

IEAHIA NEWS

THE IEA HIA TODAY

In June the International Energy Agency Hydrogen Implementing Agreement (IEA HIA) celebrated an important milestone with the award of the inaugural IEA HIA Individual Prize to Dr. Gary Sandrock. Dr. Tapan Bose, who passed away in January 2008, received a commemorative prize for lifetime achievement. (See page two for the full story.)



Dr. Gary Sandrock

The month of June also marked another first with presentation of an all IEA HIA track at the World Hydrogen Energy Conference (WHEC) that featured a plenary talk on storage, “Novel Materials for Hydrogen Storage – Status and Challenges” delivered by Dr. Bjorn Hauback and co-authored by Dr. Sandrock. The IEA HIA track also included the following presentations:

Task and Presenter	Presentation Name
IEA HIA Mr. Nick Beck	IEA HIA R,D&D to Supply Hydrogen Energy for a Changing World
Task 18 - Integrated Systems Evaluation Dr. Susan Schoenung	An Evaluation of Integrated Hydrogen Systems: Overview of IEA H2
Task 23 – IEA HIA Activities on Small Scale Reformers for On-site Hydrogen Supply Dr. Ingrid Schjolberg	Small-scale Reformers for On-Site Hydrogen Supply (SSR for Hydrogen)
Task 19 – Hydrogen Safety Mr. Jeff L LaChance	Hydrogen Safety Effort in Developing Uniform Risk Acceptance Criteria for the Hydrogen Infrastructure
Task 24 Wind Energy and Hydrogen Integration Mr. Ismael Aso	Task 24 – Overview of IEA Hydrogen Implementing Agreement
Task 25 – High Temperature Production of Hydrogen Mr. Gilles H Rodriguez	A New Expert Group Starting Within the International Energy Agency Hydrogen Implementing Agreement (IEA HIA)
Task 18 – Integrated Systems Evaluation Dr. Susan M.Schoenung (for Ms.Emma Stewart)	Modeling, Analysis and Control System Development for the Italian Hydrogen House

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The IEA HIA held its 58th Executive Committee meeting in Brisbane immediately following WHEC. An important transition occurred at this meeting with election of Mr. Antonio G. García-Conde of Spain for a three year term as Chairman. An immediate past IEA HIA Co Vice-Chair, Mr. García-Conde, is a longstanding ExCo member. Currently Director of INTA Aerodynamics and Propulsion Department, Mr. García-Conde managed INTA's Energy laboratory from 1990-1998. Mr. Jan Jensen of Denmark and Dr. Steven Pearce of New Zealand were elected co Vice-Chairs.

Mr. Antonio G. García-Conde



IEA HIA Members

Australia

Canada

Denmark

European Commission

Finland

France

Germany

Greece

Iceland

Italy

Japan

Korea

Lithuania

The Netherlands

New Zealand

Norway

Spain

Sweden

Switzerland

Turkey

United Kingdom

United States

Retiring Chair Mr. Nick Beck of Natural Resources Canada, the longest serving ExCo member, thanked the ExCo for the opportunity to serve. The ExCo expressed its appreciation for Mr. Beck's valuable service as Chairman. The ExCo also thanked Dr. Sato of Japan for his service as Co Vice-Chair.

At the Brisbane meeting, members approved Annex II to the Memorandum of Understanding (MOU) between the IEA HIA and the International Partnership for a Hydrogen Economy (IPHE). Annex II pertains to cooperation on Task 19, Hydrogen Safety, which addresses hydrogen use in consumer environments. Ms. de Valladares had the opportunity to explain the MOU mechanics and the potential benefits of Task 19 cooperation at the March IPHE Steering Committee meeting in Moscow, which took place immediately prior to the Conference Hydrogen Technologies for the Developing World.

During the WHEC week in Brisbane the IEA HIA held a Networking Dinner "Down Under" that was attended by the Executive Committee, Operating Agents, experts and friends, both new and old. At this event, Ms. Kim Phillips of CSIRO and Mr. Darius Carpenter of Bebo, Inc. received HIA Angel awards for extraordinary service to the implementing agreement. At the official closing of WHEC, Chair Beck also bestowed HIA Angel awards on Dr. Andrews Dick and Dr. David Rand, the WHEC organizers directly responsible for showcasing our R,D&D in the IEA HIA track at the conference. View the IEA HIA Angel Gallery at <http://www.ieahia.org/pages/glance/AngelGallery.html>.

