

PURPOSE

To undertake hydrogen analysis that represents the expertise of the Hydrogen Implementing Agreement with respect to future hydrogen supply, demand and utilization. The IEA HIA created Task 30 in order to address the hydrogen information gap by providing coherent and balanced analysis that provides a clearer picture of hydrogen R&D needs and the future of hydrogen technology in the global economy.

FRAMEWORK SUMMARY

Subtask A - Global hydrogen resources: detailed modeling

Subtask B - Updating and harmonization of hydrogen database

Subtask C - Collaboration with IEA Analysis section in Paris:

MEMBERS

Task Member and Expert Table

COUNTRY	EXPERT	INSTITUTION
France	Alain le Duigou	CEA
Sweden	Bengt Ridell	Grontmij AB
Canada	Cheri-Ann MacKinlay/ Lynda Palombo	National Resources Canada
Germany	Clemens Trudewind	Forschungszentrum Jülich
USA	Dave Reichmuth	Sandia National Laboratories
Greece	Eli Varkaraki	CRES
Japan	Isamu Yasuda	Tokyo Gas Co., Ltd.
USA	Jay Keller	US DOE
Spain	Javier Dufour/ Diego Iribarren	IMDEA Energy
Germany	Jochen Linssen	Forschungszentrum Jülich
Norway	Kari Espegren	Institute for Energy Technology
Italy	Marco Brocco, Walter Perna	ENEA
Spain	Maria del Pilar Argumosa	INTA

Expert participation is encouraged from all HIA members. Possible additional members include Australia, Denmark, Korea and UK. Input data from IPHE countries not involved in the IEA HIA is made possible through Annex IV of the Memorandum of Understanding between the IEA HIA and the IPHE. Active effort on the part of Task 30 is underway to obtain IPHE data through this Annex, which became effective in October 2011.

TASK 30

GLOBAL HYDROGEN SYSTEMS ANALYSIS

Dr. Susan Schoenung

Longitude 122 West, Inc.

885 Oak Grove Avenue, Suite
304 Menlo Park, CA 94025
USA

susan.schoenung@sbcglobal.net

+1 650 329 0845

Operating Agent for USA

Mr. Jochen Linssen

Forschungszentrum Jülich
GmbH

in der Helmholtz
Gemeinschaft, 52425 Juelich,
Germany

j.linssen@fz-juelich.de

+49 2461 61 3581

Operating Agent for Germany

VITAL STATISTICS

Term

2010 - 2013

Members

Canada

France

Germany

Greece

Italy

Japan

Norway

Spain

Sweden

United States

Expert Participants

16



2010 Meetings

September 16-17, 2010

Juelich, Germany

December 2, 2010

Paris, France (Subtask C)

ACTIVITIES AND RESULTS IN 2011

PROGRESS AND ACCOMPLISHMENTS

The first regular experts meeting of Task 30 took place in Paris in Spring 2011. CEA hosted the meeting. In addition, the working meeting experts of the analysis section of the IEA responsible for the publication “World Energy Outlook” and “Energy Technology perspectives” joined the meeting. The approved work plan of October 2010 was developed further and detailed work plans for the subtasks were discussed. Together with all experts an agreement on action items was adopted. In order to further the development and adoption of a cooperation process with IEA analysis section, possible modes of interaction as well as the establishment of a data exchange and quality assurance process were discussed.

The second expert meeting was hosted by the Secretariat of IEA HIA and Longitude 122 West, Inc in Bethesda. First results of the resources analysis in Subtask A were discussed and the experts agreed on further data input and checks. For Subtask B, the data structure of the hydrogen technology database was introduced and needed inputs of the experts identified. A handbook was proposed for describing the data. The ongoing collaboration process with the IEA HIA analysis section was discussed and ways to establish this process proposed.

The Task 30 experts did a concerted review of hydrogen related input data to the ETP 2012.

