
South Carolina Hydrogen Landscape

Hydrogen fuel cells represent a promising solution to our petroleum-addicted transportation sector. Recognizing this, the state of South Carolina has proven to be a leader in the areas of hydrogen fuel cell research, development, and deployment. This article will highlight the progress made in South Carolina in the areas of hydrogen and fuel cell technology policy, R&D, and commercialization.

South Carolina has been very active in the area of fuel cell policy. The state enjoys multi-level government support for its hydrogen endeavors. Senator Lindsey Graham (R-SC), co-chair of the Senate Hydrogen and Fuel Cell Caucus and personally introduced the H-Prize bill. In 2005 the Governor's South Carolina Competitiveness Initiative, which brought together government, business and academia to identify South Carolina's strengths, identified the hydrogen and fuel cell industry as one of its main focus clusters. In 2007 the state legislature passed the Hydrogen Infrastructure Development Act, which promises to lay significant groundwork toward a hydrogen/fuel cell economy in South Carolina. Other states are following South Carolina's model in this area. In 2006, Virginia Clean Cities coordinated the Virginia Hydrogen Roundtable, whose purpose is to determine the potential role for hydrogen systems in Virginia's energy future.



This legislative commitment has in part led to a surge in hydrogen and fuel cell research, development, and commercialization in South Carolina. South Carolina Department of Commerce played a large role in forming the South Carolina Hydrogen and Fuel Cell Alliance (SCHFCA). The SCHFCA is a public-private collaborative of 14 organizations that work toward the cooperative and coordinated utilization of resources in the state to advance hydrogen and fuel cell technology commercialization.

South Carolina is home to several research and development organizations. One notable example is Savannah River National Lab (SRNL), one of the largest concentrations of hydrogen scientists in the world. Adjacent to the SRNL is the Center for Hydrogen Research, located in Aiken. In 2005, Toyota invested approximately \$1 million in this facility's programs, which are geared toward hydrogen and fuel cell development. South Carolina universities are also working hard in this area. Clemson recently formed the International Center for Automotive Research, which is a premier automotive design and integration facility. South Carolina State University boasts the Clyburn Transportation Center, which conducts research in transportation and education. The University of South Carolina has shown commitment to fuel cell technology through its new research center, Innovista, which is conducting research regarding fuel cell capability and use.



A resulting effect of the positive business and legislative environment is commercialization, which is well underway with companies like Greenway Energy, Dantherm Power and NextGenEn selling, installing and servicing the technology at sites across the state.

South Carolina has created a strong competency in hydrogen research and development that uniquely positions it as a leader in the effort to reduce petroleum usage in the United States. The passion of its leaders provides a great example for any state that wishes to be on the forefront of the development of the alternative fuel economy.