In May, the Networks of Expertise in Energy Technology (IEA NEET) held a workshop on Sustainable Rural Energisation in Paris as a follow-on to its efforts in the "Plus Five" countries (Brazil, China, India, Mexico, and South Africa). The workshop, co-sponsored by the Gesellschaft für Technische Zusammenarbeit (GTZ), included both Plus Five and "Beyond Plus Five" countries (Pakistan, Chile, Morocco, Egypt, Bangladesh and Indonesia). Presentations were made by each country group as well as nine implementing agreements. Secretariat Manager Mary-Rose de Valladares presented on behalf of the IEA HIA. She acknowledged Task 18 Operating Agent Dr. Susan Schoenung and her colleagues Ms. Shannon Miles and Ms. Mary Gillie, as well as Task 24 Operating Agent Mr. Ismael Aso and his expert Mr. Kevin Harrison, for furnishing material for this presentation. While considerable global progress has been made in rural energisation, significant technical and institutional barriers still exist and innovation is welcome. Another workshop may be held in the second quarter of 2009 to focus on topics of particular interest to the "target audience."

On June 30th, 2009, the IEA HIA will complete its current five year planning cycle. Preparations will begin soon on the End of Term Report for the period 2004-2009 and the Strategic Plan for 2010-2015.

PUBLICATION ALERT

From Task 19: Hydrogen Safety (Operating Agent Mr. William Hoagland)

Survey of Risk Assessment Methods (January 2008)

This report (<http://www.ieahia.org/page.php?s=static&p=task19>), completed by Det Norske Veritas (DNV) of Norway under IEA Task 19, is a survey of risk assessment methodologies for hydrogen production, storage and/or refueling stations (Activity A1 of Subtask A Risk Management). In total 11 example projects are reviewed. The methods applied in the 11 case studies represent standard approaches to risk assessment following sets of standards representative and guidelines. The survey discusses how the approaches differ and how detailed differences determine their adaptability to the specifics of hydrogen risk.



Survey of Risk Assessment Methods (January 2008)

The issue of “knowledge gaps” within Task 19 Hydrogen Safety first arose in 2005 in the context of a discussion of how to validate existing quantitative assessment models. Dr. Andrei V. Tchouvelev of A.V.Tchouvelev & Associates and CTFCA (Canada), the Leader of Subtask - A Risk Management, accepted the task of identifying gaps in hydrogen safety knowledge and developing recommendations for future testing and modeling programs. The objective of the report was to exchange opinions and reach a consensus on existing knowledge gaps to be addressed by future research, testing and modeling activities.

Comparative Risk Assessment Studies of Hydrogen and Hydrocarbon Fueling Stations

This report is based on the first three years of the Task 19 collaboration during which participating experts presented a number of risk assessment studies of refueling facilities. The report, the product of Subtask A – Risk Management Activity A2 – Comparative Risk Assessments of Hydrogen and Hydrocarbon Fuelling Systems, had three objectives:

- To describe the available studies in a single document, thus identifying their key elements – approaches, methodologies, methods of analysis, key results and recommendations, and post-study developments (where available).
- To identify significant findings arising from review and comparison of results to provide material for learning and knowledge gaps identification.
- To keep the document “alive” by expanding it as more studies become available during the remainder of Task 19.

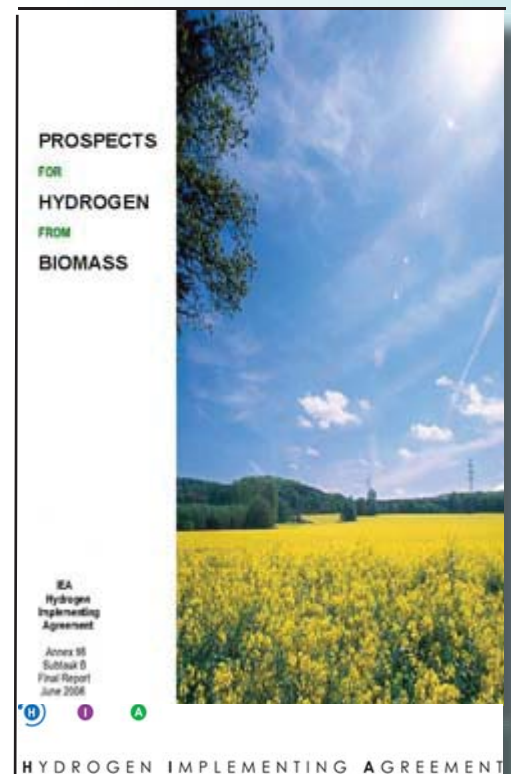
From Task 16 B - Hydrogen From Carbon Containing Materials: Biomass

