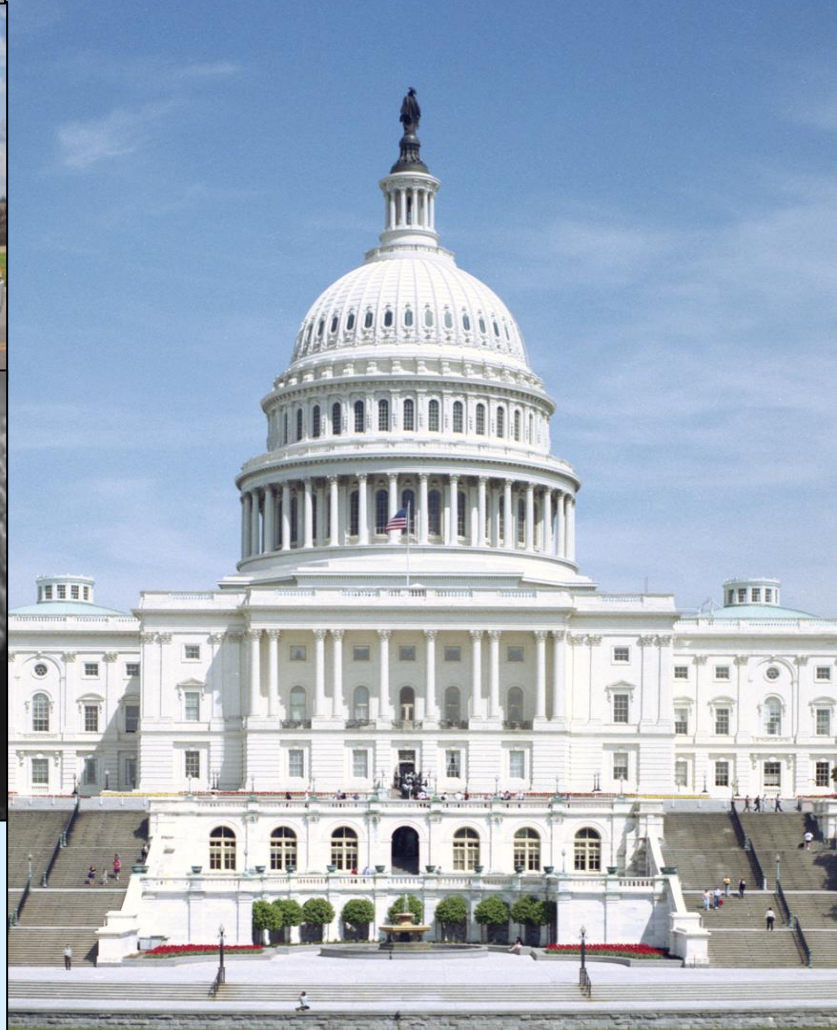
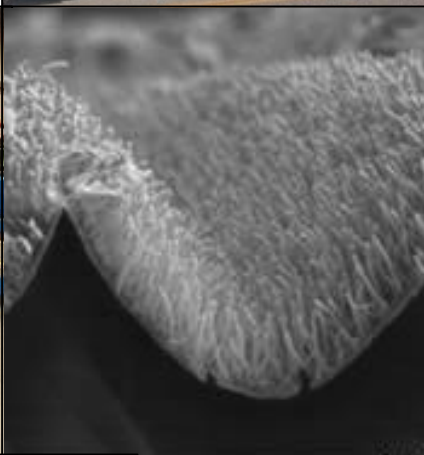
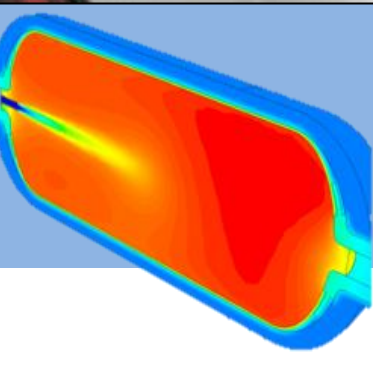




U.S. DEPARTMENT OF  
**ENERGY**

**Hydrogen and Fuel  
Cells Program**



**2012 Annual  
Merit Review and Peer  
Evaluation Report**

*May 14–18, 2012  
Arlington, Virginia*



## **About the Cover**

*Photo collage (from top to bottom, left to right):*

*A close-up of hydrogen refueling of a fuel cell vehicle. (NREL PIX 16640)*

*Computational fluid dynamics modeling of the temperature distribution inside a Type IV hydrogen storage tank 80 seconds into the fill. This work is being performed in 2012 at Sandia National Laboratories under the Safety, Codes and Standards sub-program and an international exchange program with Zhejiang University. Photo courtesy of Sandia National Laboratories. (NREL PIX 22263)*

*The Delphi solid oxide fuel cell auxiliary power unit seen on this Peterbilt truck provides power to the truck's hotel loads. (NREL PIX 20085)*

*Fuel-cell-powered material handling equipment at the Sysco Houston distribution facility in Houston, Texas. The greenfield site received funding through the American Recovery and Reinvestment Act to deploy 98 lift trucks powered by fuel cells and has been operating since early 2010. (NREL PIX 18347)*

*A scanning electron microscopy image of a cross-section of a 3M nanostructured thin film (NSTF) electrode. Photo courtesy of Oak Ridge National Laboratory.*

*Solar race judge and National Renewable Energy Laboratory employee David Ginley at the 2011 Jr. Solar Sprint and Hydrogen Fuel Cell Car Competition with members of the winning hydrogen design team, "Larry the Leaf." The all-girls team also captured the Spirit Award for exhibiting good sportsmanship, including fairness and respectful behavior. Team members are Grace Simpson, Nani Ciafone, Naia Tenerowicz, and Sam Henry. (NREL PIX 19195)*

*A low-cost polymer electrolyte membrane (PEM) electrolyzer stack from Giner, Inc. Photo courtesy of Giner, Inc. (NREL PIX 22260)*

*A Lincoln Composites Titan Tube Trailer capable of storing approximately 616 kg of hydrogen at 3,600 psi. Photo courtesy of Lincoln Composites. (NREL PIX 22261)*

*Photo on right:*

*U.S. Capitol Building. Photo courtesy of U.S. Government, Architect of the Capitol.*

**U.S. Department of Energy Hydrogen and Fuel Cells Program**

**2012 Annual Merit Review  
and  
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