

IX.4 Development of Hydrogen Education Programs for Government Officials

Shannon Baxter-Clemmons (Primary Contact),
Chris Daetwyler
South Carolina Hydrogen and Fuel Cell Alliance (SCHFCA)
Post Office Box 12302
Columbia, SC 29211
Phone: (803) 727-2897
E-mail: baxterclemmons@schydrogen.org

DOE Manager
GO: Greg Kleen
Phone: (720) 356-1672
E-mail: Greg.Kleen@go.doe.gov

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Scott Greenway, Greenway Energy, Aiken, SC

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- (E) Regional Differences
- (F) Difficulty of Measuring Success

Contribution to Achievement of DOE Education Milestones

This project will contribute to achievement of the following DOE milestones from the Education (3.9) section of the 2009 Fuel Cell Technologies Program Multi-Year Research, Development and Demonstration Plan:

- **Milestone 11:** Develop set of introductory materials suitable for a non-technical audience. (4Q, 2006)
- **Milestone 13:** Develop materials for community seminars. (4Q, 2008)
- **Milestone 14:** Hold community seminars to introduce local residents to hydrogen. (4Q, 2008 through 4Q, 2012)
- **Milestone 17:** Hold “Hydrogen 101” seminars. (4Q, 2008 through 4Q, 2012)
- **Milestone 29:** Evaluate knowledge and opinion of hydrogen technology of key target audiences and progress toward meeting objectives. (4Q, 2009)

Fiscal Year (FY) 2011 Objectives

- Synthesize objective and technically accurate information that will be made available to a wide audience through the Internet, a national meeting, and training sessions.
- Design and develop educational programs that will clarify the benefits and challenges of developing a hydrogen infrastructure and avoid over-selling hydrogen technologies.
- Leverage relationships with project team organizations in South Carolina to distribute hydrogen education materials to government and code officials.
- Train a group of hydrogen educators at the project team institutions (the South Carolina [SC] Energy Office, the state fire marshal’s office, the SCHFCA and Greenway Energy) who will be resources to the target audiences.

Technical Barriers

This project addresses the following technical barriers from the Education section (3.9.5) of the 2009 Fuel Cell Technologies Program Multi-Year Research, Development and Demonstration Plan:

- (A) Lack of Readily Available, Objective, and Technically Accurate Information
- (B) Mixed Messages
- (C) Disconnect Between Hydrogen Information and Dissemination Networks
- (D) Lack of Educated Trainers and Training Opportunities

FY 2011 Accomplishments

- In person presentations to over 30 groups of targeted South Carolina decision makers.
- Held three webinars to provide information to stakeholders throughout South Carolina.
- Reached 1,744 targeted additional state and local government officials and decision makers.
- Webinar presentations can be viewed through a SlideShare channel.
- Videos of educational information on hydrogen are available on the SCHFCA YouTube channel.
- Developed case studies on early markets for hydrogen and fuel cell technologies including: fuel cell lift trucks, combined heat and power, and telecommunications backup power.
- Presentations to groups including the National Congressional Candidates, Gubernatorial Candidates, State House and Senate Candidates, Head of the South Carolina Department of Commerce, Agency heads at the South Carolina Department of Health and Environmental Control.
- Hydrogen 101 materials were utilized in wider public education efforts that reached additional non-decision makers.
- Educational efforts with South Carolina House and Senate members to demonstrate the effect of state level incentives for fuel cells and renewable technologies on creating viable markets.



Introduction

Hydrogen and fuel cell technologies are moving out of the laboratory and into economically competitive niche markets such as cell phone tower backup power and forklift operations. As hydrogen technologies become competitive in these early markets, communities will need to be educated about the opportunities afforded by hydrogen technologies and about safety concerns associated with them. The Hydrogen 101 program led by the SCHFCA seeks to raise awareness about hydrogen and fuel cells to community leaders within SC and the southeast.

SC is among a small, but growing, number of states that have a hydrogen implementation strategy and is on the leading edge of fuel cell research and adoption. The state has been recognized as one of the top five leaders in hydrogen and fuel cells, but a significant lack of information on hydrogen still exists among state and local leaders. In order to maximize the resources existing in the state and surrounding region, it is imperative that an effective outreach and education program be conducted so that the decision to accept hydrogen technologies in the local community is informed and wise.

Approach

The project team is composed of SC-based hydrogen experts with connections to technically accurate information; and, civic organizations and associations with the communications networks and events with our target audience already established. The entire team works together to identify specific messaging that the local audience and sub audiences are interested in. Based on the feedback we gather from the civic organizations and other community opinion leaders, education materials and demonstrations are developed.

The marketing of the program is conducted through the existing websites, e-mail distribution lists and communication networks. The distribution of the material is primarily conducted at events associated with each of the civic associations partnering on the project, however, several stand-alone events and webinars are planned.

Results

Building on the educational successes that assisted in the passage of the South Carolina Hydrogen Permitting Act, SCHFCA has focused its attention on renewing relationships with decision makers in FY 2011 and reaching out to new candidates to in state and national political offices. These efforts have been focused on discussing the success of hydrogen and fuel cell technologies in early markets and methods to increase adoption of hydrogen technologies within the state and region.

In 2011 the Hydrogen 101 program expanded its audience to include business leaders and economic development officials based on input gathered from stakeholders. The focus of interactions with decision makers has focused on emphasizing the business case for fuel cells in early markets. This education focuses on helping them understand where fuel cells can provide a value proposition for their organizations. The program performed outreach to these groups through presentations and small or individual meetings. Presentation materials were updated and expanded depending on the audience and brochures were printed to summarize key messages.

The SCHFCA Hydrogen 101 program far exceeded its goals of 3 webinars and 30 in-person presentations. The number of direct stakeholders reached was 1,744 and the wider educational efforts that leveraged Hydrogen 101 materials reached over 2 million people. In addition to the education of leadership groups, the SCHFCA contacted candidates for political offices who will be filling vacated offices in 2011 and has continued discussions with newly elected leaders. The educational efforts focused on helping them understand how the hydrogen and fuel cell industry is growing the state economy, creating high paying jobs, and saving businesses money.

Groups have been overwhelmingly supportive of hydrogen and fuel cell technologies as a result of the presentations and view the technologies as having the potential to foster economic development within the state. Work has been started to collaborate with other states including Tennessee, North Carolina, and Florida. These collaborations will help educate regional leaders about opportunities for a hydrogen technologies in their state and the potential to grow an interconnected regional hydrogen infrastructure.

Conclusions and Future Directions

The SCHFCA Hydrogen 101 program has met all of its goals and its efforts are having an impact on the wider support of hydrogen. Education about the effect of state level incentives on the market for fuel cell and other renewable technologies has started to show how states can grow their hydrogen infrastructure. In 2012, educational efforts will focus on presenting the value proposition for fuel cell systems to stakeholders and working to develop a more regional approach to hydrogen and fuel cell industry growth. The project will use a mixture of webinars, in-person presentations, and electronically available resources to train decision makers.