



IEA H2 MEMBERS

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IEA H2 TODAY

Strategy Matters

New IEA Hydrogen Chairman, Paul Lucchese, participated in the 2nd Universal Meeting of IEA Technology Collaboration Programmes (TCP) on 9 and 10 October in Paris, France, along with General Manager Mary-Rose de Valladares. The IEA convened this meeting to support and strengthen TCPs, enhancing their ability to deal with government, academic and industry stakeholders, as well as multi-lateral initiatives.

On 5 October, an "all analyst" meeting of IEA and IEA H2 analysts was held in Paris to discuss topics of mutual interest and future cooperation.



IEA H2 ExCo Meetings and Events: recent and upcoming

DATE	MEETING NAME	LOCATION
14-16 February 2017	76th IEA Hydrogen ExCo Meeting	Oslo, Norway
14 September 2017	IEA H2 Task 37 Workshop on Hydrogen Safety: Prospects for Hydrogen Technologies & Applications	Hamburg, Germany
24 October 2017	UK Collaboration with IEA Hydrogen (organized for BEIS by Yehuda Lethbridge and Paul Dodds); keynote address by Chairman Paul Lucchese	London, United Kingdom
12-15 December 2017	77th IEA Hydrogen ExCo Meeting (alongside the European Fuel Cell Conference & Exhibition)	Naples, Italy
Late June 2018	78th ExCo Meeting (alongside WHEC 2018 from 17-21 June)	Rio de Janeiro, Brazil

IEA Hydrogen Promotion and Outreach

IEA Hydrogen participated in the **World Hydrogen Technology Convention (WHTC) 2017** in Prague, Czech Republic, with a 12 July keynote entitled "IEA Hydrogen: Technology diplomacy in practice" delivered by General Manager (GM) M.R. de Valladares.

Under the direction of Operating Agent (OA) Dr. Y John Khalil, Task 37 – Hydrogen Safety held a public workshop on its activities 14 September 2017 following the **International Conference on Hydrogen Safety (ICHS 2017)**, which took place 11-13 September 2017 in Hamburg, Germany. IEA Hydrogen is a proud sponsor of ICHS (<https://www.hysafe.info/ichs2017/>) and participated in the conference. Dr. Khalil chaired the Risk Assessment & Hazard Distances session and GM de Valladares gave an overview ICHS presentation entitled "IEA Hydrogen: Safety and Sustainability."

The 2017 **Fuel Cell Seminar** in Long Beach, California included a presentation on 8 November by GM de Valladares entitled "IEA Hydrogen: Global Collaboration in Hydrogen R,D&D".

As part of the Asia Pacific Economic Cooperation (APEC) Energy Working Group 54, New Zealand hosted an **Electric Vehicle and Hydrogen Technology Policy Workshop** on 21 November in Wellington with participation by IEA H2 Vice-Chair Dr. Jonathan Leaver and Pierpaolo Cazzola of the IEA.

Topsector Energy will hold a Conference on 29th November 2017, in Nieuwegein, The Netherlands. This Conference, open to everyone involved in the energy transition in the Netherlands, is an annual event. Two sessions will be devoted to hydrogen. ExCo Member Dr. Evert Everts will give an introduction to IEA H2 and OA Dr. Marcel Weeda will give a presentation on the activities, findings and conclusions of IEA H2 Task 28 – Large-Scale Hydrogen Delivery Infrastructure and its final report.

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The **European Fuel Cell Conference (EFC) & Exhibition** (12-15 December) in Naples, Italy, will take place in parallel with the 77th IEA H2 ExCo Meeting. During the 13 December EFC Plenary Session, IEA H2 will give a presentation entitled "Status of H2 Around the World."

