

Public Announcement
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IPHE Endorses 10 Projects to Advance Hydrogen Transition

At the IPHE Steering Committee meeting in Kyoto, Japan on 14-15 September, ten outstanding hydrogen and fuel cell research, development and demonstration projects were endorsed by the sixteen members of the International Partnership for the Hydrogen Economy (IPHE). “These efforts have the potential to significantly advance the move towards a hydrogen economy,” according to U.S. Undersecretary of Energy David Garman. Garman and U.S. Deputy Administrator for Transportation Eric Peterson served as IPHE Co-Chairs for the Steering Committee meeting.

The projects endorsed by the Steering Committee are a product of the IPHE Implementation – Liaison Committee led by Germany and Iceland. They cover a broad range of topics, including fuel cell development, hydrogen safety, the use of natural gas as a catalyst, and hydrogen production using solar energy. All projects are collaborative in nature with multiple IPHE members as sponsors. Results and lessons learned from the projects will be disseminated to all IPHE members and will be made available to the public. This selection is the first international recognition provided to collaborative research projects on hydrogen and fuel cell development. Please see Attachment 1 for a summary of the selected projects. Detailed information will be available on the IPHE website – www.iphe.net – by November 1, 2005.

Other discussions at the meeting focused on the importance of stakeholders, the development of an IPHE strategic plan, approval of an IPHE award program, and refinement of the criteria to address IPHE membership. The Steering Committee agreed that the United States would continue in its role as Chair of the group, as well as host to the IPHE Secretariat.

The many statements and presentations from member countries, experts and stakeholders, highlighted the clear and growing trend toward development of the hydrogen economy. IPHE members and stakeholders are increasing their activities and spending for various hydrogen related fields, including research, testing, products, demonstration, promotion and social acceptance. Please see the meeting presentations on the IPHE website for more information.

The IPHE was launched in Washington, DC in November 2003 as a mechanism to coordinate hydrogen research and hydrogen technology development and deployment. IPHE countries share a common interest in pre-competitive research and development cooperation that will support the future deployment of hydrogen and fuel cell technologies. Since being launched less than 2 years ago, IPHE members have increased their bilateral and multilateral hydrogen and fuel cell collaboration.

Members of the IPHE Steering Committee are: Australia, Brazil, Canada, China, the European Commission, France, Germany, Iceland, India, Italy, Japan, Korea, Norway, Russia, the United Kingdom, and the United States.

ATTACHMENT 1

1) Preparing For The Hydrogen Economy By Using The Existing Natural Gas System As A Catalyst

The project will define the conditions under which hydrogen can be mixed with natural gas for delivery by the existing natural gas system and later withdrawn selectively from the pipeline system by advanced separation technologies. The socio-economic and life cycle consequences of this hydrogen delivery approach will be mapped out.

2) Solar Driven High Temperature Thermochemical Production Of Hydrogen

In this project, the most promising thermochemical cycles for hydrogen production will be identified, and one or two cycles will be down-selected for demonstration. Lower cost solar concentrating technology will be developed, as well as solar receiver and thermochemical reactor technology to demonstrate a fully integrated thermochemical process on-sun.

3) Reversible Solid State Hydrogen Storage For Fuel Cell Power Supply System

The project develops reversible solid state hydrogen storage and purification systems and their integration with fuel cell power supplies. Integration results in appearance of new possibilities to increase the overall energy efficiency of the power supply systems together with identification and development of new technical challenges.

4) Advanced Membranes

The technical goal of this project is to develop membranes for polymer electrolyte fuel cells to lower the cost and enhance the durability of hydrogen-air and direct methanol polymer electrolyte fuel cell systems. The objective of developing the IPHE program is substantially enhanced collaboration between parties to the project to ensure maximum leveraging of resources through researcher and material exchanges and joint meetings.

5) Fuel Cell Testing, Safety And Quality Assurance (FCTESQA)

The project addresses pre-normative research, benchmarking, and validation through round robin testing of harmonised, industry-wide test protocols and testing methodologies. This activity will contribute to the early and market-oriented development of specifications and pre-standards. FCTESQA results will be discussed, debated and agreed in co-operative progress meetings and dedicated international workshops under the IPHE auspices.

6) Application Of Gradient Porous Composite MEAs For Different Types Of Fuel Cells

This project develops a new design of thin monolithic multilayer more efficient and reliable MEA for different types of fuel cells (DMFC, Compact Mixed-Reactant Direct Methanol Fuel Cells (CMR-DMFC)) with the focus on small fuel cells for portable application, testing methodology for MEA as well as possible ways for FC miniaturization.

7) HyWays - The Development And Detailed Evaluation Of A Harmonised “European Hydrogen Energy Roadmap”

In spring 2004, the EU 6th Framework project HyWays was launched in order to develop a European hydrogen roadmap, to meet scientific, technical, strategic, and political concerns. The

project partnership consists of 32 organisations from industry, institutes, governments and SMEs from 9 EU member states (B, D, E, F, GB, GR, I, NL, P) and one associated state (N).

8) HySafe – Safety Of Hydrogen As An Energy Carrier

HySafe will focus on safety issues relevant to improve and co-ordinate the knowledge and understanding of hydrogen safety and support the safe and efficient introduction and commercialisation of hydrogen as an energy carrier of the future, including the related hydrogen applications. To this end the project will prepare the foundation of the European Hydrogen Safety Centre.

9) Solar Hydrogen From Reforming Of Methane

The project aims to design, test and demonstrate a unique, low temperature, steam reforming reactor using concentrated solar energy. A world-class solar facility for international collaboration in hydrogen production from solar sources will be constructed to integrate the system.

10) Clean Urban Transport For Europe - Ecological City Transport System (CUTE - ECTOS)

The CUTE – ECTOS project is an ambitious field trial of 30 fuel cell buses and hydrogen infrastructure in 10 participating European cities. Accompanying studies investigate the benefits of hydrogen and fuel cells in transport applications. Education, training, dissemination, quality and safety as well as permits & approvals are integral elements of the project.