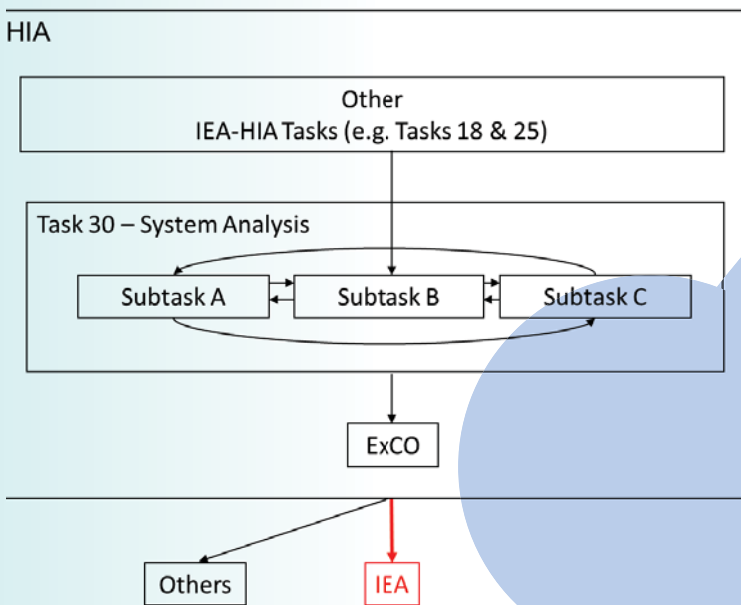
As part of the IEA HIA, Task 30 prepared an input to the IEA CERT workshop at November 19–20. The workshop focused on flexible energy systems and storage. In addition to hydrogen’s potential for long term solutions for low carbon energy supply systems, hydrogen was discussed intensely as an interesting storage option

The installed private website is used for exchanging working materials and preparing meetings and web conference calls. To support collaboration, five (5) web conferences took place over the year 2011. An exchange of knowledge and data with Task 28 (Large scale infrastructure) also took place.

OUTREACH AND COMMUNICATION

Under the umbrella of the IEA HIA, Task 30 was involved in the review process of the IEA ETP 2012. For the design of the hydrogen technology database there is a steady information exchange with the analysis group of the IEA. The hydrogen technology database will be available for countries participating in Task 30.

The reporting to the HIA ExCo will be done by semi-annual reports and presentations and annual reports.



FUTURE WORK

ACTIVITIES AND /OR TARGETS FOR 2011

Task 30 set up a share point server with a public and private access (<http://iea-hia-task30.com>) in order to maintain an information exchange process regarding data, reports, publications etc. .

Task 30 has defined the following near-term products:

- A Handbook for data management and analysis
- Article on modeling approach for international resources. (Results will be published after being vetted by the experts and IEA HIA.)

Our targets include:

Subtask A: Initial data sets of resources and demands, along with preliminary model and analysis results.

Subtask B: Initial data sets for hydrogen production, storage and end use components including a handbook of the database; review of WEO and ETP data sets

Subtask C: Input to WEO and ETP activities within their time frame

ACTIVITIES AND/OR TARGETS BEYOND 2011

In 2012, the Task 30 Spring experts meeting may again be held in Paris, and would include a joint session with the IEA HIA. The autumn experts meeting will take place in Oslo, Norway. IFE will host the meeting.

R&D CHALLENGES

Challenges include finding consistent data for performance coefficients, resources, costs, and scaling projections.

REFERENCES

Selected key publications:

AUTHOR(S)	TYPE	TITLE	JOURNAL/ CONFERENCE/ ETC.
J. Linszen, S. Schoenung	Presentation	Global Hydrogen Systems Analysis	BSEC Workshop, Istanbul, Turkey, 9th to 10th November 2010
K. Espegren et al.	Presentation	Integrated energy systems: Hydrogen	IEA CERT Workshop: Integrated energy systems of the future, 7-8 November 2011; IEA Headquarters, Paris, France
S. Schoenung et al.	Presentation	IEA HIA Annex 30 Global Hydrogen Systems Analysis	World Hydrogen Conference 2012, 3-7 June 2012 Toronto, Canada