



## CHAIRMEN'S REPORT

**Mr. Jan Jensen, Executive Vice-President, Danish Gas Technology Centre**

**Dr. Stefan Oberholzer, Swiss Federal Office of Energy (SFOE)**

### MR. JAN JENSEN

#### INTRODUCTION

During the three years of my Chairmanship, there has been a lot of activity at the IEA HIA, as has consistently been the case for the past decade. Equally or more important, substantial progress has taken place worldwide in the advancement of hydrogen.

The twin themes of completion and renewal dominated the 2014 IEA HIA work program as we neared the end of the 2009–2015 operating cycle and the beginning of the next cycle (2015–2020). Detailed information about the *IEA HIA End of Term Report 2009–2015* and *Strategic Plan 2015–2020* may be found in this edition's Secretariat Report.

I would like to mention a few highlights of the last five year operating cycle. The continuing growth in industry participation has been a very important trend for the IEA HIA. The accession of Sponsor Members (HySafe, NOW and Shell) brings new perspectives and vitality to the Agreement. Furthermore, the development of “in-house” systems analysis capabilities is a major milestone. Many people played a significant role in establishing this capability, beginning with Jürgen Friedrich Hake, who served as Analysis Chair while forming the first Analysis task.

Meanwhile, the long-awaited IEA Hydrogen Roadmap is finally underway. On 28 and 29 January 2014, the IEA HIA hosted the North America IEA Hydrogen Roadmap Workshop, the second of three geographically-based workshops on development of the IEA Hydrogen Roadmap. The workshop was held at the IEA HIA office in Bethesda, MD, USA and included 40 stakeholders from government, industry and academe. It is an outstanding example of IEA HIA cooperation with the IEA.

#### MEMBERSHIP AND MEETINGS

As usual, the IEA HIA held two Executive Committee Meetings in 2014. The first meeting — the 70<sup>th</sup> ExCo Meeting — was held in Seoul, South Korea and hosted by Dr. Yong Gun Shul. We welcomed Dr. Lijun Jiang of the General Research Institute for Nonferrous Metals (GRINM) in Beijing, China. GRINM has been proposed as a concomitant Contracting Party for the People's Republic of China. When China's accession process is complete, GRINM would represent China on the Executive Committee alongside the Dalian Institute of Chemical Physics (DICP). Australia officially changed its IEA HIA Contracting Party to Curtis University, which has considerable competence in the heat storage/concentrated solar thermal/metal hydrides research areas.



Jan K. Jensen

IEA HIA Chairman  
2011-2014

#### Members - Contracting Parties

Australia  
Denmark  
European Commission  
Finland  
France  
Germany  
Greece  
Israel  
Italy  
Japan  
Korea  
Lithuania  
New Zealand  
Norway  
Spain  
Sweden  
Switzerland  
The Netherlands  
UK  
UNIDO  
United States

**Members - Sponsors** **R,D&D PORTFOLIO STATUS**

International  
Association  
of Hydrogen  
Safety  
(HySafe)

Nine tasks were operational in 2014. As I turned over the helm to the new IEA HIA leadership team at the 70<sup>th</sup> ExCo Meeting in June, three new tasks were approved: Task 34 – Biological Hydrogen for Energy and Environment; Task 35 – Renewable Hydrogen Production – the “Super Task”; and Task 36 – Life-Cycle Sustainability Assessment (LSCA).

Nationale  
Organisation  
Wasserstoff- und  
Brennstoffzellentechnologie  
(NOW GmbH)

Final Reports are now available for Task 22 – Fundamental and Applied H<sub>2</sub> Storage Materials Development; Task 23 – Small-Scale Reformers for On-Site Hydrogen Supply; and Task 26 – Advanced Materials for WaterPhotolysis. As well, Task 31 – Hydrogen Safety released a white paper entitled “Advancing the Hydrogen Safety Knowledge Base.”

**OUTREACH**

Shell Global Solutions  
International BV

In March 2014, former Chairman Antonio G. García-Conde delivered the IEA HIA presentation entitled “Collaborative R,D&D to 2015 and Beyond” at the European Hydrogen Energy Conference (EHEC). For the EHEC plenary, Dr. Michael Hirscher gave a presentation on the “State of the Art and Trends in Material Development for Hydrogen Storage” that showcased the research in IEA HIA Task 32 – Hydrogen-Based Energy Storage. On behalf of Task 30 Subtask A, Maria Argumosa of INTA presented a poster on Global Hydrogen System Analysis.

