IEA Hydrogen: Global Hub for Collaboration in Hydrogen R,D&D

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General Manager, IEA Hydrogen

February 20th 2019
The Landscape for Hydrogen has changed dramatically in the last two years

Private Sector: Creation of Hydrogen Council – Davos 2017

- The Hydrogen Council is big, big news
  - Hydrogen Empowers the energy transition January 2017
  - Hydrogen Scaling up November 2017

IEA Hydrogen is very pleased that the Hydrogen Council has joined us
### IEA Hydrogen TCP – Global Hub for Hydrogen R&D&D

**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 H2 implementation and utilization to optimize environmental protection, improve energy security and economic development

**Overarching Objectives**
- Communicate role and value of hydrogen as flexible energy carrier in future integrated multi-sector energy system
- Analysis – IEA & other
- Infrastructure
- Industry engagement

**Strategic planning underway for 2020-2025**

**Collaborative R,D&D Portfolios**
- Production
- Storage
- Integrated Systems
- Integrated Infrastructure

**Analysis Portfolios**
- Technical
- Market
- Political Decision-making

**Awareness, Understanding & Assessment (AUA) Portfolios**
- Information Dissemination
- Safety
- Outreach
OECD
Organisation for Economic Co-operation and Development
(Created by treaty post war)

International Energy Agency Hydrogen Technology Program
(Created by treaty in 1977)
# IEA Hydrogen TCP – Origins to Present

Created 6 October 1977

**Membership** – 21 countries, the EC, UNIDO, 6 Sponsors  **Participating Experts** – 200-350

40 tasks approved to date – production is most frequent task topic

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<td>Analysis and modeling – a reference database (likely to become a “standing task”)</td>
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<td>Hydrogen Applications In Primary Sectors (mining, resources and agriculture)</td>
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<td>Industrial Use of Hydrogen in Middle Income Developing countries</td>
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<td>Successor tasks for renewable electrolysis, photoelectrochemical water-splitting (PEC), and solar thermochemical hydrogen production</td>
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Work Program: quick status report

- **Task 32 – Storage**
  - approved successor **Task 40** - Energy Storage and Conversion Based on Hydrogen – launches January 2019
  - Final report for Task 32 expected this year
- **Task 34 – Biological H2 for energy and environment**
  - successor task will cover biological production and conversion of hydrogen for energy and chemicals
- **Task 35 – CRITICAL RESEARCH AREA – HYDROGEN FROM RENEWABLES**
  - Final report available soon
  - Successor task to be defined for advanced electrolysis, PEC and solar thermochemical research
- **Task 36 - Life Cycle Sustainability Assessment**
  - Final report posted
- **Task 37 – Hydrogen Safety**
  - new **IEA H2 Safety Journal** launched in 2018
Work Program: quick status report

- Task 38 – Power to Hydrogen and Hydrogen to X
  - system analysis of techno-economic, legal and regulatory conditions
- Task 39 – Hydrogen in the Maritime
  - Technology overview, new concepts, and safety and regulation

Proposed, New tasks and Other Activities

Some new tasks proposed
Other proposals anticipated
Deepening cooperation with other TCPs a priority
150% cooperation with IEA and its new agency-wide focus on hydrogen at a global level
UNIDO priorities within IEA Hydrogen

To achieve Inclusive and Sustainable Industrial Development (ISID) targeting H2 applications in industrial processes to reduce emissions of GHG in light of Paris Agreement climate objectives

1. Focus on developing countries: UNIDO to get visibility as a prime H2 player facilitating technology transfer to developing countries
2. H2 roadmapping
3. H2 for industry de-carbonisation: include H2 as a viable energy solution
IEA TCP Meeting 9 October 2017
IEA Hydrogen Roadmap Forward in Global Landscape

IEA
Cooperation with IEA Headquarters
Cooperation with Sister TCPs

Center Lane
IEA Hydrogen R,D&D
Analysis
Outreach

International
Cooperation with Organizations/Initiatives
Cooperation with Industry

IEA Hydrogen: global hub for hydrogen R,D&D
Thank you from IEA Hydrogen
IEA Hydrogen: global hub for hydrogen R,D&D

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