(Operating Agent Elisabet Fjermestad-Hagen)

Prospects for Hydrogen from Biomass

Biomass is expected to play a significant role in the energy future. “Prospects for Hydrogen from Biomass, the popular final report from Subtask B of Task 16, Hydrogen from Carbon Containing Materials is now available for downloading free of charge. Originally published in June 2006, the report targets technology professionals in the energy industry who are interested in sustainable and market-capable supply routes for hydrogen. It is a resource for those interested in how biomass may be established as a feedstock for “green hydrogen” globally and locally. Further, the report identifies flash pyrolysis technologies as an attractive path to market penetration in the pre-processing of agricultural by-products. Co-gasification of biomass with fossil fuels, such as coal, would extend drastically the scope for using and processing biomass to hydrogen. Co-gasification via Integrated Gasification Combined Cycle (IGCC), a flexible process that can adapt to a wide range of biomasses and feeding percentages, would capitalize on the maturity of entrained-flow gasification, a commercial process for fossil fuels. There are also important synergies for biomass-derived synthesis gas products such as second-generation liquid biofuels.

The new task on “Near market routes to hydrogen by co-utilization of biomass as a renewable energy source with fossil fuel” will build on the conclusions of this report to plot the next steps to hydrogen production from biomass.



IEA HIA AWARD ANNOUNCEMENT



Inaugural Award of IEA HIA Individual Prize

The International Energy Agency Hydrogen Implementing Agreement (IEA HIA) is very pleased to announce the inaugural award of the IEA HIA Individual Prize on June 10, 2008. The IEA HIA Individual Prize was created to celebrate hydrogen research and development distinguished by technical excellence and harmony in international cooperation that contributes to the understanding and advancement of basic and applied hydrogen science. The inaugural IEA HIA Individual Prize winner is the globally acclaimed researcher in advanced materials for hydrogen storage, Dr. Gary Sandrock. The late Dr. Tapan Kumar Bose, former Director of the Hydrogen Research Institute at the Université du Québec à Trois-Rivières (UQTR) in Canada, was also honored as the recipient of the IEA HIA Memorial Individual Prize for lifetime achievements in hydrogen R&D.

IEA HIA Chair Nick Beck of Natural Resources Canada presented the awards during a ceremony at the annual U.S. Department of Energy Hydrogen Program Review in Arlington, Virginia, USA which was attended by a thousand members of the hydrogen community. The Prize recipients received a medal and plaque recognizing their outstanding accomplishments. Dr. Richard Chahine, current Director of the UQTR, accepted the award on behalf of Dr. Bose and his family.

In his letter of thanks to the Chairman, the Secretariat and the ExCo for being named as the winner of the inaugural IEA HIA Individual Prize, Dr. Sandrock stressed the caliber, commitment and collaboration of the Task 12 and 17 experts whom he called “scientifically and personally the best in the world.” Therefore, he said, “this honor really belongs to them.”

IEA HIA TECHNOLOGY SPOTLIGHT:**TASK 19, HYDROGEN SAFETY (WWW.IEAHYDROGENSAFETY.COM AND WWW.IEAH2SAFETY.COM)****Task 19 at a Glance**

Task 19, Hydrogen Safety, was organized in 2004 as a collaborative program to develop predictive methods, data and other information that will facilitate the accelerated adoption of hydrogen systems by providing a technically sound and credible basis for risk informed codes and standards. Phase 1 included nine participants (Canada, EC, France, Italy, Japan, The Netherlands, Norway, United Kingdom, and the United States.) A second three-year phase began in 2007, with eight of the original members as well as three new participants, Germany, Greece and Switzerland. The specific Task 19 objectives are:

- To characterize and assess risks and hazards and Quantitative Risk Assessment (QRA) methodologies;
 - Formulate risk informed criteria for approval
 - Formulate simplified methods
- To conduct collaborative testing program to validate the models that have been developed and to further refine those tools for use in real-life scenarios; and
- To document and convey results and data to reduce the barriers that inhibit commercial introduction of hydrogen systems.

