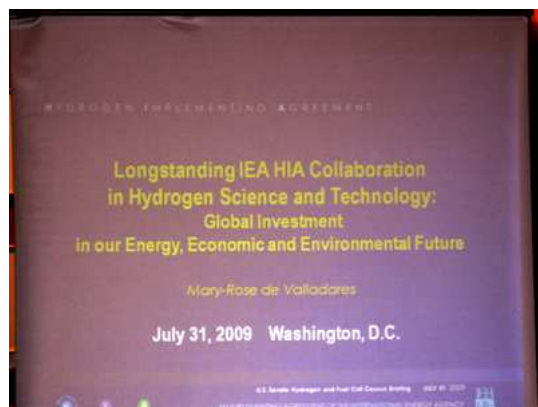


Senate Briefing on Hydrogen – Report

By Patrick Stelmach, PATH Intern

On July 31, 2009, the International Energy Agency (IEA) in cooperation with the National Hydrogen Association (NHA) and the Partnership for Advancing the Transition to Hydrogen (PATH) held a briefing in the United States Senate entitled “Collaborations in Hydrogen and Fuel Cell Science and Technology: Global Investments in our Energy, Economic and Environmental Future”.

Mary-Rose de Valladares, manager of the IEA Hydrogen Implementing Agreement (HIA) Secretariat, and Mark C. Williams, former Alternate Representative for USA to the IEA AFC and former manager of the U.S. Stationary Fuel Cell Program, presented on the activities and accomplishments of the global IEA RD&D collaborations.



Ms. Valladares discussed the upcoming IEA HIA End-of-Term Report for 2004-2009 as well as the Strategic Plan for 2009-2014. There are nine tasks that are currently being implemented in the 22 member countries. The areas of RD&D include: integrated systems, safety, biohydrogen, storage materials development, small-scale reformers, wind energy and hydrogen integration, high-temperature production, waterphotolysis, and near-market routes to hydrogen via biomass and fossil fuel. The strategic framework for the next five years is based on three themes: 1) collaborative R,D&D that advances

hydrogen science and technology in production, storage, integration systems, and integration into existing infrastructure, 2) analysis that positions hydrogen for technical progress and optimization, market preparation and deployment, and support in political decision-making, and 3) hydrogen understanding, awareness and acceptance that foster technology diffusion and commercialization.

Mr. Williams discussed the IEA Advanced Fuel Cells Implementing Agreement (IA) emphasizing the collaborative nature of the task shared research and development and information exchange between the 19 member countries. He also pointed out that fuel cells are the most efficient way to convert chemical energy to electrical energy.

Hydrogen fuel cell transportation offers a huge potential in reductions of petroleum energy use as well as greenhouse gas emissions. In the last 10 years, the Solid State Energy Conversion Alliance has made a ten-fold increase in fuel cell performance, and it will be ready to be demonstrated in 2010 to 2012. He highlighted the technical accomplishments achieved between 2004 and 2008: materials and process development, stack development and testing, system modeling, learning from demonstration projects, market studies and well to wheel studies. The specific projects were in fuel cells for transportation, portable applications, stationary applications, polymer electrolyte fuel cells, molten carbonate fuel cells, and solid oxide fuel cells. He emphasized that there has been a significant amount of exchange of cost models, many countries are building portable fuel cells, and there have been several workshops on cost reduction.

After the presentations, there was a lively Q&A discussion about progress in hydrogen and fuel cell research and development since the 1980s, comparison of greenhouse gas emissions between hydrogen and electric drive vehicles, hydrogen storage, and personal stationary fuel cells for back-up power applications.

About the International Energy Agency:

The International Energy Agency (IEA) Hydrogen Implementing Agreement (HIA) is the largest and longest-lived global collaboration in hydrogen RD&D. Founded in 1977, the IEA HIA now has 22 members, including the European Commission, and it continues to grow. IEA HIA facilitates and manages a coordinated portfolio of RD&D and analysis activities in hydrogen production, storage, conversion, safety, integrated systems, economics and marketing.

The IEA Advanced Fuel Cell Implementing Agreement (IEA AFC) aims to enhance understanding in the field of advanced fuel cells. The IEA AFC program includes RD&D and system analysis on Molten Carbonate (MCFC), Solid Oxide (SOFC) and Polymer Electrolyte Fuel Cell (PEFC) systems. Cooperation in basic and applied RD&D will continue to reap benefits for hydrogen and fuel cell technology development and implementation, and ensure a sustainable energy, economic and environmental future.

www.ieahia.org/

About the Partnership for Advancing the Transition to Hydrogen:

The Partnership for Advancing the Transition to Hydrogen (PATH) is a not-for-profit international coalition of hydrogen associations that seeks international cooperation to help advance the transition to hydrogen as a carbon-free energy carrier and a solution to environmental and energy issues.

www.hpath.org

About the National Hydrogen Association

The National Hydrogen Association (NHA) is the premier hydrogen trade organization led by over 100 companies dedicated to supporting the transition to hydrogen. Efforts are focused on education and outreach, policy, safety and codes and standards. Since 1989, the NHA has served as a catalyst for information exchange and cooperative projects and continues to provide the setting for mutual support among industry, research and government organizations.

www.HydrogenAssociation.org