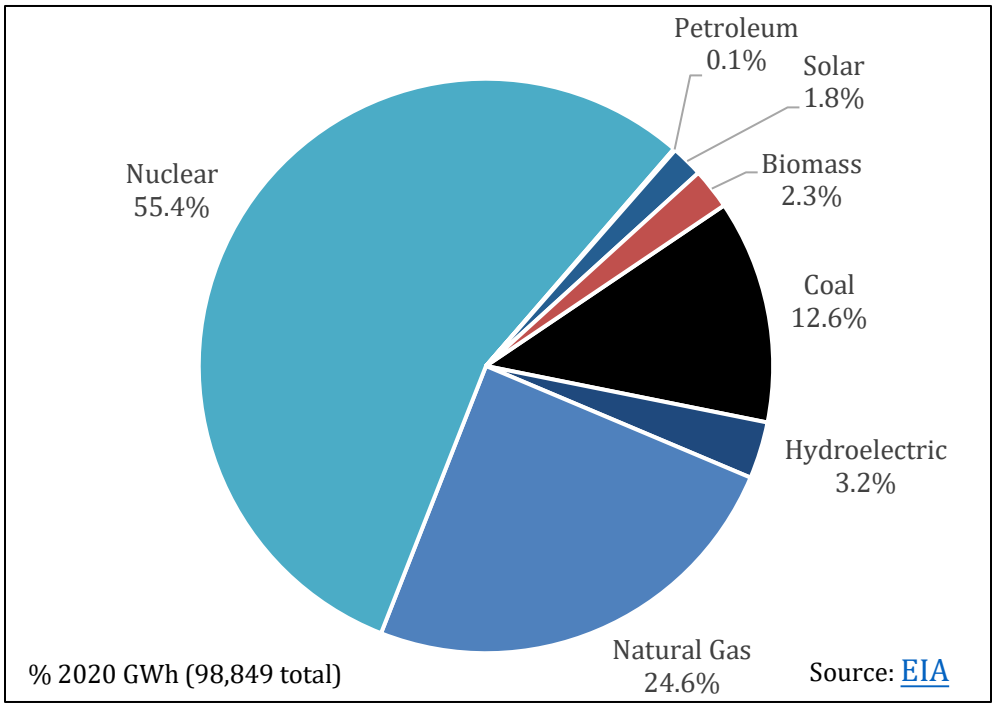
State Brief: South Carolina

BACKGROUND

South Carolina's Net Annual Electric Generation, 2020



The majority of South Carolina's electricity portfolio is supplied by nuclear power, comprising over half of the state's electricity generation in 2020. South Carolina consistently ranks as one of the most nuclear-dependent states in the nation, ranking third in the nation in total nuclear generation capacity. Natural gas and coal are the second and third largest contributors to the energy mix, respectively, together supplying roughly 37% of the state's electricity. While dependent upon these resources, South Carolina has no in-state coal or gas production and relies on imports from out-of-state. The proportion of electricity generated from coal has declined significantly over the past decade, dropping from 41% in 2008 to 12.6% in 2020. Conversely, natural gas-fired generation more than doubled in the same period, up to 24.6% in 2021. Contributions from solar and hydroelectric resources increased only marginally between 2018 and 2020.

The state boasts substantial solar and biomass energy potential. The Palmetto State does not have a mandatory renewable portfolio standard but adopted a voluntary Distributed Energy Resource Program (via SB 1189 of 2014) which established a goal of 2% of aggregate generation capacity from distributed sources by 2021. Because Duke Energy Carolinas met this 2% goal, they are now able to invest in renewable energy facilities between 1 megawatt (MW) and 10 MW with a cumulative installed capacity equal to 1% of their previous 5 year retail peak demand average.

In 2021, South Carolina's solar capacity continues to boom – major expansions in solar capacity are planned in the state. The majority of new solar capacity is a result of several utility-scale projects coming online. State policy is also supportive of residential solar installations. The Energy Freedom Act of 2019 (House Bill 3659) eliminated the 2% net metering cap and requires that the Public Service Commission (PSC) establish a net metering tariff for customer-generators (i.e., the billing process for customers who put energy back into the grid). Thus, in May 2021, the PSC approved the Solar Choice net metering agreement, a time-variable net metering tariff, proposed by Duke Energy in collaboration with community stakeholders. Also in May 2021, Governor Henry McMaster signed House Bill 3354, which exempts leased and third-party owned residential renewable energy resource property from property taxes.

