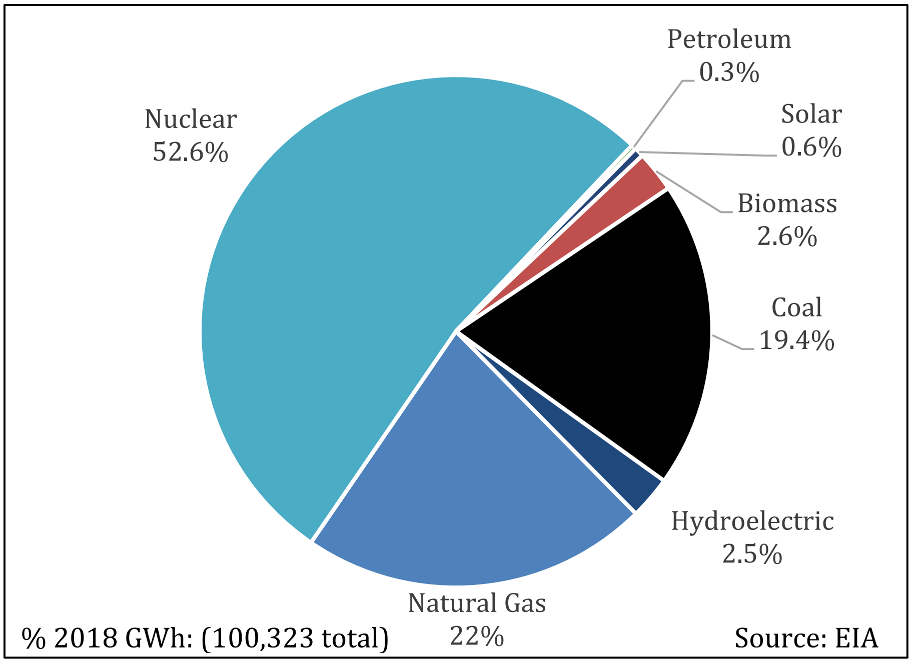
State Brief: South Carolina

BACKGROUND

South Carolina's Net Annual Electric Generation, 2018



The majority of South Carolina's electricity portfolio is supplied by nuclear power, comprising just over half of the state's electricity generation in 2018. South Carolina consistently ranks as one of the most nuclear-dependent states, 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 40% 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. Conversely, natural gas-fired generation more than doubled in the same period, with the U.S. Energy Information Administration (EIA) projecting additional increases in 2019.

The Palmetto State does not have a mandatory renewable portfolio standard but has adopted a voluntary Distributed Energy Resource Program, which establishes a goal 2% of aggregate generation capacity from distributed sources by 2021. The state boasts substantial solar and biomass energy potential. Driven by the state's robust forest resources and timber industry, biomass provides a sizeable amount of the state's renewable electricity and surpassed hydroelectric generation in 2016 and 2017. Installed solar capacity has begun 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. Signed by Henry McMaster in May 2019, House Bill 3659, or the Energy Freedom Act, seeks to expand the state's solar industry by restoring the state's net metering policy and by improving grid access for smaller solar-based power producers (see below: Mainstreaming Renewables).

The 2020 U.S. Energy and Employment Report found that South Carolina has 49,215 traditional energy workers (2.3% of total state employment) and an additional 30,794 workers employed in energy efficiency.

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-term-limited members appointed via an election held by the General Assembly. Currently, there are six commissioners who are either unaffiliated with a political party or have non-public party identification, and one Republican commissioner. Comer Randall 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,"[1] 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 in order 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

New 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.

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

In the most recent (2018) Grid Modernization Index, South Carolina ranked 34th overall for grid modernization efforts. Policymakers have begun to emphasize the importance of updating electricity infrastructure in recent years. North Carolina State's 50 States of Grid Modernization Report shows the state was among the most active in the U.S. in pursuing grid modernization actions in 2018. Among the grid modernization activity that occurred, Duke Energy held a Grid Improvement Initiative workshop with assistance from the Rocky Mountain Institute (RMI). 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.[2] Duke Energy Progress and Duke Energy Carolinas filed informational dockets to the PSC to track grid modernization progress in December 2019. The utilities expect grid modernization efforts to result in lower bills for South Carolina customers as of summer 2020.

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. 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

[1] 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.

[2] See PSC Docket 2018-218-E. For a detailed analysis on The SC 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).

modernization stakeholder workshop has yet to take place. Advancement of the utility plan may depend upon the ongoing rate case currently 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.