Task 19 is organized in the following three subtasks:

Subtask A: Risk Management

(Andrei Tchouvelev, Subtask Leader)

Within its first three-year term this subtask surveyed QRA methodologies and compared assessments of hydrogen systems with conventional fuels in order to develop recommendations for modeling and testing methodologies around which a collaborative testing program can be conducted. Its new scope aims to close identified knowledge gaps and has three main activities:

- Activity A1 is developing uniform risk acceptance and harm criteria and establishing links with risk-informed codes & standards (Activity leaders: Jeff LaChance, SNL, USA and Angunn Engebø, DNV, Norway).
- Activity A2 is developing a list of modeling tools and realistic physical effects models (Activity leaders: Pierre Bénard, HRI, Canada and Jay Keller, SNL, USA).
- Activity A3 is developing methodologies for consistent site risk assessment (Olav Hansen, GexCon, Norway, Koos Ham, TNO, Netherlands and Alessia Marangon, UNIPI, Italy).

Subtask B: Testing and Experimental Program

(Nico Versloot, Subtask Leader)

This subtask is conducting a collaborative testing program to evaluate the nature and consequences of safety-related events (e.g., equipment or system failures) under a range of real-life scenarios, environments and mitigation measures. In phase two, Subtask B will focus on three activities:

**Task 19 Members****Canada****European Commission****France****Germany****Greece****Italy****Japan****Norway****Switzerland****The Netherlands****United Kingdom****United States**

IEAHIA NEWS

Tech Talk



William "Bill" Hoagland's first acquaintance with hydrogen dates to the mid-seventies when he worked at Brookhaven National Laboratory. He joined the Solar Energy Research Institute (SERI) in 1978,

where he became the Program Manager for the renewable segment of the Hydrogen Program. Bill served in that capacity till 1993, by which time SERI had been designated the National Renewable Energy Laboratory (NREL). His public sector R&D career resumed in the late nineties at Western Research in Laramie, Wyoming where he became a Development Officer.

Prior to the last position, Bill forayed into the media business and founded Hydrogen 2000, a non-profit video production company whose important credits include:

Element One (premiered at WHEC 1996
Renewable Power: Earth's Clean Energy Destiny

- Hydrogen: a Matter of Safety
- Hydrogen: the Safe and Clean Fuel

- The Hydrogen Age (premiered at Burbank Universal Studios in 2004)

The Video Project distributes the videos. They are also available for direct sale to the hydrogen community at www.hydrogen2000.com.

Bill's involvement with the IEA HIA began in the 1990 timeframe when he undertook the role of Operating Agent for Task 9, Hydrogen Production. In 1995-1996 he assumed Operating Agent responsibility for the initial phase of Task 12, Metal Hydrides for Hydrogen Storage. His broad expertise in hydrogen was called upon again in 2004 when he became Operating Agent for Task 19, Hydrogen Safety, which is now in its second phase. Task 19's goal is to eliminate safety related barriers to the widespread use of hydrogen. In his words, "Task 19 has the best experts in the world at work on development of simplified tools for evaluating the risks of hydrogen systems in order to facilitate permitting."