The 2020 U.S. Energy and Employment Report found that South Carolina has 49,215 traditional energy workers (2.3% of total state employment). In 2020, South Carolina ranked 24th nationwide for clean energy jobs (including jobs in energy efficiency and solar) and the industry employed 41,888 South Carolinians.[1]

The South Carolina Public Service Commission (PSC) regulates two natural gas companies, four investor-owned utilities (IOUs), and exercises limited jurisdiction over 24 electric cooperatives in the state. The PSC has seven non-

[1] This is in addition to the number of traditional energy jobs in the state.

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term-limited members appointed via an election held by the General Assembly. Currently, there are seven commissioners, one is an independent, another is a Republican, and the rest are either unaffiliated with a political party or have non-public party identification. Justin T. Williams serves as Chair. Republican majorities control both chambers of the state legislature, and Governor Henry McMaster is a Republican.

POLICY STRENGTHS AND OPPORTUNITIES

The National Renewable Energy Laboratory (NREL) developed the notion of "policy stacking,"[2] an important framework for policymakers to consider. The basic idea behind policy stacking is that there is an interdependency and sequencing of state policy that, when done effectively, can yield greater market certainty, private sector investment, and likelihood of achieving stated public policy objectives.

In theory, but not always in practice, clean energy policies can be categorized into one of three tiers of the policy stack. Tier 1, market preparation policies, remove technical, legal, regulatory, and infrastructure-related barriers to clean energy technology adoption. Tier 2, market creation policies, create a market and/or signal state support for clean energy technologies. Tier 3, market expansion policies, create incentives and other programs to expand an existing clean energy market by encouraging or facilitating technology uptake by additional market participants.

For example, before financial incentives for combined heat and power (CHP) will be successful, two key considerations for deployment are having clear interconnection standards and favorable stand-by rates for customers who opt to add CHP. In this example, states should adopt policies to address interconnection and stand-by rates before adopting financial incentive programs.

GRID MODERNIZATION

Digital technologies have enabled utilities to better manage the grid and provide opportunities for consumers to customize their services to fit their priorities. These technologies allow a two-way flow of information between the electric grid and grid operators and between utilities and their customers.

Emerging technologies improve system reliability and resiliency by enabling better tracking and management of resources. These technologies allow grid operators to incorporate central and distributed energy resources, energy storage technologies, electric vehicles, and assist in addressing the challenges associated with planning, congestion, asset utilization, and energy and system efficiency.

On the customer's side of the meter, dynamic pricing, advanced metering infrastructure, and other technologies allow an exchange of information and electricity between a consumer and their electric provider. Grid modernization is associated with greater consumer choice by allowing customers to meet their energy priorities by producing their own energy or through contracting innovative clean energy services from different providers.

Grid modernization will require a suite of state and federal policy changes to support advancements in grid technologies, grid management, and utility regulation.

Among other recent grid modernization activity, Duke Energy, with assistance from the Rocky Mountain Institute (RMI), undertook a stakeholder engagement process which included two Grid Improvement Initiative workshops in August and October of 2018. The workshop objectives were (1) to educate stakeholders about the grid improvement initiative, (2) solicit stakeholder feedback, and (3) create a foundation of collaboration for the future. Pending PSC approval, Duke Energy proposed a $454 million South Carolina Grid Improvement Plan in 2017, which includes programs to develop self-optimizing grids, voltage optimization, energy storage, distributed energy resource (DER) dispatch, and transmission upgrades.[3] As part of this docket, Duke Energy Progress and Duke Energy Carolinas filed a request to establish a consolidated informational docket to track grid modernization progress in December 2019.

In February 2021, several utilities operating in Alabama, Georgia, Kentucky, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, and Tennessee filed plans with the Federal Energy Regulatory Commission (FERC) to

[2] V.A. Krasko and E. Doris, *National Renewable Energy Laboratory*, 2012. Strategic Sequencing for State Distributed PV Policies: A Quantitative Analysis of Policy Impacts and Interactions. *http://www.nrel.gov/docs/fy13osti/56428.pdf*.

[3] See PSC Docket 2019-381-E. For a detailed analysis of The South Carolina Grid Improvement Plan, see GridLab's whitepaper: "Modernizing the Grid in the Public Interest: Getting a Smarter Grid for the Least Cost for South Carolina Customers" (2019).

