

SOUTH CAROLINA



DEPARTMENT OF COMMERCE

RENEWABLE ENERGY IN SOUTH CAROLINA



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The next time you are working on a Renewable Energy project, think of South Carolina.

By the numbers:

60+ The number of years advanced hydrogen research has been conducted in Aiken County at the U.S. Dept. of Energy's Savannah River Site and Savannah River National Laboratory (SRNL), the applied R&D laboratory at the Site. The city of Aiken has taken advantage of hydrogen know-how in the area and has co-located ARC:Hydrogen, a \$10 million research laboratory and conference space where industry and academia can collaborate with the SRNL. (Source: Savannah River Site and www.archydrogen.com)



Alternative Energy Supply Chain in South Carolina

Number of companies

Potential Biomass Supply Chain	96
Potential Geothermal Supply Chain	35
Potential Solar Supply Chain	107
Potential Wind Supply Chain	206

1st The nation's first hydrogen fueling station located in a multi-use industrial park to supply hydrogen directly for industrial, commercial and government use is located in Aiken County. The Kimberly-Clark distribution center is one of its customers, using the hydrogen for its fuel-cell powered forklifts. (Source: www.kimberly-clark.com/newsroom/media_contacts.aspx)

1150% The increase in patents registered in green technologies in South Carolina over a ten-year period. Green technology patents encompass batteries, fuel cells, hybrid systems and wind energy. (Source: National Governor's Association Profile of the Green Economy, prepared by Collaborative Economics, September 2009)

5th Where South Carolina ranks among the states on "Movement Toward a Green Economy," based on the amount of electricity in the state generated by non-carbon energy sources. (Source: 2010 State New Economy Index, The Information Technology & Innovation Foundation and the Kauffman Foundation, November 2010)

“ The University of South Carolina was the nation’s first site for the Center for Fuel Cells supported by the National Science Foundation Industry/University Cooperative Research program to conduct industrially relevant research.

6th South Carolina’s ranking for Leadership in Energy and Environmental Design (LEED)-certified commercial and institutional green building space per capita. The ranking is based on 2010 LEED-certified projects. LEED-certified buildings use less energy — saving money and reducing greenhouse gas emissions. (Source: U.S. Green Building Council, March 2011)

1st The University of South Carolina (USC) was the nation’s first site for the Center for Fuel Cells supported by the National Science Foundation Industry/University Cooperative Research program to conduct industrially relevant research. USC’s Center for Fuel Cells’ 11 industry partners include The Boeing Company, Faraday Technology, General Motors and IBM. The Center for Fuel Cells now includes a site at the University of Connecticut. (Source: National Science Foundation)

6 The number of South Carolina projects that earned Excellence in Manufacturing Recruitment Awards from *Southern Business & Development* magazine. Three of these high-profile projects represent energy efficient products:



BOEING

The Boeing Company,
North
Charleston,



for its fuel-saving 787 Dreamliner jet; **IMO Group USA**, Summerville, wind energy components; Proterra, Inc., Greenville, battery-electric powered buses; and, **ZF Group**, Laurens County, fuel-efficient transmissions. South Carolina received the most awards of any state in the magazine’s reporting region. (Source: *Southern Business & Development*, Summer 2010)



8 The number of football fields that The Boeing Company’s rooftop solar farm could cover. The solar installation on Boeing’s final assembly plant in North Charleston will be the sixth largest in the United States and the largest solar farm in the southeast.

WIND ENERGY IN SOUTH CAROLINA

413 **The number of acres on the campus of GE Energy's Greenville site which is the headquarters for GE Energy Engineering Infrastructure**, a principal location for GE Wind Energy and the home of the world's largest gas turbine manufacturing plant - making fuel flexible turbines for global export. "Every day, more than 3,000 GE people in Greenville work to build advanced gas and wind turbine technologies for our customers around the world." (Source: www.ge.com/innovation/greenville/index.html.)

2nd **South Carolina has the second highest potential for electricity generation from offshore wind power among East Coast states.** It is estimated that 64 percent of South Carolina's current electricity generation could be provided from offshore wind production. (Source: *Untapped Wealth: Offshore Wind Can Deliver*, Oceana, September 2010)

12.5 **The sustained wind speed needed to cost-effectively generate electricity from wind turbines.** A year-long study found that South Carolina has offshore wind resources that meet this standard and could generate enough electricity to power 1 million homes or more. (Source: *Palmetto Wind*, a collaborative of Clemson University's Restoration Institute, Santee Cooper, Coastal Carolina University and the South Carolina Energy Office)

2nd **Where a leading economic development publication ranked South Carolina** among the states for wind energy manufacturing. (Source: *Business Facilities*, July/August 2010)

\$98 million **The investment in Clemson University's state-of-the-art wind turbine drivetrain testing facility in North Charleston.** When the facility begins operations in 2012, it will be the world's largest and will be capable of full-scale, high speed testing of advanced drivetrain systems for wind turbines in the 7.5 megawatt to 15 megawatt range. Most of the drivetrains will be transported through the nearby Port of Charleston. (Source: *Clemson University*)

1 of 12 **The Savannah River National Laboratory (SRNL) in Aiken is one of 12 U.S. Dept. of Energy Laboratories conducting wind energy research.** Research at the SRNL is focused on wind energy technologies for coastal and marine environments, including ways to improve wind farm siting and mitigating the impact from offshore wind farms on radar. (Source: *Wind Power Today 2010*, U.S. Dept. of Energy)

1000 to 5000 **The megawatts of wind power that could be developed** along South Carolina's relatively shallow coast using existing technology. (Source: *U.S. Dept. of Energy, National Renewable Energy Laboratory and reported by Clemson University*)



Every day, more than 3,000 GE people in Greenville work to build advanced gas and wind turbine technologies for our customers around the world.

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SIEMENS Friedrichs & Rath Inc 

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Mitsubishi Chemical **NUCOR** 

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URS Roller Bearing Co of America

Kemet  **PRYSMIAN** CABLES & SYSTEMS **Bosch Rexroth**

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