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 to flatten peak demand requirements. 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, storage can dispatch power to better integrate intermittent power generation resources like renewable energy to the grid. Finally, energy storage can help the 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 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.

Storage provides multiple benefits to both the customer and the utility. State planning and regulatory policies can help maximize these benefits by 1) establishing a framework for easy integration of energy storage into the grid and 2) establishing 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 storage technologies. Not only does Duke Energy's Grid Improvement initiative set aside $24.5 million for energy storage projects,[3] but the landmark legislation - the Energy Freedom Act – will support energy storage by removing regulatory barriers to grid access and by recognizing the values storage provides to the grid (discussed further below).

In addition to evaluating energy storage's benefits to the grid, there are additional opportunities for developing supportive state policies:

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 easily 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.

[3] Gridlab. Modernizing the Grid in the Public Interest: Getting a Smarter Grid for the Least Cost for South Carolina Customers, p. 19.

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.

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 would 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 jump-start market creation, spur fast learning, and guide 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 2019 Bloomberg New Energy Finance report predicts that renewable resources will generate at least 60% of total global electricity and 43% of U.S. electricity 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 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. To ensure this, South

Carolina's policymakers could consider adopting IREC's model interconnection procedures, removing net metering system size limitations and crediting net excess generation at the customer's retail rate. 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, financial incentives, or loans 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. Low-income 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, Progressive Energy, South Carolina Gas and Electric, and a number of electric cooperatives maintain community solar programs.[4]

   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. Over the last five years, over 20 gigawatts (GW) of renewable contracts have been announced by corporate entities. This is leading policymakers to provide additional avenues for businesses to procure 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. The Energy Freedom Act also provides that electric utilities can develop a voluntary renewable energy tariff, in which customers can bundle demand under a single procurement contract to be approved by the PSC. Duke Energy is currently developing a voluntary green tariff program called the Green Source Advantage rider, which is pending approval by the PSC. Policies to increase corporate access to renewable energy can be designed to meet the six Corporate Renewable Energy Buyers' Principles. In addition, 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

[4] National Renewable Energy Lab. Midmarket Solar Policies in the United States, South Carolina.

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 has a target of 2% renewable energy by 2021. Cities and utilities are taking the lead to increase renewable deployment in the state. 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 an 80% reduction in GHG emissions, relative to a 2002 baseline, by 2050. Duke Energy has a goal to own or contract 8,000 MW of renewable energy by 2020. Dominion energy plans to reduce its GHG emissions 80% by 2050.

To increase utility adoption of clean energy technologies, South Carolina's policymakers might consider adopting a clean peak standard. 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.

PATHWAYS TO A LOW CARBON FUTURE

The international scientific community has determined that steep and rapid reductions in global greenhouse gas (GHG) emissions are needed to avoid the worst impacts of global warming and climate change. Federal and state policy interventions are necessary to transform our energy systems and rapidly reduce GHG emissions in the U.S. In general, effective policies will:

1) Establish performance standards and place enforceable limits on carbon pollution;
2) Provide financial incentives for individuals, businesses, and industry to choose clean energy and greatly improve energy efficiency;
3) Spur public and private investment in clean energy infrastructure, including investment in advanced transportation systems for the movement of people and goods; and
4) Provide funding for research, development, and demonstration of technologies that will underpin the de-carbonization of the U.S. economy.

South Carolina's utilities have taken the lead in setting GHG emissions reductions goals. Duke Energy set a goal for cutting all carbon dioxide emissions in half by 2030 and attaining net-zero carbon emissions by 2050. This year, Dominion Energy established a goal of net-zero carbon emissions by 2050. Other utilities such as Santee Cooper have contributed to regional decreases in emissions due to the displacement of coal generation by new renewables and natural gas. To compliment this, South Carolina's policymakers might consider the following:

1. GHG Emissions Monitoring and Reporting – To effectively implement policies that reduce emissions, a mandatory system for monitoring, reporting, and verifying GHG emissions must be put in place. While the U.S. EPA has GHG reporting requirements, the federal reporting requirements focus on major industrial sources, leaving significant gaps in the information states need to fully understand their emissions profile. Policymakers might consider legislation similar to Colorado's SB19-096, which requires annual GHG reporting and establishes emissions baselines from which to measure progress.

