Charting a New Path for South Carolina's Electricity Generation and

South Carolina's energy future is at a crossroads

One path leads to increased dependency on fossil fuels—threatening our economy and fueling global warming. The other leads to a new, smarter energy future for South Carolina. Investing in clean energy alternatives—like solar and wind power—can create and protect jobs in South Carolina, save families and businesses money, and make America more energy independent. Clean energy is also the most effective solution to the threat of global warming. We can start making progress right away using proven technology, and then draw on American innovation to take us the rest of the way with new technologies.

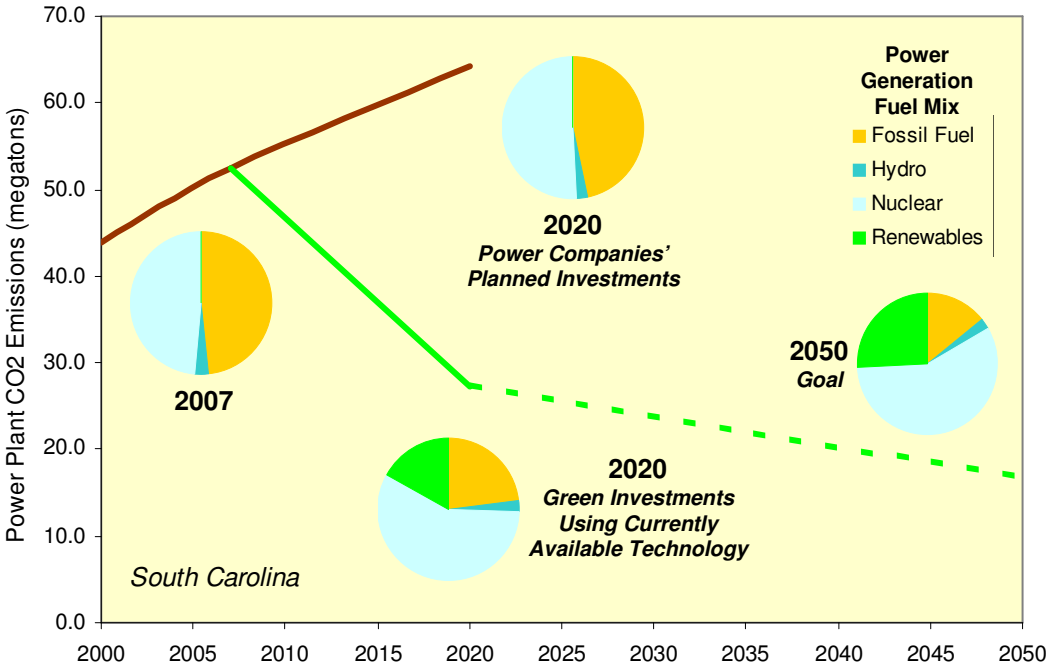
How does South Carolina generate electricity today?

In 2007, electric power generated in South Carolina primarily came from coal (43.1 percent), and nuclear (48.9 percent). Most utilities intend to continue relying heavily on fossil fuels in the coming decade. South Carolina power companies plan to increase the energy generation from coal by 24.3 percent. Less than 0.1 percent of electricity generated in South Carolina is expected to come from renewable sources like wind, solar, geothermal, and biomass under current plans.

South Carolina has a choice to invest in a cleaner energy future

South Carolina can achieve a new energy future by making better investments as utilities replace increasingly aged infrastructure and expand capacity. An important first step is for South Carolina to generate at least 20 percent of electricity from renewable sources by 2020, a goal readily achievable with today's technology. Continuing to convert 15 percent of the state's energy portfolio to renewable energy sources each decade could yield an energy profile of at least 65 percent renewables by 2050.

South Carolina can also benefit from improved energy efficiency. Technologies are available that could reduce demand nationally by 20 to 30 percent over the next decade. Innovations in energy efficiency should allow us to keep demand constant after 2020, even as the population grows.



About the chart: 2000, 2007 and 2020 Power Companies' Planned Investments from CARMA 1.0 (www.CARMA.org). The 2020 Green Investments projection assumes that, using currently available technology, South Carolina makes (1) improvements in efficiency to reduce overall demand by 25 percent and (2) shifts away from fossil fuels so that 20 percent of power generation is from renewable energy sources. The 2050 Goal assumes (1) hydro and nuclear are unchanged, (2) continued efficiency improvements keep total demand flat, and (3) renewable energy replaces at least 65 percent of power generation formerly done through fossil fuel burning. Note that the projection of future CO_2 emissions from fossil fuels assumes no investment in carbon capture and storage.

Making a Difference in South Carolina

In South Carolina, one energy provider is going the extra mile to go green, help consumers, and be environmentally responsible. Santee Cooper is one of South Carolina's largest power companies and serves 2 million customers. The company is the first power company in the state to have a renewable energy program and continues to be a leader in renewable energy. The company has announced a goal to produce 40 percent of its electricity through non-greenhouse gas emitting sources by 2020. They plan to reach this goal by investing in biomass and other renewable resources, and are currently studying wind energy feasibility. Santee also offers programs for consumers, like free energy efficient light bulbs and loans for energy efficiency improvements. People who generate their own solar power can sell back extra energy to the company.

Sources:

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https://www.santeecooper.com/portal/page/portal/SanteeCooper/MyHome/LoansLow Interest
http://ecmweb.com/mag/electric_santee_cooper_unveils/

Making a dent in global warming pollution

Simply by shifting to renewable energy sources and improving energy efficiency over the next decade or so, South Carolina can reduce its future carbon dioxide (CO_2) emissions from electricity generation by 58 percent compared to the business-as-usual path that utilities are following now.

Given that 43 percent of South Carolina's CO_2 emissions come from electricity generation, diversifying and updating our power sources is critical for cutting the state's total global warming pollution.

Increasing South Carolina's energy and economic security

Investing in renewable energy sources will reduce South Carolina's dependence on fossil fuels and at the same time create new green collar jobs. A new energy future in South Carolina could include:

Expanded solar power. South Carolina has enough solar resources to produce 4,500 to 5,500 Whr per square meter using photovoltaic systems and 4,000 to 4,500 Whr per square meter using concentrating solar power systems. This means that devoting just 1 square mile in South Carolina to solar power can provide enough electricity for about 1,200 households each year.

Expanded wind power. South Carolina is currently ranked 41st for wind power, with MW of existing electricity generation capacity. The American Wind Energy Association ranks South Carolina 42nd in terms of its future wind potential, with 59 MW of potential capacity.

Biomass power. South Carolina has 9.4 million dry tons of biomass available each year that could be used to generate about 1,800 MW of electricity.

A stronger economy. South Carolina could realize as many as 4,964 jobs manufacturing wind turbines and $1.65 billion investment in the wind industry alone if 50,000 MW of new wind energy is created on a national level.

How does South Carolina use electricity?

South Carolina's energy is used to power:

- homes (35 percent),
- businesses (26 percent), and
- industry (39 percent).

Per capita residential electricity use is 6,591 kilowatt hours per year, 46 percent greater than the national average.

References and Additional Reading:

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For more information, visit www.nwf.org/globalwarming.