- Activity B1: Survey on existing testing and experimental data
- Activity B2: Survey on ongoing or planned projects
- Activity B3: Analyzing existing data in relation to risk management

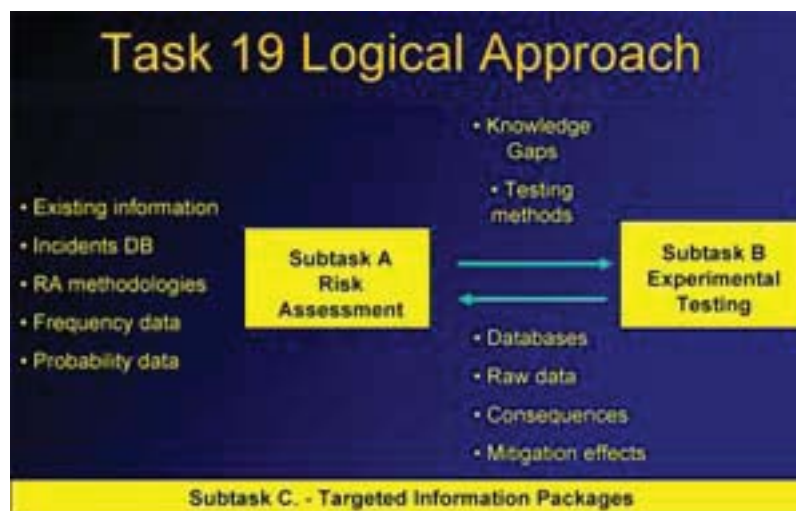
Subtask C: Information Dissemination

(Steven Weiner, Subtask Leader)

Information packages targeted for selected hydrogen energy stakeholder groups are central to the work and objectives of Task 19. Information packages can take a variety of forms: IEA publications, publicly available web-based tools, databases and documents for use by Task 19 partners. In addition to supporting work product dissemination efforts in Subtasks A and B, Subtask C is focusing on the development, use and enhancement of safety knowledge tools:

- Hydrogen Siting Compliance and Planning Expert (HySCAPE™) and Hydrogen Public Official Safety Training (HyPOST™) (www.hydrogensociety.net)
- Hydrogen Safety Best Practices (H2bestpractices.org)
- Hydrogen Incident Reporting and Lessons Learned (H2Incidents.org)
- Hydrogen Safety Bibliographic Database (www.hydrogen.energy.gov/safety.html)

The "Task 19 Logical Approach" diagram below illustrates the integration of the three subtasks.



Significant Outcomes

Subtask A: Risk Management

On behalf of Subtask A Activity A1, Det Norske Veritas (DNV) prepared a Survey of Hydrogen Risk Assessment Methods (address) that was published in January 2008. The survey applies standard approaches to risk assessment to 11 example projects in hydrogen production, storage and/or refueling.

Subtask A Activity 2 produced Risk Assessment Studies of Hydrogen and Hydrocarbon Fuels Fuelling Stations led by Andrei V. Tchouvelev with input from Koos Ham. The report presents a number of studies, providing project and methodology descriptions and identifying interesting findings arising from review and comparison of results. This report is intended to be a "live" document that can expand over the lifetime of Task 19.

As part of Subtask A, Activity A3, Subtask leader Andrei V. Tchouvelev completed a Knowledge Gaps White Paper which was released for public dissemination in 2007. The White Paper addresses gaps in fundamental knowledge, codes and standards development, risk assessment, and computer fluid dynamics (CFD) related to hydrogen safety. This document was completed with the support of all Task 19 participants.

Subtask B: Testing and Experimental Program

For Subtask B Activity B1, the Hydrogen Technical Experimental Facility (HyTEF) database structure was developed; the website is expected to be launched late in 2008. Subtask B will use existing data from Subtask A to assess knowledge gaps and data needs that can be addressed by additional experiments or testing. This will be included in a new Hydrogen Testing and Experimental (HyTEX) database. The Hydrogen Projects (HYPRO) will be a directory of existing hydrogen projects. The database structure for each of these databases will be developed and beta tested in late 2008 or early 2009 as part of the Subtask B scope.

Subtask C: Targeted Information Packages for Stakeholder Groups

The Hydrogen Safety Best Practices online manual, released in December 2007, shares the benefits of extensive knowledge and experience pertaining to the safe handling and use of hydrogen. A unique feature links the lessons learned from safety events contained in "H2Incidents.org" with best practices content. Task 19 partners served as reviewers of the online manual prior to release. A subsequent updated release in September 2008 added technical content in laboratory safety and codes and standards. Colleagues in Task 22 (Applied Hydrogen Storage Materials Development) provided best practices on hydride storage and handling for the online manual.