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establish the Southeast Energy Exchange Market (SEEM) aimed at improving their ability to trade power across the region. Proponents of renewable energy and FERC raised concerns about the market's lack of transparency, and some have argued that it will not incentivize the development of clean energy resources or reduce costs to ratepayers. On the other hand, some argue that SEEM is an important first step in increasing renewable energy integration in the southeast. In June 2021, the utilities amended the proposal to create greater transparency and provide for additional oversight by FERC.

There are several policies that South Carolina's policymakers could adopt to support in-state modernization efforts.

1. Develop a grid modernization strategy through a stakeholder process. Duke Energy's collaborative stakeholder process to develop the Solar Choice net metering program has been much lauded. Such a process may serve as a stakeholder model going forward. Alternatively, states might decide to require that utilities develop and propose a ten-year grid modernization plan to the PSC within a specified timeframe. Utilities would then be required to implement that plan within another specified timeframe. Strategies and/or plans should outline a clear set of grid modernization goals and describe methods to measure, report, verify, and enforce progress towards those goals. Further action following Duke's 2018 grid modernization stakeholder workshops has yet to take place, and advancement of the utility's plan may depend upon the ongoing case before the commission.

2. States might also provide incentives or cost recovery mechanisms for utilities that meet grid modernization goals. Policymakers could consider directing the PSC to evaluate alternative ratemaking mechanisms, performance-based regulation, and/or new utility business models that support grid modernization. In its current form, the grid improvement plan proposed by Duke Energy would be financed through conventional cost-of-service regulation.

3. Require that utilities' integrated resource plans (IRPs) include plans to enhance cybersecurity, integrate DERs (including electric vehicles and energy storage), increase smart meter deployment and demand response and/or demand-side management (DSM) programs, and measure and report on the results of grid modernization efforts.

4. South Carolina does not have clear state policies governing customer data access and privacy protections. To address this, policymakers could develop legislation or rules that, at minimum, do the following: clarify who owns the energy data associated with consumer energy usage; protect customer privacy; outline the process for allowing direct access to data by third parties; and promote access to the highest resolution of data possible. The state could establish customer access to energy data through the Green Button Connect program, for example.

5. State departments of workforce services or their equivalent can be directed to work with utilities and other stakeholders to develop training programs for grid technicians and engineers. With new grid technology and distributed energy systems coming online, a new generation of workers can be trained to meet evolving needs, which will keep jobs local, and contribute to economic development.[4]

The adoption of incentives for or a requirement to integrate a certain amount of energy storage on the grid alongside enhancing renewable energy and electric vehicle policies can support modernization efforts and improve the chances of successful grid modernization.

ENERGY STORAGE

Energy storage offers a unique opportunity to manage supply and demand dynamically while also maximizing the value of grid resources. By deploying storage to strategic locations, utilities can more effectively manage their energy portfolios. First, storage allows utilities to manage intermittent demand – helping reduce peak demand requirements. Because the generation resources that provide peak power are the system's most expensive, reducing peak demand can save consumers money. Second, the responsiveness of energy storage can allow utilities to implement voltage regulation and other ancillary services, which are useful for improving system efficiency. Third, because storage technologies can both store and dispatch power, storage enables better integration of intermittent power generation resources like renewable energy to the grid. Finally, energy storage can help the

[4] For a discussion of specific workforce needs that states might explore see: GridWise Alliance and U.S. Department of Energy. 2020. "Grid Modernization Index Insights into a Transformation: Principles for the Next Decade of Progress."

commercial sector avoid costly demand charges. As utilities around the country consider implementing or extending demand charges to other sectors, energy storage will become more relevant as a customer cost-saving investment.

The flexibility of battery storage, combined with advanced metering infrastructure, allows customers to control, for instance, how and when they use energy from the grid or from solar panels installed on their home or business. In most cases, this can provide greater cost savings than standalone solar systems. Combined with time-varying rates or real-time pricing programs, state policy can further support customer choice and open a new market for energy services. Prices that better reflect the time-varying and location-dependent costs of producing and delivering electricity can lead to several economic and environmental gains.

Two major trends have enabled increased deployment of energy storage: declining costs and technological advances. State policies can help maximize these benefits by establishing both a framework for easy integration of energy storage resources onto the grid and a marketplace that monetizes the benefits of energy storage for cost-effective investment.