TASK		RECENT HIGHLIGHTS AND SUCCESS STORIES
32	H2 Based Energy Storage	<ul style="list-style-type: none"> Task 32 Meeting was held 26-February-3 March in Waikoloa. A Task 32 Meeting is scheduled for 3 December 2017 in Ringwald, Germany. An End-of-Task workshop is planned for October 28-November 2 in Guangzhou, China. Concentrating Solar-thermal power plant, heat storage tank system - Andasol 28,500 t molten salt for storage of 1,000 MWh could be replaced by 1,100 t MgH₂. Modified Sodium hydride (NaH) shown to be reversible for the first time after four cycles.
33	Local H2 Supply for Energy Applications	<ul style="list-style-type: none"> Small-scale electrolyzers and reformer systems with hydrogen capacities in the range of 50-500Nm³/hr are commercially available. The specific cost (CAPEX) [USD /per Nm³/hr] of small scale water electrolyzers and reformers are comparable Both alkaline and PEM water electrolyzers are available in MW scale. While PEM is less proven and more costly (CAPEX) than alkaline, it is more compact and suitable for dynamic load following. The final Task 33 report is expected in early 2018, complemented by organization of a new task.
34	Biological Hydrogen for Energy and Environment	<ul style="list-style-type: none"> Subtask 1 on fundamental research continues work on the NERC Programme (Project - NE/ L014106/1) on resource recovery from waste (RRfW). Subtask 2 on applied research continues work on HyTime led by the Netherlands, Hyperfermentan led by Norway, and FLEXIS. FLEXIS is a £24m 5 year EU-backed investment and integrated energy research project funded in South Wales.
35	Renewable Hydrogen Production	<ul style="list-style-type: none"> The final report for Task 35 is expected in the June 2018 timeframe, coincident with planning for a successor task. Strengthen international ties to the HydroGEN Advanced Water Splitting Materials RD&D Consortium (e.g., with Helmholtz, Fraunhofer, EPFL, I2CNER, KCAP, Mission Innovation, etc.).
36	Life Cycle Sustainability Assessment	<ul style="list-style-type: none"> The next activities will include: advances in underdeveloped stages of the life cycle of hydrogen energy systems; definition of LCC and SLCA indicators; further integration of sustainability indicators into the harmonization protocol; and to further advances in the preparation of an "IEA HIA Task 36 Technical Report on the path towards LCSA of hydrogen energy systems". Publication of the Methodological Review of LCA Studies of H₂ Energy Systems (Int j Life Cycle Assess (2017)). Completed review of LCA studies and formulation of harmonization protocol.
37	Hydrogen Safety	<ul style="list-style-type: none"> Announced creation of the <i>IEA Hydrogen Journal of Hydrogen Safety</i>. Clear need to create harmonious safety codes and standards to accelerate worldwide adoption of hydrogen-based technologies. Held successful Hydrogen Safety Workshop on 14 September in Hamburg, Germany. Insufficient technical data to revise C&S remains a challenge.
38	Power-To-Hydrogen and Hydrogen-To-X	<ul style="list-style-type: none"> Priorities over the next 6 months include following of the interfacing activities (FCH JU, CEN CENELEC, IEA) on energy system modeling. Held a workshop on modeling 18-19 May at University of Bath, UK Held task meeting in June at Southern Company in Washington, D.C. Participated in 5 October "All Analyst" meeting with IEA.
39	Hydrogen in Marine Applications	<ul style="list-style-type: none"> NTNU hosted the first expert meeting on 13-14 February 2017 in Oslo, Norway. 40 participants from 15 countries and 29 institutions joined the meeting. TU Delft hosted the second meeting on 26-27 September 2017 in Delft the Netherlands. There is keen interest from all over the world in IEA H2 Maritime activities.

MESSAGE FROM THE CHAIR



Paul Lucchese
Paul Lucchese
IEA Hydrogen Chairman
Cap Energies/CEA

The incoming IEA Hydrogen leadership team includes two Vice-Chairs, Mr. Eiji Ohira of Japan and Dr. Jonathan Leaver of New Zealand. Together with our IEA Hydrogen colleagues and friends, we are working to realize IEA Hydrogen's mission to accelerate hydrogen implementation and utilization. In the near term, we expect to sharpen our focus on hydrogen analysis. We invite you to engage with us as a Member or expert. If you are not already a participant, please contact our General Manager at mvalladares@ieahia.org or +1 301 634 7423 for more information.

The IEA H2 News is published twice a year by the International Energy Agency Hydrogen Technology Collaboration Programme. Our vision for a hydrogen future is based on a clean, sustainable energy supply that plays a key role in all sectors of the economy.