Spin-Off Benefits

The Task 19 spin-off benefits include the pursuit of a technically sound and credible basis for risk informed codes and standards are expected to include the following:

- Development of technical guidelines that are not unnecessarily restrictive
- Informed design choices that reflect most cost effective mitigation measures, equipment and safety factors
- Facilitation of approvals and permits
- Facilitation of insurability
- Safety knowledge tools of use to a variety of stakeholder groups
- A realistic public perception of hydrogen safety.

(Tech Talk continued)

Ever the innovator, Bill recently ventured back into the entrepreneurial arena with the creation of Element One (www.eleml.com). Now in the start-up phase, Element One intends to develop and demonstrate a new, low cost hydrogen sensing technology in cooperation with NREL. Product licensing is anticipated as a distribution strategy for the technology, which is now undergoing field testing.

A graduate of West Point Military Academy with a degree in General Engineering, Bill also received a Masters in Chemical Engineering from the Massachusetts Institute of Technology (MIT). He is married to Susan Leach, principal of Hydrogen 2000. They live in Boulder, Colorado, in the foothills of the Rocky Mountains.

The most rewarding aspect of his lifelong hydrogen career has been, says Bill, "to see hydrogen close to the mainstream, coming of age."



Sacacomie Task 22/Task 19

Joint Experts Meeting

March 2-5, 2008



TASK INK

Hydrogen Production

Current Acts

Task 21, BioHydrogen

Operating Agent Dr. Jun Miyake

Task 21 has received a two year extension as foreseen in the original task Work Plan. As a measure of the growing interest in Biohydrogen, Dr. Miyake reports that a regional framework called Asia BioHyLinks has been created through cooperation of scientists from Taiwan, Korea, China, Singapore and Japan.

Task 23, Small Scale Reformers for Onsite Hydrogen Supply (SSR for Hydrogen)

Operating Agent Dr. Ingrid Schølberg

Subtask 1, Industrialized Harmonisation, will be completed in 2008. A list of reformer technology and components suppliers is in development. State of- the-art reformer technology will be assessed according to a uniform set of parameters. The work plan for Subtask 2, Sustainability and Renewable Sources, includes the best use of biofuels, reforming possibilities and availability. Nine feedstocks are under consideration. However, no conclusions have yet been drawn regarding selection of feedstocks for reformation. Dr. Schjølberg reports encouraging progress on Subtask 3 – Market Studies, a comparison of Japanese, North American and Northern European markets.

Task 24, Wind Energy and Hydrogen Integration

Operating Agents Dr. Luis Correas and Mr. Ismael Aso

Task 24 held a joint meeting in Athens 11-13 April with Task 18, Integrated Systems Analysis. A new Task 24 website has been created at <http://task24.hidrogenoaragon.org/>. A draft of Subtask A's (State of the Art) Analysis of System Equipment (wind turbines, electrolyzers and intermediate equipment) is expected this calendar year.

The first scientific communications from Task 24 were delivered at WHEC in Brisbane. Task 24 also presented at the September Fuel Cell National Congress, which was held in Zaragoza in conjunction with EXPO 2008.

Task 25, High Temperature Production of Hydrogen

Operating Agent Mr. Gilles Rodriguez

Task 25 held its first official meeting in March 2008 at General Atomics in San Diego, CA. For Subtask A, the final communication sheets summarizing some 15 high temperature processes will soon be available for internal review. Subtask A is utilizing INNOHYP project data to develop some 15 communication sheets. Pages one and four of each communication sheet present the basics of each process, while pages two and three supplement this information with a more in-depth view.

IEA HIA Portfolio

PAST

Task 1 1977-1988

**Thermochemical
Production**

Task 2 1977-1979

**High Temperature
Reactors**

Task 3 1977-1980

**Assessment of
Potential Future Markets**

Task 4 1979-1988

**Electrolytic
Production**

Task 5 1979-1983

**Solid Oxide Water
Electrolysis**

Task 6 1979-1988

Photocatalytic Water

Subtask C, Review of Requirements for a deployment approach, seeks to engage more industrial participation. Subtask D, Communications, has begun with creation of a common document base located at www-prodh2-task25.cea.fr. Access to the site is provided on execution of the National Participation Letter.