South Carolina does not currently have an energy storage procurement target or goal. However, the state is primed to substantially increase adoption of energy storage technologies. The landmark legislation - the Energy Freedom Act –supports energy storage by removing regulatory barriers to grid access and by recognizing the values storage provides to the grid (discussed further below). Notable projects for energy storage in South Carolina include a microgrid planned for the Anderson County Civic Center, which will include a 5-MW battery connected to the grid and offer backup power at the state's largest hurricane evacuation center, and Duke Energy's plans to continue to increase pumped hydro power storage at its Bad Creek facility.

In addition to evaluating energy storage's benefits to the grid, there are additional opportunities for developing supportive state policies. The recommendations here draw heavily from the Interstate Renewable Energy Council's (IREC) 2017 report, "Charging Ahead – An Energy Storage Guide for Policymakers."

1. Amend existing interconnection policies to ensure that storage can connect to the grid through a transparent and simple process. The Interstate Renewable Energy Council (IREC) has produced a series of interconnection protocols that states can adopt. The state could establish best practices for interconnecting storage in statute, or legislation could provide an instruction to the PSC to update existing policy.

2. Instruct utilities to evaluate the value of energy storage in multiple strategic locations across the utility system and consider a requirement to deploy storage where it will be cost effective, or identify the price point at which it will become cost effective. The Energy Freedom Act directs the PSC to open a docket to establish new avoided cost methodologies in making resource approval determinations, and geographic location is one factor to be considered in calculating the avoided cost for siting storage projects. In March 2021, three dockets[5] were filed which initiated the process for South Carolina's three major utilities. Currently, the PSC is in the proposal review process and is seeking consultants. Hearings are set to begin in August 2021.

3. Require the inclusion of energy storage as a critical piece of the energy system as both a demand and supply management resource. Some states have required that utilities evaluate the cost effectiveness of non-wires alternatives (NWAs) to large transmission and generation investments. Alternatively, states might want to require that utilities develop a distribution investment plan that identifies the locations on the distribution system where energy storage or other distributed resources would offer the greatest value. Because the Energy Freedom Act requires utilities to factor avoided costs into resource planning decisions, the legislation should have a positive impact on energy storage deployment. Greater storage penetration levels would reduce the potential impact of electric service outages, and reduce overall costs to ratepayers, which could factor into avoided-cost methodologies.

4. Consider adding a mandatory energy storage procurement target or requirement for energy storage with a documented process for periodic review of progress towards that goal. Procurement targets can include provisions limiting the amount of utility owned storage to be procured, requiring that a certain percent of the storage procurement goal be targeted to low-income customers, and creating carve-outs for specific amounts of

[5] See dockets: 2021-88-E, 2021-89-E, and 2021-90-E.

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storage to be procured at the transmission, distribution, and customer levels. Procurement targets can jump-start market creation, spur fast learning, and ensure the development of a regulatory framework.

5. Finance and incentivize energy storage for customers and utilities. Incentives could enable customers to use storage to manage their electric load and store locally produced renewable energy. Incentives in the form of rebates, grants, and tax credits can provide a bridge to scalable deployment for storage. These incentives can also be designed to decline as the value of storage becomes more readily monetized, and/or as the cost of storage decreases. Policymakers could allow utilities that provide storage incentives to customers to also recover the costs of installing smart meters. This would enable dynamic and time-varying energy management from multiple distributed battery systems. This should signal to customers the value of leveraging storage while better aligning customer costs with system costs. Financing energy storage installations for commercial customers could help reduce their demand charges. South Carolina included some incentives to spur energy storage deployment in the Energy Freedom Act of 2019 by allowing battery storage connected with on-site renewable systems to participate in net metering programs. Policymakers might consider expanding on storage incentives by providing grants to pilot projects. Financial incentives should be designed to ensure that the state meets other goals including emissions and peak demand reductions, and equitable access to clean energy.

6. Clear data access policies that allow third parties to provide energy management services based on signals from the utility can greatly increase the value of efforts to monetize the value stream offered by energy storage. (See discussion above, under Grid Modernization.)

