Educating Key Audiences about Hydrogen and Fuel Cell Technologies

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Expanding the use of hydrogen as an energy carrier requires a sustained education effort to lay the foundation for future commercial market introduction. Although hydrogen and fuel cells are considered longer-term technologies, hydrogen fueling stations and fuel cell vehicles are entering the public space *today* through demonstration projects in certain regions of the country, and stationary fuel cells have already reached the commercial market in some niche applications. Current knowledge and awareness levels of hydrogen and fuel cells are low, however, and prevalent misunderstandings of hydrogen properties have affected negative opinions about the safe use of hydrogen as an energy carrier. Given the current and anticipated public visibility of hydrogen demonstration projects – and the correlation between knowledge and opinion – a carefully planned education program is needed.

The U.S. Department of Energy (DOE) Hydrogen Program seeks to facilitate hydrogen and fuel cell demonstration, deployment, and market transformation by providing technically accurate and objective information to key target audiences both directly and indirectly involved in the use of hydrogen and fuels cells today. These audiences, identified in the National Hydrogen Energy Roadmap[1], include safety and code officials, state and local government representatives, local communities and the public and potential end users. Undergraduate and graduate students, professors, and middle and high school teachers, and students comprise another important audience, as they are our Nation's future researchers, scientists, engineers, technicians, and technology users.

A 2004 national Hydrogen Knowledge Survey serves as a baseline for measuring changes in knowledge over time; program plans include repeating the survey in out-years. The baseline results also provide important information about current knowledge gaps, information needs, and opinions of hydrogen technologies that helps to inform the ongoing development of DOE's hydrogen education efforts.

Developing hydrogen as a major energy carrier will require a combination of technological breakthroughs, market acceptance, and large investments in infrastructure. Success will not happen overnight; it will require an evolutionary process that phases hydrogen in as the technologies and their markets are ready. The coinciding education efforts must also assume phased a focused approach that considers technology readiness and the DOE Hydrogen Program's overall market transformation strategy.

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[1] "National Hydrogen Energy Roadmap"
http://www1.eere.energy.gov/hydrogenandfuelcells/pdfs/national_h2_roadmap.pdf