With a 30+ year operating history and significant accomplishments to its credit, the International Energy Agency (IEA) Hydrogen Implementing Agreement (HIA) is a unique leader in the conduct of coordinated hydrogen research, development and demonstration activities on a global basis. Through the creation and conduct of thirty + annexes or tasks, the IEA HIA has facilitated and managed a comprehensive range of Research, Development & Demonstration (R, D&D) and analysis programs among its member countries. In September 2004, the IEA HIA released its anniversary report entitled *In Pursuit of the Future: 25 Years of IEA Research toward the Realisation of Hydrogen Energy Systems*. The IEA HIA continues to pride itself on collaboratively addressing many innovative, longer-term, pre-competitive R, D&D key issues related to hydrogen (H2) production, storage, conversion, safety, integrated systems, economics and markets. It is further committed to analysis and outreach in support of its R, D&D activities. In 2006, the IEA published the IEA HIA’s report *Hydrogen Production and Storage: R&D Priorities and Gaps*. The IEA HIA welcomes liaison with interested groups in public and private sectors.

The HIA Strategic Framework

**VISION**
A hydrogen future based on a clean sustainable energy supply of global proportions that plays a key role in all sectors of the economy

**MISSION**
Accelerate hydrogen implementation and widespread utilization to optimize environmental protection, improve energy security and promote economic development internationally, while establishing the HIA as a premier global resource for expertise in hydrogen

**STRATEGY**
Facilitate, coordinate and maintain innovative research, development and demonstration activities through international cooperation and information exchange

**IEA HIA 5-Year Plan (2009-2015):**
Themes & Portfolios

Collaborative R,D&D
That advances hydrogen science and technology
- Hydrogen Production
- Hydrogen Storage
- Integrated Hydrogen Systems
- Hydrogen Integration in Existing Infrastructure

Analysis that positions Hydrogen
- Technical
- Market
- Support for Political Decision-Making

Hydrogen Awareness, Understanding and Acceptance
- Information Dissemination
- Safety
- Outreach

**Members**
The 25 current IEA HIA members are:

*Contracting Parties:* Australia, Denmark, Finland, France, Germany, Greece, Japan, Iceland, Israel, Italy, Korea, Lithuania, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom, United States, the Commission of the European Union and the United Nations Industrial Development Organization (UNIDO)

*Sponsor Members:* HYSAFE, Nationale Organisation Wasserstoff und Brennstoffzellentechnologie (NOW), Shell Global Solutions International BV
CURRENT, CLOSING and SUCCESSOR IEA HIA TASKS

Task 21 Bio-Inspired and BioHydrogen (2010-2014) Planning for successor task underway
- Subtask A – BioInspired Systems – increase H2 production from substrates
- Subtask B – Dark BioHydrogen Fermentation Systems
- Subtask C – Basic Studies of Light-Driven BioHydrogen Production
- Subtask D – Biological Electrochemical Systems
- Subtask E – Overall Analysis - techno-economic analysis and evaluation

FINAL REPORT COMING SOON

Task 23 Small Scale Reformers for On-Site H2 Supply (2006-2011)
FINAL REPORT AVAILABLE at http://ieahia.org/new.htm

Task 24 Wind Energy and Hydrogen Integration (2006-2010-2011)
FINAL REPORT AVAILABLE at http://ieahia.org/new.htm

FINAL REPORT AVAILABLE at http://ieahia.org/new.htm

Planning for successor task underway
FINAL REPORT AVAILABLE at http://ieahia.org/new.htm

FINAL REPORT PENDING
- Subtask A – Co-Gasification of Biomass with Fossil Fuels
- Subtask B – H2 Market Facilitation – Distributed Processing to New Tradable Intermediates
- Subtask C – Near Term Stand-Alone Biomass to Gasification
- Subtask D – Roadmap Development and Verification

Task 28 Large Scale Hydrogen Infrastructure and Mass Storage (2010-2013)
- Scope – modeling of large scale hydrogen delivery infrastructure for transport and distribution functions for transport and stationary applications
- Subtask A – Scenarios
- Subtask B – Assessment HRS Concepts
- Subtask C – Analysis of H2 Delivery Pathways and Evaluation of IEA data – Comparison of H2 Refueling Station concepts
- Subtask D – Supporting large-scale deployment of variable renewable energy sources

Task 29 Distributed and Community Hydrogen (DISCO H2) (2010-2013)
- Scope - H2 applications in energy communicates integrating H2 with electricity and other energy and mobility networks and distributed systems
- Community size – 1000 and installed H2 capacity NTE 500 kW
- Community Types: Urban, Rural and Island, Distributed Industrial applications
- Subtask 1 – Project Management
- Subtask 2 – Analysis and Selection HRS
- Subtask 3 – Model Concept Development
- Subtask 4 – Concept Replicability
- Dissemination

Task 30 Global Hydrogen Systems Analysis (2010-2014)
- Scope - will produce comprehensive, authoritative technical and market analyses of H2 technologies and resources in a low-carbon world with sustainable (including intermittent) energy sources
- Subtask A – Detailed Analysis: Global Hydrogen Resources
- Subtask B – Updated and harmonized H2 data set
- Subtask C – Collaboration with IEA Analysis
- Subtask D – Hydrogen for the Smart Grid

Task 31 Safety (2010-2013) Planning for successor task underway
- Successor to Task 19
- Scope – logical progression will produce comprehensive, authoritative technical and market analyses of H2 technologies and resources in a low-carbon world with sustainable (including intermittent) energy sources
- Subtask A – Physical Phenomena
- Subtask B – Storage/Materials Issues
- Subtask C – Early Markets
- Subtask D – Knowledge Analysis, Dissemination and Global Relevance

Task 32 Hydrogen-based energy storage (2013-2015) Approved successor to Task 22
- Further research needed for new and improved compounds
- Demonstration of solid storage systems for both stationary and mobile applications needed
- Develop reversible or regenerative H2 storage materials fulfilling the technical targets for mobile and stationary applications
- Develop the fundamental and engineering understanding of H2 storage materials and systems that have the capacity to fulfill these targets
- Develop materials and systems for H2 based energy storage for use in stationary, mobile and portable applications, and electrochemical storage

Task 33 Local Hydrogen Supply for Energy Applications (2013-2016)
Approved successor to Task 23
- Successor to Task 23
- Provide a platform for evaluation and harmonization of the various technologies for local H2 supply for reduced costs and increased costs and increased employment
- Harmonize technological and economic assessment of available on-site supply technologies
- Monitor upcoming technologies and their barriers
- Generate a meeting arena for reformer and electrolyzer suppliers as well as end-users

Visit the HIA website at www.ieahia.org for further information and recent publications.
Or contact IEA HIA Secretariat Manager
Mary-Rose de Valladares at mvalladares@ieahia.org
+1 301 634 7423
www.ieahia.org