MAINSTREAMING RENEWABLES

As the renewable energy industry matured, technology improved, and global production of generating equipment increased. Renewable energy is increasingly seen as the least cost and lowest risk form of energy (excluding energy efficiency). A 2021 Energy Information Administration report predicts that the share of the United States' electricity generation mix supplied by renewable energy resources will increase from 21% in 2020 to 42% by 2050. With increased deployment, utilities are learning more about how to integrate renewables effectively, investors are becoming more comfortable with the technologies, and building code officials are recognizing common standards and best practices. For these reasons, it is in the interest of policymakers to ensure that their states are well positioned to benefit from the transition to clean and sustainable energy resources.

To reduce barriers to customer and utility participation in the renewable energy market, policymakers in South Carolina might consider several options.

Customer-Oriented Policies

1. **Interconnection, Net metering, and Streamlined Permitting** – In general, customers want a clear, streamlined, affordable, and predictable system for connecting renewable energy systems to the grid. Indeed, the recent PSC approval of Duke Energy's time-variable net metering tariff helps to maintain affordability, choice, and transparency. South Carolina's policymakers could consider adopting IREC's model interconnection procedures. Allowing aggregated net metering would be especially beneficial to the state's agricultural operations. Other applications for aggregated net metering include commercial properties and public entities like state and local governments, universities, and schools. The state might also consider establishing either statewide standards for streamlined permitting processes, or resources to support local governments that voluntarily implement a streamlined program, as Charleston has done. State incentives, such as tax credits (for example, those established by House Bill 3354), loans, or other financial incentives can be tied to systems that are established within a designated streamlined permitting jurisdiction.

2. **Shared Renewables** – Due to building and property attributes and ownership issues, many customers are unable to install renewable energy technologies where they live or work. Allowing shared, or community, renewable energy projects addresses these barriers. These projects have multiple owners or subscribers who pay for a portion of the project or the generation provided by the system. South Carolina might consider adopting a virtual net metering policy. Virtual net metering allows a customer to receive credits from a shared system as if the generation were on site. Virtual net metering is different from a power purchase agreement (PPA), which pays the customer for the proportion of power they produce. Because it is treated as a credit on the customer's

bill, the customer can avoid the tax implications of a PPA payment - which can adversely affect the economics of the system (and may come as a surprise to the participant).

Low credit ratings often deter participation in renewable energy markets; this can affect low- and moderate-income (LMI) households' adoption of renewable energy solutions. Supportive policies for shared renewables can be designed to encourage participation by LMI households; this can increase adoption of renewable technologies and reduce energy costs. LMI participation can be ensured either through a percentage mandate for the overall annual contracted capacity, or by offering a higher rate of payment for the portion of shared solar capacity attributed to LMI customers. States that have a shared renewable program may want to coordinate this program with implementation of the federal Weatherization Assistance Program to provide recipients of assistance with participation in a shared renewable system.

While the Energy Freedom Act does not establish a statewide community solar program, it does encourage utilities to implement their own shared renewables programs. The Act also directs the PSC to open an investigative docket to study existing utility programs in the state and establish best practices for increasing solar access for LMI customers. Currently, Duke Energy Progress, Duke Carolinas, Dominion Energy, and a number of electric cooperatives maintain community solar programs in the state.

There are several additional policy options that South Carolina might consider to promote renewable energy uptake by LMI consumers. Generally, successful state policies should be tailored to these customers, be cost-effective and financially sustainable, have measurable performance indicators, and be flexible enough to allow later changes in design.

3. **Corporate Procurement** – Many Fortune 100 and 500 companies have established either climate goals or commitments to purchase renewable energy. Since 2016, nearly 31 gigawatts (GW) of renewable contracts have been announced by corporate entities. In 2020 alone, corporations signed 100 agreements for over 10 GW of renewable energy. South Carolina's policy allows companies to purchase renewable energy credits (RECs), buy renewable energy through green tariffs, and develop or lease onsite renewable energy projects. With the recent passage of the Energy Freedom Act, companies can now enter into onsite PPAs. Policies to increase corporate access to renewable energy can be designed to meet the six Corporate Renewable Energy Buyers' Principles. While South Carolina ranked 36th overall in the Retail Industry Leaders Association's 2020 rankings of state corporate procurement policies, it was also listed as a "State to Watch" due to the unanimous passage of the Energy Freedom Act in 2019 and the future action it requires. It is prudent to incorporate corporate renewable purchase commitments into the IRPs that utilities submit to regulators to plan for resource needs over multiple decades. By integrating these renewable purchase commitments into the IRP process, regulators can avoid over-building resources and stranding generation assets.

