Introduction to the Hydrogen TCP
In a nutshell

Members
26 Member Countries
+ European Commission
8 Sponsors

Tasks
7 Open
40 Finished
≥ 2 in definition

Experts involved
In collaborative research on hydrogen and hydrogen technologies

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In collaborative research on hydrogen and hydrogen technologies
What is the Hydrogen TCP?

• The Hydrogen Technology Collaboration Programme was established in 1977 to pursue international collaborative research in the hydrogen field under the auspices of the International Energy Agency.

• It carries out R,D&D activities through projects focused on specific topics called Tasks.

• Its Executive Committee is formed by representatives and alternates of its 24 Member Countries, the European Commission, UNIDO and 6 Sponsors.
How does it work?

• Members pay an annual fee contribution of 11 350 €*. These common funds are used for maintenance and strategic activities

  Countries with GDP < 300 billion USD and GDP per capita< 20,000 USD can request a 50% reduced rate

• Tasks are managed with in-kind contributions from participants

• Overall objectives can be found on the Strategic Plan, updated every 5 years

• Updates and findings are brought together at the ExCo Meetings (about 3 per year)
Activities

- **Events** (organization + participation)
  - Workshops, conferences, plenary sessions, and webinars
- **Meetings** (at ExCo and Task level)
- Document review for other organizations (IEA, other TCPs, international groups...)
- Dissemination through website and social media
  - Blog
  - Twitter
  - LinkedIn
Members

Representatives and alternates at the Hydrogen TCP Executive Committee (ExCo) level
Types of Members

- **Contracting Parties** may be
  
  a) the government of a country;
  
  b) the European Commission;
  
  c) an intergovernmental organization; and
  
  d) any national agency, public organization, private corporation or other entity designated by one of the above to participate on its behalf.

- **Sponsors** may be
  
  a) entities of any country that are not designated by the governments of their respective countries to participate in the ExCo; and
  
  b) non-intergovernmental international entities.
Members’ Responsibilities

• Maintain management oversight of the Hydrogen TCP to ensure the overall quality and effectiveness of the various elements of the program

• Ensure effective participation by their national/entity experts in the Hydrogen TCP Tasks and other activities

• Act as a link between their national strategies (or entities strategies) and the Hydrogen TCP Strategic Plan
Why should you become a Contracting Party?

✓ **Collaborate** with other members on cutting-edge hydrogen R,D&D

✓ **Access** an archive of over 40 years of research

✓ **Increase** and share your hydrogen expertise

✓ **Connect** with scientists, and national leaders committed to reliable, sustainable, and clean energy

✓ **Open doors** to all national companies, entities, and individuals to participate in Tasks
How to become a member

1. When a new Member shows interest in joining, we invite them to present their interest formally in our next Executive Committee Meeting, we allocate a slot of 10-15 min presentation + 10 min Q&A to discuss on current status on hydrogen, main priorities and areas of interest

2. A written procedure is launched to invite this new member to join the ExCo

3. If no opposition is received, the TCP Chair sends a letter to the entity/country formally inviting it to join the TCP

4. The potential new member sends back a letter of acceptance with copy to the IEA Secretariat

5. On receipt of the acceptance letter, the IEA Legal Office sends a TCP Signature Page to be signed and dated

The Technical Secretariat will issue the invoice with the proportional contribution to the Common Funds based on the month the new member joins (standard contribution fee 11 350€/year)

*Countries with GDP < 300 billion USD and GDP per capita< 20,000 USD can request a 50% reduced rate*

Specific information on procedures can be found on our website and the Procedures Manual are available [here](#).
Tasks

Main Hydrogen TCP activities
What is a Task?

• Collaborative research project among parties related to hydrogen

• Usually 3-year duration

• Led by one or more Task Manager(s)

• Each one has a different scope, framework and is structured in Subtasks

• Any member can propose a Task

• Participation in is indicated by submittal of a Letter of Participation

• Task’s Work Plan includes scope, goals, milestones, participation requirements, structure, deliverables...
Task portfolio status

Innovation for H₂ transport

International H₂ Supply Chains – models and cost analysis

H₂ LCA, societal and environmental impact

H₂ for Marine Applications + Ports

H₂ in Islands

H₂ in the Mining, Mineral Processing, and Resource Sectors

Natural H₂

Roadmaps for the use of H₂ in Industry

Preliminary Idea

Project Definition Phase

Kick-off

Active

Closing Steps

End

Task 47 - H₂ Certification

Task 40 – Energy Storage and Conversion

Task 42 - Underground H₂ Storage

Task 43 - Safety and RCS of Large-Scale H₂ Energy Applications

Task 44 - HYNE

Task 45 - Renewable H₂ Production

Task 46 - Off-shore H₂ Production

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Task 41 – Analysis and Modelling of H₂ Technologies

Task 37 – H₂ Safety

Task 38 – PtH & HtX

Task 39 – H₂ in the Maritime

H₂ for Marine Applications + Ports

H₂ in Islands

H₂ in the Mining, Mineral Processing, and Resource Sectors

Natural H₂

Roadmaps for the use of H₂ in Industry
Collaboration

Joint activities with entities within the IEA Network and external
Collaboration within the IEA Network
Collaboration with other organizations
Some examples of our collaboration: workshops and events
Strategic Activities
TRL Assessment on H₂ technologies

IEA is updating its Clean Energy Technology Guide (CETG). TRL Assessment is critical, IEA wants to contrast estimated TRL values, description of technologies and current projects, with experts worldwide to be able to achieve the most accurate result. They have asked the Hydrogen TCP for advice/help regarding their TRL assessment activities in new emerging H₂ technologies. Hydrogen TCP has proposed to transform this IEA-TCP's collaboration into a strategic activity.

**Objectives (general)**
- Strengthen our collaboration with IEA
- Strengthen our collaboration with synergic TCPs
- Position the Hydrogen TCP as a reference for technical knowledge

Hydrogen TCP Technical Secretariat has analyzed IEA's CETG hydrogen-related technologies (94): 30 TRL GROUPS have been identified.

**Analysis**

**Collaboration**

**Next steps**

**TRL Assessment 1st Phase**

- 40+ technologies assessed
- 30+ experts mobilized
Thank You!

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