The June World Hydrogen Energy Conference (WHEC 2014) in Gwangju, Korea featured a dedicated IEA HIA session consisting of the following seven (7) presentations:

- IEA HIA Overview 2009–2015 by Jan Jensen, IEA HIA Chair
- Large-Scale Hydrogen Delivery Infrastructure – Dr. Oliver Ehret, Task 28 Expert
- Distributed and Community Hydrogen (DISCO H<sub>2</sub>) – Sam Miyashita, Task 29 Expert
- Scenario Analysis of Worldwide H<sub>2</sub> Production Potentials and Costs – Jochen Linssen, Task 30 Operating Agent
- Hydrogen-Based Energy Storage – Dr. Michael Hirscher, Task 32 Operating Agent
- Local Supply of Hydrogen for Energy Applications – Øystein Ulleberg, Task 33 Operating Agent
- IEA HIA Strategic Direction – 2015–2020, Mary-Rose de Valladares, IEA HIA Manager

Venturing into a gas sector event for the first time, the IEA HIA mounted an exhibit at the International Gas Union Research Conference (IRGC), 17–19 September 2014 in Copenhagen at the Tivoli Congress Center. The Danish Gas Technology Centre (DGC) hosted this conference.

I would like to say thank you to the Danish Energy Agency for supporting my Chairmanship. I would also like to thank and acknowledge all my colleagues at the IEA HIA, in particular our dedicated General Manager Mary-Rose de Valladares, as well as my organization, the DGC. I welcome the new leadership team, headed by Dr. Stefan Oberholzer of the Swiss Federal Office of Energy, and wish them every success in service to the IEA HIA.





## DR. STEFAN OBERHOLZER

I am honored to be elected as Chair and look forward to serving the IEA HIA along with Vice-Chairs Dr. Eric Miller of the U.S. Department of Energy and Dr. Yong Gun Shul of Yonsei University.

### R,D&D PORTFOLIO STATUS

The successor to Task 31 – Hydrogen Safety is now in definition under the leadership of Dr. Y. John Khalil of the United Technologies Research Center (UTRC). Dr. Ingrid A. Schjølberg anticipates organization of a task definition meeting for a new task on hydrogen marine applications as soon as practicable.

### MEETINGS AND MEMBERSHIP

The 71<sup>st</sup> IEA HIA ExCo Meeting was held in a four-session global webinar on 25 and 26 November, and 2 and 3 December. At this meeting, subsequent to a request from the Belgian government, the IEA HIA invited Belgium to join the Agreement.

### PUBLICATIONS

Dr. Bjorn Hauback, Operating Agent for Task 22 – Fundamental and Applied Hydrogen Storage Materials submitted *Task 22 Final Report* to the ExCo during summer 2014. The final report, a major achievement, was approved by the ExCo. It consists of three sections:

- The actual Final Report containing the introduction, summary and a project list [Final Report \(introduction, summary and list of projects\)](#)
- Appendix A – Reports with scientific achievements from 59 experts [Appendix A – Reports from 59 experts with scientific achievements](#)
- Appendix B – Publication list [Appendix B – Publication list \(260 pages\)](#)

Operating Agent William Hoagland presented the Final Report for Task 31 – Hydrogen Safety at the 71<sup>st</sup> ExCo Meeting. This report can be found at [Final Technical Report for Task 31 – Hydrogen Safety](#).

This Annual Report includes updates from the majority of our Members, both Contracting Parties and Sponsors. I am especially pleased to report that, for the first time, the 2014 Annual Report features a list of Hydrogen Refueling Stations around the world.

### OUTREACH

A call for nomination of individuals for the IEA HIA Prize went out in 2014. The Individual Award is made for R,D&D characterized by technical excellence and harmony in international cooperation that contributes to the understanding and advancement of basic and applied hydrogen science was also a major topic of discussion. The nominations were opened to worthy individuals irrespective of IEA status. The late Peter Paul Hoffman, editor and publisher of the *Hydrogen & Fuel Cell Letter*, was selected as the awardee.

A major renovation of our website will soon be complete.

Please visit us at [www.ieahia.org](http://www.ieahia.org).



Stefan Oberholzer  
IEA HIA Chairman  
2014-2017



## CONCLUSION

With a new Strategic Plan in place, the IEA HIA looks forward to 2015 and the coming five year term. In addition to priorities for each of our themes — Collaborative R,D&D; Analysis that Positions Hydrogen, and Hydrogen Awareness, Understanding and Acceptance — we are armed with a set of Overarching Objectives. A complete list of Overarching Objectives can be found in the Secretariat Report.

I would like to point out one of the objectives, which represents a new frontier of activity for the IEA HIA:

*Broaden the perspective on the transformative role of H<sub>2</sub> by articulating and communicating its functions and value as a highly flexible energy vector in an integrated future multi-sector energy system.*

This topic will take the IEA HIA to new levels in the domains of R,D&D, analysis and outreach. We look forward to this challenge.