Utility-Oriented Policies

Some states have created programs that aim to reduce greenhouse gas (GHG) emissions and increase utility investments in clean energy resources. South Carolina's voluntary Distributed Energy Resource Program set a goal of 2% renewable energy by 2021, which was met by Duke Energy Carolinas (DEC) in Spring 2020. Cities and utilities in the state are taking the lead to increase renewable energy deployment. Columbia has set a goal to meet the city's energy needs with 100% renewable energy by 2036. Charleston has set a target to achieve net zero GHG emissions by 2050. In 2020, Duke Energy contracted, owned, or operated 8.8 GW of renewable energy and plans to double this amount by 2025. The utility also has a goal to reach net-zero carbon emissions by 2050. Dominion Energy has set a goal to achieve net zero GHG emissions by 2050.

To increase utility adoption of clean energy technologies, South Carolina's policymakers might consider the following:

1. **Accelerating and Amending Renewable Portfolio Standards –** States can revisit existing RPS policies to increase targets and/or accelerate target dates to continue to spur the development of renewable resources and save ratepayers money. Additionally, states might add one or more carve-outs to further incentivize the

development of distributed generation and offshore resources. Embedding an RPS within broader clean electricity or emissions standard can allow technological flexibility.

2. **Emissions Standards –** Emissions standards can take a technology neutral approach that looks at the total emissions of the utility portfolio and drives emissions down with a combination of renewables, traditional fuels, efficiency, and technological advances. Emissions reductions can be achieved through 1) a carbon portfolio standard approach, or 2) a market-based approach. A portfolio emissions standard sets emissions reduction targets to be achieved over time. This can be implemented through the IRP process or by establishing a maximum allowable rate of emissions per unit. Under a market-based approach, a state or a group of states might set a certain emissions reduction target, for example, 50% below 2005 levels by 2025. This reduction is achieved by the distribution of annual emission allowances that decrease to the point that the standard is met in 2025. One of the advantages of a market-based program is that it is designed to reduce emissions in the most economically efficient manner possible. Such a standard can also address other concerns such as pollution, asthma risk, environmental justice, and water use.

3. **Clean Peak Standards (CPS) –** Clean Peak Standards aim to increase the share of clean energy resources used to meet peak demand and decrease energy bills over the long-term by reducing peak demand in the hours when energy costs are highest. These objectives can be met through different policy options, including planning and procurement that focuses on peak demand; a moratorium on the construction of new peaking units or a phase out of existing units; incentives – including carve-outs in states with RPSs – for clean energy resources delivered during peak times; and/or adopting a new clean peak standard that sets a target for clean energy deliveries during peak times.

ELECTRIFICATION OF THE TRANSPORTATION SECTOR

An estimated 58% of new car sales will be electric by 2040. Therefore, a key part of building a modernized grid involves designing infrastructure that will facilitate easy connection of electric vehicles (EVs) to the grid. One of the most important barriers to increased adoption of EVs is the consumer's awareness of the availability of EV charging stations. Ultimately, drivers want to be sure that their car will get them where they need to go. The good news is that both supportive policies for developing charging infrastructure and technological advancements have eased "range anxiety."

A study prepared by M.J. Bradley and Associates in 2020 found that if EV adoption reaches the "high" scenario (1.2 million vehicles by 2030, 5.5 million by 2050), the state's utility customers would save $600 million through reduced electricity bills, cumulative gasoline use would be reduced by 15.4 billion gallons, and cumulative net GHG emissions would be reduced by 294 million metric tons. In total, the study found that "cumulative net benefits from greater [plug-in EV (PEV)] use in South Carolina could exceed $24 billion state-wide by 2050." Other studies in other states have found that greater market penetration of PEVs "can generate up to $570,000 in additional economic impact for every million dollars of direct savings, resulting in up to 25 additional jobs in the local economy for every 1,000 PEVs in the fleet" (M.J. Bradley and Associates 2020).