Operating Agent Rodriguez reported that there were some twenty (20) Task 25 related papers delivered at WHEC in addition to his presentation during the IEA HIA track. After successfully launching Task 25, Operating Agent Gilles Rodriguez will move on to new responsibilities at CEA in Cadarache, France. Ms. Sabine Poitou will assume the role of Operating Agent. Thanks Gilles and welcome to Sabine!

Task 26, Advanced Materials for Photoelectrochemical (PEC) Waterphotolysis of Hydrogen

Operating Agent Mr. Eric Miller

Task 26 succeeds Task 20, Hydrogen from Waterphotolysis. Dr. Eric Miller, Task 26 Operating Agent from the Hawaii Natural Energy Institute at the University of Hawaii at Manoa, made his first Executive Committee presentation in Brisbane. Dr. Miller explained that research to date reveals no single material that does everything needed for photoelectrochemical waterphotolysis. Therefore, the PEC “tool-chest” must be expanded beyond the well studied Titanium dioxide (TiO₂) to meet the 10% conversion goal. To address this challenge, Task 26 will be structured in the following four subtasks:

- 1) Materials “Theory” Research & Development
- 2) Material “Synthesis” Research & Development
- 3) Material “Characterization” Research & Development
- 4) “Information Coordination / Database” Development

A September Experts Briefing was held in Cancun, Mexico in conjunction with the International Materials Research Congress (IMRC). This event was followed by the IEA HIA Experts October meeting in Honolulu, Hawaii, held in conjunction with the U.S. DOE PEC Working Group Meeting that occurred after the Pacific Rim Joint Electrochemical Society Conference.

Coming Attractions

Near-Term Market Routes for Hydrogen by Co-Utilization of Biomass as a Renewable Energy Source with Fossil Fuel.

Task Organizer: Elisabet Fjermestad-Hagen and Dr. Jan-Erik Hanssen

This four part task is poised to launch pending imminent clarification of Operating Agent funding.

Task 7 1983-1992

Storage, Conversion, and Safety

Task 8 1986-1990

Technical and Economic Assessment of Hydrogen

Task 9 1988-1993

Hydrogen Production

Task 10 1995-1998

Photoproduction of Hydrogen

Task 11 1995-1998

Integrated Systems

Task 12 1995-2000

Metal Hydrides for Hydrogen Storage

Task 13 1999-2001

Design and Optimization

Task 14 1999-2004
Photoelectrolytic
Production

Task 15 1999-2004
Photobiological
Production

Task 16 2002-2005
Hydrogen from
Carbon Containing
Materials

Task 17 2001-2006
Solids and Liquid
State Storage

CURRENT
Task 18 2004-2009
Integrated Systems
Evaluation

Task 19 2004-2007
Hydrogen Safety

Hydrogen Storage

Current Act

Task 22, Fundamental and Applied Hydrogen Storage and Development
 Operating Agent Dr. Bjorn C. Hauback

Task 22 now numbers 19 countries, 55 official experts and 50 projects. Both the Russian Federation and Brazil Federation were formally conveyed their interest in Task 22 participation. Dr. Hauback made the feature presentation on the IEA HIA track at WHEC.

Plans for the second half of 2008 include continued action for projects on rechargeable organic liquids. The other classes of H-storage media under investigation are: reversible metal hydrides, regenerative hydrogen storage materials (chemical hydrides), nanoporous materials; and rechargeable organic liquids and solids. The second 2008 meeting was held in Rome 6-10 October. The April 2009 meeting is scheduled for Korea.

Analysis, Safety and Economics

Current Acts

Task 18, Integration Systems Evaluation
 Operating Agent Dr. Susan Schoenung

The ninth Task 18 experts meeting took place in Athens, Greece; it was a joint meeting with Task 24. The tenth meeting took place in Denmark and Sweden. It included a very successful tour of the Lolland Hydrogen Community in Denmark.

The most recent case studies are:

- "Peterhead Power Station" - UK
- "HydroGEM fuel cell vehicle" - Netherlands (in review)

Also from Task 18 comes a report entitled "A Survey of Support Mechanisms for the Development and Demonstration of Hydrogen Systems" authored by Mary Gillie and Karen Platt. This report, which will be available in the near future, analyses the results of a survey to identify funding approaches methods that successfully encourage the development of hydrogen demonstration projects.

