centered around coordination of the planning of new resources and provide certain rights for Central, if the provisions are triggered, to elect to share in or opt out of proposed resources. There are also provisions regarding renewable resources. For purposes of the Business Forecast we have assumed that at the point and time it is necessary to commit to the resources proposed in the plan that Central agrees that they are shared and that they will fully support and participate in demand side management programs. Should Central ultimately elect otherwise on these or other components of the Business Forecast, the results of the plan would be impacted.

In addition to services provided to Central under the Coordination Agreement, Santee Cooper provides many other services to Central, most of which are performed at cost with no Capital Improvement Fund ("CIF") factor applied. These services include, but are not limited to, the following:

- o Fiber sharing
- Build and design work
- Microwave maintenance
- o Capital additions
- Shared use of the trunked radio system
- Emergency substation services (transformer testing, oil sampling, troubleshooting, mobile substation installation) at cost
- o Fault analysis, lightning strike verification, on customer-owned equipment at no charge
- o Routine testing/troubleshooting of customer-owned substation equipment on request at cost
- Administer NERC compliance on Central's behalf, including maintaining and filing required documents

The Business Forecast assumes that Santee Cooper continues to provide these services and includes the resources to do so.

Our financial plan incorporates the key elements of our Business Forecast, including among other things, the resource plan and organizational improvements discussed above, all long-term contracts and obligations, and costs associated with our economic development program. Our financial plan seeks to achieve three broad objectives:

1. Debt Reduction:

- a. Initiate an accelerated debt reduction program to reduce the amount and life of nuclear debt
- b. Execute refunding of currently callable debt to reduce costs
- c. Identify and estimate additional future savings opportunities, primarily debt refinancing
- d. Explore benefits and hurdles to securitization of nuclear debt

2. Customer Prices:

- a. Stabilize or lower prices for all customers for an additional five years
- b. Freeze retail base rates through 2024 (seven years of no base rate increases)
- c. Limit future price increases to inflation rates over time (no real price increase to customers)
- 3. **Credit Metrics**: Ensure continued financial health of Santee Cooper and target metrics that support an 'A category' credit rating

Debt Reduction Santee Cooper's commitment to be a leaner, greener, more customer-focused utility includes a commitment to reducing the cost associated with its debt. As a part of that commitment, Santee Cooper will use various financial tools that will create significant savings relative to current debt service requirements, with the benefit of those savings flowing directly to our customers.

Santee Cooper has utilized and will continue to deploy the Toshiba settlement proceeds and internally generated cash flows to strategically reduce outstanding debt for the benefit of its customers. The following table summarizes our near-term plans to deploy funds for nuclear debt reduction.

To-Date	Q4' 2019	2020	2021		
\$430 million ¹⁴	\$350 million	\$150 million	\$425 million		
Toshiba settlement funds used for debt reduction	Toshiba settlement funds used for debt reduction		Assumed proceeds from sale of nuclear equipment		

¹⁴ Portion of settlement funds used for debt reduction.



Figure 8 - Revenue Obligations Debt Service^{15,16,17}

Santee Cooper is planning a transaction in the fourth quarter of 2019 that will use \$350 million of internal funds to reduce nuclear-related debt. While this transaction will reduce available cash on hand and liquidity, we will preserve sufficient liquidity levels and do not expect an adverse impact to Santee Cooper's current credit rating. Additionally, Santee Cooper is planning to refund outstanding mini-bonds with proceeds from a limited public offering ("LPO") expected to total \$175 million and close the Mini-Bond Program.

Santee Cooper will continue to avail itself of other debt reduction tools as market conditions permit, including the potential refunding of over \$4.2 billion in remaining high coupon, tax-exempt debt which will become callable at various intervals through 2026. We estimate gross savings from these refundings to be \$2 billion. These savings assume benchmark tax-exempt interest rates at their three-year historical average and current credit spreads. While these refunding savings are sensitive to interest rate markets, we note that the assumed benchmark rates are 90-100 bps above current levels. At prevailing interest rates the savings would be significantly greater. We will also evaluate savings from the securitization of debt related to nuclear project. A securitized issuance would seek to achieve a AAA credit rating resulting in interest cost savings, however its implementation would require statutory authorization and extensive collaboration with Central. The benefit of savings from securitized debt is currently not included in our financial projections.