A few incentives for EVs and alternatively fueled vehicles are currently available in South Carolina. State facilities and educational institutions are eligible to use a revolving loan fund to finance alternative vehicle acquisitions in South Carolina. A battery manufacturing tax incentive for machinery and equipment used for renewable energy manufacturing facilities (including facilities that manufacture EVs) can be claimed to offset up to 20% of equipment costs. In September 2020, the PSC approved Duke Energy's Park & Plug program, which will enable the expansion of the necessary infrastructure for EVs in South Carolina. This includes the installation and operation of up to 60 Fast Chargers in 30 locations throughout the state. As of June 2021, through a second pilot program, Duke is offering a Plug-in Electric Vehicle (PEV) Charging rebate to residential customers who participate in a managed charging program which requires the installation of a Level 2 charging station, providing access to charging data, and managing EV charging load to occur during off-peak time.[6] Enacted in May 2021, Senate Bill 0304 requires South Carolina's PSC to open a docket in order to identify regulatory challenges and opportunities related to electrification of the transportation sector; a docket has yet to be filed. The bill also requires the Office of Regulatory Staff to

[6] Managed charging helps utilities to shift loads to beneficial times for customers and the grid, see: https://www.duke-energy.com/energy-education/energy-savings-and-efficiency/electric-vehicles/ev-initiatives

complete a stakeholder process to further explore challenges and opportunities for the advancement of the transportation sector.

There are additional opportunities to expand the market for EVs in South Carolina:

1. **EV and EV Charging Equipment Financing and Financial Incentives –** Providing financial incentives and innovative financing options can help increase market penetration of EVs. Sales, property, and income tax credits are some of the simplest methods for addressing high up-front costs of EVs and EV charging equipment. While sales tax credits are typically applied at the time of purchase, property and income tax credits may do less to address upfront cost barriers as the credit is not applied at the time of purchase.[7] States have adopted other financial incentives including low-interest loans, grants, vouchers, and rebates. A handful of states qualify EV charging equipment under their property assessed clean energy (PACE) programs. A simple solution is to increase and expand existing tax credits to incentivize commercial, publicly available charging stations.

2. **Charging Infrastructure Plan –** Locating charging infrastructure is different from locating conventional fueling stations. While some drivers will need to charge more quickly, others will refuel when they are parked for longer periods of time, for example when shopping at the mall or going to work. Charging infrastructure plans should attempt to pair the appropriate level of charging (level 2 or direct current fast charging) with a reasonable amount of time a person will be at that location. Legislation could direct a state agency to develop an infrastructure plan through a stakeholder process. South Carolina's existing registration fee for EVs could help fund these efforts. For example, in Washington a portion of each EV registration fee is used to fund charging infrastructure development across the state.

   Regional collaborations around the US are emerging to coordinate the development of electric transportation infrastructure. The REV West Plan and the Transportation and Climate Initiative (TCI) are in the process of planning regional EV charging corridors to reduce transportation sector carbon emissions. To alleviate range anxiety, bolster EV adoption, and coordinate transportation policy with other states, South Carolina might consider designing policy to link with the TCI or another regional network. Duke and Dominion Energy are members of the Electric Highway Coalition, a coalition of several utilities in the southeast committed to building fast charging infrastructure.

3. **Parking Infrastructure Requirements –** In tandem with the development of a statewide plan, legislation could set requirements for EV parking infrastructure. Some states have adopted permitting standards for parking lots, requiring, for instance, that for every 100 parking spaces, there must be at least one EV charging space. South Carolina's building energy code could also be updated to include requirements for EV charging infrastructure.

4. **Rental Properties and HOAs –** Legislation can make it easier for lessees, renters, and members of a homeowners' association (HOA) to install charging equipment. Typically, lessors are directed to allow lessees, at their own cost, to install charging systems. In some cases, lessees are required to maintain additional insurance for the system. Legislation related to HOAs typically directs them to avoid restrictions that would inhibit the installation of charging equipment.