Task 19 Hydrogen Safety Operating Agent William Hoagland

Task 19 is featured in this issue's IEA HIA Technology Spotlight, which begins on page 5. This issue's Tech Talk features a profile of Task 19 Operating Agent William Hoagland. Task 18 was represented by several papers at WHEC, including two on the IEA HIA Conference track.

DIPLOTECH

Chair Beck reported that the fuel cell bus will be available for the Vancouver 2010 Winter Olympics.

NEDO has graciously gifted the IEA HIA with a Japanese translation of the 2006 IEA HIA Annual Report. It is now available on the IEA HIA website at 2006 Japanese Version Annual Report.

The Australian Academy of Science and Engineering has formally recognized the potential for hydrogen in Australia and Australia's hydrogen roadmap is now in draft form.

Twenty-two SUV vehicles and one bus have been tested and are on the road in Korea as part of two major hydrogen energy programs, one funded by the Minister of Science and Technology and the other funded by Commerce and Industry.

Switzerland is now preparing a 2008-2011 Master Plan that will emphasize storage in complex hydrides and production of hydrogen from renewables, notably via photoelectrochemical (PEC) conversion. Swiss Re has expressed interest in safety aspects of hydrogen.

Earlier this year in France, there was a key government-organization consultation called the "Grenelle de l'environnement," named for the historic Grenelle location of the accords negotiated during late 1960's at the French Labor Ministry in Paris. It was followed by a hydrogen and fuel cell meeting for which the IEA HIA provided a letter of support.

Germany's ten year Hydrogen and Fuel Cell Technology Innovation Programme will receive funding in excess of 1 Billion Euro. Initiated in April 2007, the Programme is part of the German effort to face the challenge of transition to a sustainable energy supply via innovation and technical progress. It will include R&D as well as Demonstration Lighthouse Projects in the areas of transport/mobility, stationary household applications, stationary industrial applications and early markets.

The European Commission (EC) initiative Roads2Hycom presented its draft findings at the invitation only Roads2Hycom workshop with the IEA HIA. The November workshop, held in Athens, Greece, was sponsored by the Greek Ministry of development.

Task 20 2004-2007

Hydrogen from Waterphotolysis

Task 21 2005-2008

Biohydrogen

Task 22 2007-2009

Fundamental and Applied H₂ Storage Materials Development

Task 23 2007-2009

Small-Scale Reformers for On-site Hydrogen Supply (SSR for H₂)

Task 24 2007-2009

Wind Energy and Hydrogen Integration

Task 25 2007-2009

High Temperature Production of Hydrogen

Task 26 2008-2011

Advanced Materials for Hydrogen From Water-Photolysis

IEA HIA NEWS



The IEA HIA News is published twice a year by the International Energy Agency Hydrogen Implementing Agreement (IEA HIA), whose vision for a hydrogen future is based on a clean, sustainable energy supply that plays a key role in all sectors of the economy.

Chairman

Antonio G. Garcia-Conde

Secretariat Manager

Mary-Rose de Valladares

MESSAGE FROM THE CHAIR

It is a great pleasure to write to you today in my new capacity as incoming Chairman of the IEA HIA. This year will be a transition time all-around for the IEA HIA, as the implementing agreement completes the last year of its current five year plan (2008-2009) and prepares for coming five year period. To begin with, I would first like to acknowledge my predecessor, Nick Beck of Natural Resources Canada, for leading the implementing agreement through a period of unprecedented growth. Nick has represented Canada on the Executive Committee for many years. During his tenure as IEA HIA Chair he presided over the launch of five tasks and the extension of two others.

Like Nick, I am no stranger to the IEA HIA. I have represented Spain on the ExCo since 1995. The hydrogen domain has greatly expanded during this period but the best is yet to come, both in R&D efforts and prospects for commercialization of hydrogen. In my new role as IEA HIA Chair, at a moment when the world is open to new energy vistas, I am privileged to embrace the process of accelerating hydrogen adoption and widespread utilization. At the IEA HIA, we all look forward to continued growth, supportive analysis and engagement with all proponents of energy change. We look forward to working with all of you.

Sincerely,

Antonio G. Garcia-Conde

Antonio G. Garcia-Conde

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