2. Emissions Targets – Emissions targets can take a technology neutral approach that looks at the total emissions of the utility portfolio and drive emissions down with a combination of renewables, traditional fuels, efficiency, and technological advances. Emissions reductions can be achieved through a carbon portfolio standard approach, under which a state sets an emissions reduction target to be achieved over time, for example, 40% below 1990 levels by 2040. This can be implemented through the IRP or other long-term planning process or by establishing a maximum allowable rate of emissions per unit. Such a standard can also be designed to address other concerns such as pollution, asthma risk, environmental justice, and water use.

3. Cap-and-Trade / Cap-and-Invest – These policies place enforceable limits on carbon emissions that cannot be exceeded by regulated entities without penalty. Emissions allowances are allocated or sold to companies by the state and sources must hold an allowance for each ton of carbon they emit in a given year. Emissions caps and available allowances are reduced every year, requiring that industries reduce their emissions or pay higher market prices for available allowances. States might choose to invest the revenue associated with emissions allowances in renewable energy, public transportation, zero-emission vehicles, environmental restoration, sustainable agriculture, recycling, and other actions.

   States might consider joining an existing program like the Western Climate Initiative (WCI) or the Regional Greenhouse Gas Initiative (RGGI), as joining an established network can remove administrative barriers to entry.

4. Carbon Tax – Carbon taxes impose a price on each ton of carbon emitted and are levied on the purchase and use of fossil fuels by business and industry. That cost is subsequently reflected in consumer prices. If carbon taxes are levied at a high rate, they will discourage the use of GHG emitting resources and technologies, encouraging a market switch to new technology. Alternatively, carbon taxes can be set at a lower rate, which will have a limited impact on market behavior, but the revenue can be substantial and that revenue can be invested in energy efficiency and emission reduction technologies which will result in lower emissions. States considering this option might examine British Columbia's existing tax structure or the federal proposals from the Citizen's Climate Lobby and the Climate Leadership Council.

5. Emissions Performance Standards – Transportation sources now emit more GHGs than any other sector, and rapid reductions from all types of vehicles, engines, and equipment is critical to achieving carbon reduction goals. The Low Carbon Fuel Standard (LCFS) implemented by both Oregon and California is another example of a flexible, market-based approach to regulating carbon emissions at the state level. LCFSs regulate the carbon intensity of transportation fuel in order to reduce the use of petroleum-based fuels and promote investment in low-carbon options (electrification, biofuels, hydrogen, etc.). The market mechanism LCFSs use is a crediting system where each fuel type is assigned a carbon intensity (CI) score. The allowable CI score is decreased yearly, requiring a switch to lower CI fuels. Entities who provide fuel below the regulated CI score earn credits. These credits can be sold to providers who operate at a deficit (above the mandated CI score), creating a market incentive for investment in cleaner fuels

ELECTRIFICATION OF THE TRANSPORTATION SECTOR

Bloomberg New Energy Finance estimates that 58% of all new passenger vehicle sales will be electric by 2040 and that price parity with conventional vehicles will be met for most segments in the mid-2020s. 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. Another important barrier to increased adoption of EVs is their higher up-front cost as compared to similar conventionally fueled vehicles. The good news is that both supportive policies for developing charging infrastructure and technological advancements have eased range anxiety.

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 may be claimed to offset up to 20% of equipment costs. Duke Energy is conducting a pilot program to develop infrastructure for residential charging, electric school buses, electric public transit charging, and DC fast charger deployment.

A study prepared by M.J. Bradley and Associates in 2020 found 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).

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

1. EV and EV Supply Equipment (EVSE) 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 the up-front costs of EVs and EVSE. 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 receipt of the credit is typically removed in time from the purchase.[5] Some states have adopted other financial incentives including low-interest loans, grants, vouchers, and rebates. A handful of states qualify EVSE 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 a longer period of time, for example when going shopping, going to a restaurant, 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. States with existing registration fees for EVs could use a portion of these fees to help fund planning and charging infrastructure development efforts, as Washington has done.

3. Utility-Run Programs – Charging rate incentives and time of use rates can reduce the cost of electricity used for charging. Eligibility for a charging rate incentive may be limited to users with separate or advanced metering systems. Some utilities also offer financial incentives for the purchase of EVs or EV supply equipment (EVSE). In some states, enabling legislation may be required to direct or authorize a public utilities commission to allow regulated utilities to recover the costs of providing these incentives.

4. 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. Many states and local governments are updating building standards and codes to provide for the installation of charging equipment. South Carolina's building energy code could also be updated to include requirements for EV charging infrastructure.

5. 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.