NEWS

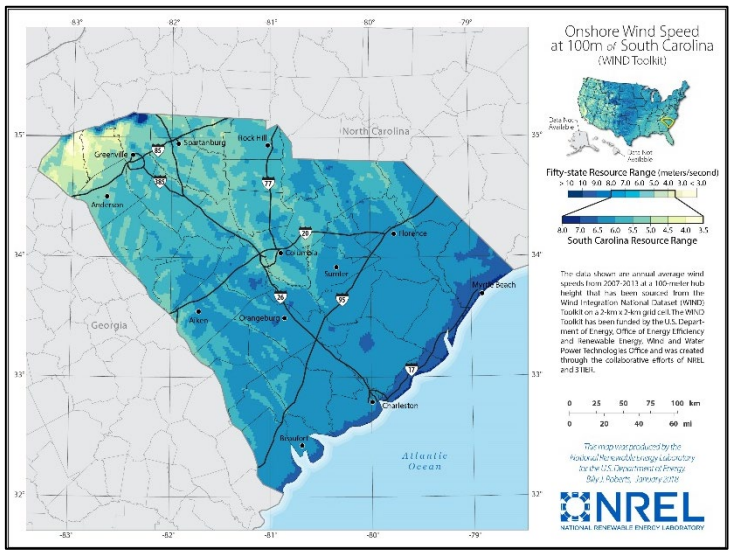
- July 2, 2021: South Carolina Reaches Settlement with Dominion over Electric Rates
- June 28, 2021: South Carolina Regulators OK a Dramatically Revamped Dominion IRP
- June 27, 2021: Duke Energy Seeks to Run Two South Carolina Nuclear Plants for 20 More Years
- June 20, 2021: South Carolina's New Solar Energy Regulations Aim to Empower the Consumer
- June 8, 2021: South Carolina Legislators Opt to Keep Santee Cooper as Public Utility
- May 21st, 2021: South Carolina to Implement Net Metering Settlement with Time-of-Use Pricing

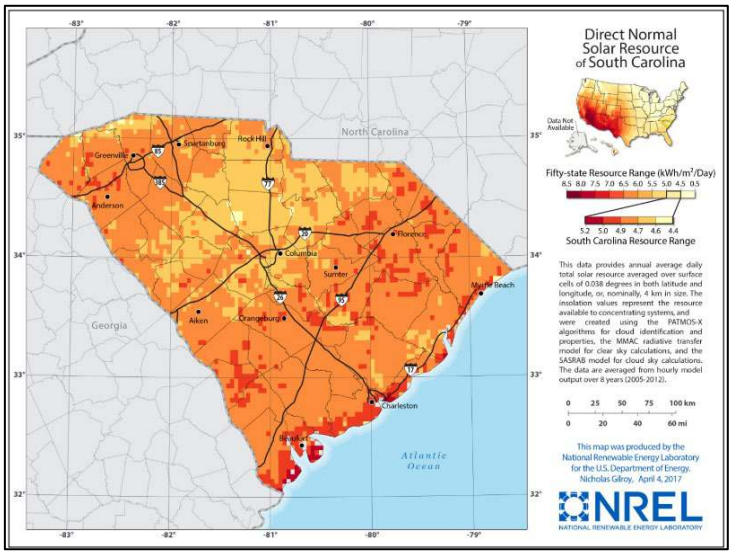
[7] A study by the Congressional Research Service suggests that tax credits are important tools for ensuring increased adoption of alternative-fueled vehicles.

- May 17th, 2021: Solar Leases in South Carolina Get Property Tax Exemption
- February 25th, 2021: South Carolina PSC Approves Duke Energy's Green Source Advantage
- February 23rd, 2021: Dominion SC Plans to Retire Coal Plants by 2030 but Would Mostly Rely on Natural Gas

SOUTH CAROLINA'S WIND AND SOLAR RESOURCES

WIND https://windexchange.energy.gov/states/sc





OTHER RESOURCES

- South Carolina Office of Regulatory Staff, Energy Freedom Act: https://ors.sc.gov/consumers/electric-natural-gas/solar/south-carolina-energy-freedom-act
- South Carolina, State Energy Office: http://www.energy.sc.gov/
- American Clean Power Association, South Carolina State Fact Sheet: https://cleanpower.org/wp-content/uploads/2021/05/South-Carolina_clean_energy_factsheet_Q2-2021.pdf
- The American Council for an Energy-Efficient Economy State and Local Policy Database, South Carolina: https://database.aceee.org/state/south-carolina
- The Database of State Incentives for Renewables and Efficiency, South Carolina: https://programs.dsireusa.org/system/program?fromSir=0&state=SC
- U.S. Energy Information Administration, South Carolina: https://www.eia.gov/state/?sid=SC
- U.S. Department of Energy's Alternative Fuels Data Center, South Carolina: https://afdc.energy.gov/laws/state_summary?state=SC
- SPOT for Clean Energy, South Carolina: https://spotforcleanenergy.org/state/south-carolina/

Our Resources

CNEE Homepage: https://cnee.colostate.edu/

The SPOT for Clean Energy: https://spotforcleanenergy.org/

The Advanced Energy Legislation (AEL) Tracker: https://www.aeltracker.org/

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