Figure 8 above illustrates the cumulative impact of debt reduction tools on our long-term Revenue Obligations debt service. The debt service chart demonstrates:

- (i) Reduction of debt across the maturity schedule. These savings will contribute to stabilization of rates for the next five years but will also provide longer term benefits to customers.
- (ii) Significant balance sheet flexibility beyond 2039 and the stable rates over the next twenty years are not achieved through cost deferral. On the contrary, as shown above, projected new money debt is amortized within a short period as savings from refunding existing debt are realized.

¹⁵ Based on 2020 pre-budget financial forecast.

¹⁶ Excludes debt service on Commercial Paper/Direct Purchase obligations.

¹⁷ Net existing debt service includes impact of projected refunding savings.

Customer Prices

Our business plan will modernize our generation portfolio and reduce its carbon footprint, while reducing "real" customer rates (after adjusting for inflation). Over the 20-year period from 2020 to 2039, our system revenue requirements are projected to decline by 1.1% annually, in "real" terms.





- 1. Our plan proposes no retail base rate increase until 2025 resulting in seven years without a rate increase, following prior base rate increase in 2017.
- Projected revenue requirements are 10% below "Business as Usual" scenario used by ICF in its February 1, 2019 report "Evaluation of Responses to the Request for Expressions of Interest and Indicative Offers for Santee Cooper".
- 3. As shown in **Figure 10** below, Santee Cooper's prices to Central are projected to remain stable, continuing the trend of the past five years. This would result in over a decade of stable prices from 2014-2025.



Figure 10 - Central Cost of Service¹⁹

¹⁸ Assumes inflation rate of 2.1% based on 20-year historical CPI.

¹⁹ 2019 projection based on 2019 Budget. 2020 forward based on 2020 pre-budget financial forecast.

Credit Metrics

Our plan envisions continued adherence to our high credit quality and credit rating objectives and we expect to preserve financial metrics that will support our current single-A credit ratings from all rating agencies.

As shown below, we project a consistently strong debt service coverage of 1.36, on average over 20 years. During this period our debt-to-capital ratio is projected to decline to 52% and we will target preserving sufficient cash (>90 days) and liquidity (>150 days) to manage our operations and handle unexpected events.

	2020	2021	2022	2023	2024	2029	2034	2039
Debt Service Coverage								
DSC	1.34x	1.35x	1.33x	1.36x	1.33x	1.36x	1.38x	1.42x
Leverage								
Debt Outstanding (\$ billions)	6.8	6.3	6.2	6.1	6.1	5.7	4.7	3.3
Debt-to-Capital	77%	74%	73%	72%	71%	66%	61%	52%
Liquidity								
Days Cash on Hand	108	91	109	115	112	140	145	134
Days Liquidity on Hand	213	177	236	199	242	211	265	242

Summary Impact

Our plan envisions the use of several operating and financial initiatives

- 1. A revised generation fleet
- 2. Organizational and reform initiatives
- 3. Capital structure optimization

The net result of the proposed changes (not all of which are fully reflected in the plan and may offer additional economic value if implemented) is that rates will be ~10% lower vs. the Business As Usual ("BAU") case that was disclosed in the ICF process while delivering a robust, upgraded and more environmentally friendly generation fleet.

We expect the summary impact of all the initiatives proposed above to result in a leaner, cleaner and greener Santee Cooper that will be able to offer all customers stable rates over the long term (rates that increase at a pace lower than that of projected inflation) while maintaining Santee Cooper's strong credit ratings and continuing to fulfill its broader non-power mission.

7 CONCLUSION

The proposed Business Forecast reflects the commitment of the leadership team and our entire organization to achieving its mission and providing the best long-term solution for the residents of the state of South Carolina. The time and effort invested in creating this plan is part of an ongoing effort to optimize our generation mix and operating footprint. We intend to build on the plan and explore all avenues for further improvement in the coming months.

At the appropriate time, we intend to engage all important stakeholders, including Central, on the merits of the plan and the best way to improve and implement it. We believe that the plan described above will enable Santee Cooper to continue fulfilling its mission of improving the quality of life for the people of South Carolina for several decades into the future.