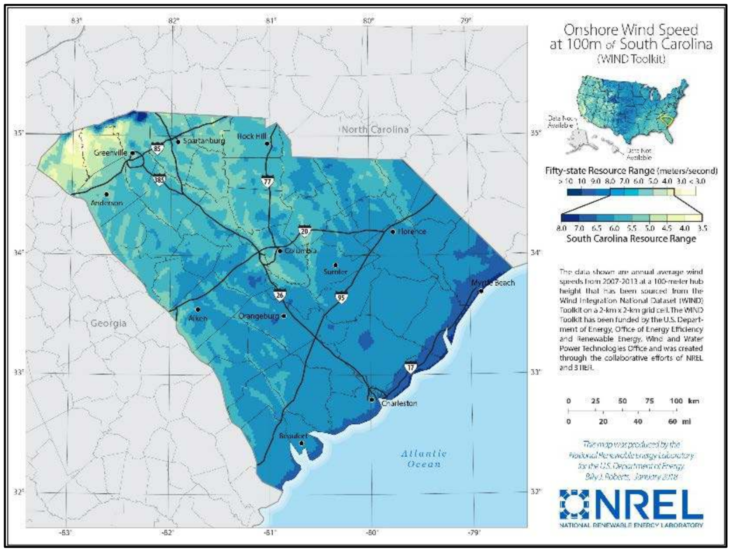
NEWS

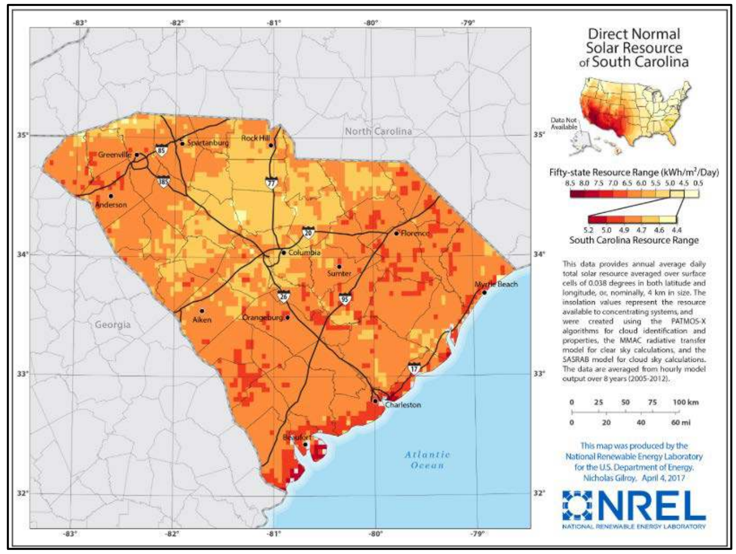
- July 6, 2020: Atlantic Coast Pipeline Cancellation Removes Specter for SC Environmentalists
- June 8, 2020: South Carolina Power Providers Join Forces to Push Solar Effort
- May 6, 2020: Dominion Steels Itself for Market Volatility, Anticipating Slow Economic Reopening in Virginia, South Carolina
- February 24, 2020: Cap Coal Ash in Place? Duke and Others Have Learned Better
- February 16, 2020: As More Buy Electric Vehicles, SC Utilities Have to Prepare to Charge Them
- January 7, 2020: South Carolina Raises Rates Dominion Must Pay to Solar Providers, Reversing Earlier Decision

[5] A study by the Congressional Budget Office however suggests that tax credits are important tools for ensuring increased adoption of alternative-fueled vehicles.

SOUTH CAROLINA'S WIND AND SOLAR RESOURCES

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





OTHER RESOURCES

- South Carolina, State Energy Office: http://www.energy.sc.gov/
- 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/
- American Wind Energy Association (AWEA): https://www.awea.org/resources/fact-sheets/state-facts-sheets
- National Renewable Energy Laboratory Biomass Maps: https://www.nrel.gov/gis/biomass.html
- The Rocky Mountain Institute, From Gas to Grid – Building Charging Infrastructure to Power Electric Vehicle Demand: https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf
- The GridWise Alliance, EVs - Driving Adoption, Capturing Benefits: http://gridwise.org/evs-driving-adoption-capturing-benefits/
- The Regulatory Assistance Project, Performance-Based Regulation: https://www.raponline.org/event/performance-based-regulation-the-power-of-outcomes-part-1/
- The Interstate Renewable Energy Council, A Playbook for Modernizing the Distribution Grid, Volume 1: https://irecusa.org/publications/a-playbook-for-modernizing-the-distribution-grid-volume-1/

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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