

Fuel Cells & Hydrogen Research in Europe

Hydrogen as an enabler for a low-carbon society



Our vision and mission

Hydrogen Europe Research aims to contribute to the achievement of carbon neutrality by strengthening the European hydrogen industry and ensuring high-level research in Europe. We actively support Research Institutes and Universities involved in the development of a new industrial ecosystem based on hydrogen.

Our mission is based on 4 pillars:

RESEARCH

Supporting the excellence of European research on hydrogen and fuel cells – low Technology Readiness Level (TRL) research is still needed to develop the next generations of materials, components and products.

INFRASTRUCTURES

Enabling Research &
Technology
Infrastructures to scale
up and speed up
innovation –
development of RIs and
TIs is essential to
bringing new
technologies into the
market.

SUSTAINABLE DEVELOPMENT

Ensuring sustainable development standards for a clean hydrogen ecosystem – evaluation of the carbon and environmental footprint related to the production, distribution, and usage of hydrogen is fundamental.

EDUCATION

Developing education and trainings to provide a skilled workforce for the European hydrogen economy – an educational framework should be a priority of European and national policies.



Hydrogen Europe Research at a glance

We represent the European scientific community active on hydrogen with 131 members in 29 countries.



62 Higher education establishments 69 Research organisations





500+ scientists
involved in defining priorities
for the FCH sector



Our activities



Participation in the Clean Hydrogen Partnership





Policy recommendations and position papers



Communication and networking for our members



Education and training via the Skills Working Group

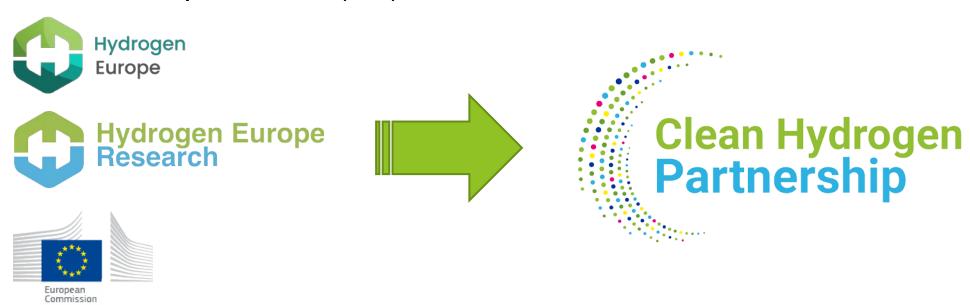


Participation in Horizon Europe projects
Fuel Cells and Hydrogen Observatory &
GreenSkills4H2



Clean Hydrogen Partnership

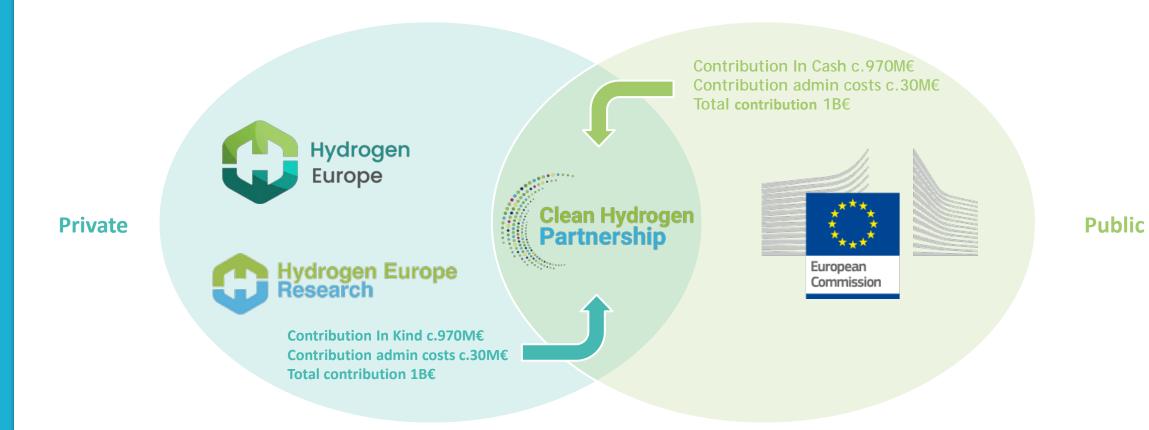
In collaboration with the public and private members of the Clean Hydrogen Partnership, Hydrogen Europe Research participates to the **identification of annual and multi-annual research & innovation priorities** and the **elaboration of research topics** included in yearly Annual Work Plans.



- ➤ **EC representation** DG R&I, DG ENER and DG MOVE
- Total EU financial contribution to the Clean Hydrogen JU: 1 Billion €
- > Private partners shall at least match this contribution through In-Kind contributions
- Administrative costs are shared between the public and private partners



Clean Hydrogen Partnership





Set of 20 Roadmaps to address our objectives

Technical Committee 5 – Cross-Cutting Research Activities

S10 Cross-Cutting

RM18.1 - LCA, Sustainability & Recycling, RM18.2 RCS & Safety, RM18.3: Education & Awareness

Comms

Knowledge

Safety

Int'l coop.

PILLAR H2 PRODUCTION

SO1 Produce Clean H2

RM01 - Electrolysis

RM02 - Other modes of production

SO2 Integrate renewables

RM03 - Role of electrolysis in the energy system

SO7 Decarbonise Industry

RM17 - H2 in industry

Technical Committee 1 – Hydrogen Production

PILLAR H2 DISTRIBUTION

SO3 Deliver Clean H2 at low cost

RM04 - Large scale storage

RM05 - Pipeline transport (grid)

RM06 - Liquid carriers

RM07 - Non-pipeline transport

RM08 - Key technos for distribution

SO4 Develop H2 infrastructure

RM09 - HRS for multiple applications

Technical Committee 2 – Hydrogen storage, transport & distribution

PILLAR H2 END USES

Technical Committee 3 - Transport

SO5 Competitive H2 vehicles

RM10 - Building blocks

RM11 - Road Heavy-Duty

RM12 - Maritime (inc. ports)

RM13 - Aviation (inc. airports)

RM14 - Rail

SO6 H2 for Heat & Power

RM15 - Stationery H2 fuel cells

RM16 - H2 Turbines & burners

SO7 Decarbonise Industry

RM17 - H2 in industry

Technical Committee 4 – Heat & Power

Technical
Committee 6

Supply Chain

SO9 Supply Chain

S08 Hydrogen Valleys

Integrated H2 ecosystems combining multiple applications (ports, airports, industrial hubs, cities, etc.)

Technical Committee 7 – Hydrogen Valleys



Policy Working Group

A Policy Working Group is held monthly in Hydrogen Europe Research.

Activities organised:

Discussion and identification of potential issues for HER's research community stemming from existing or upcoming European policies



Defending the view of RTOs and universities by **drafting position papers and taking action to voice our opinion.**





Skills activities

HER has set up **together with Hydrogen Europe a joint** Working Group on Skills to reflect on the topic of skills, trainings, and education in the field of hydrogen and fuel cells.

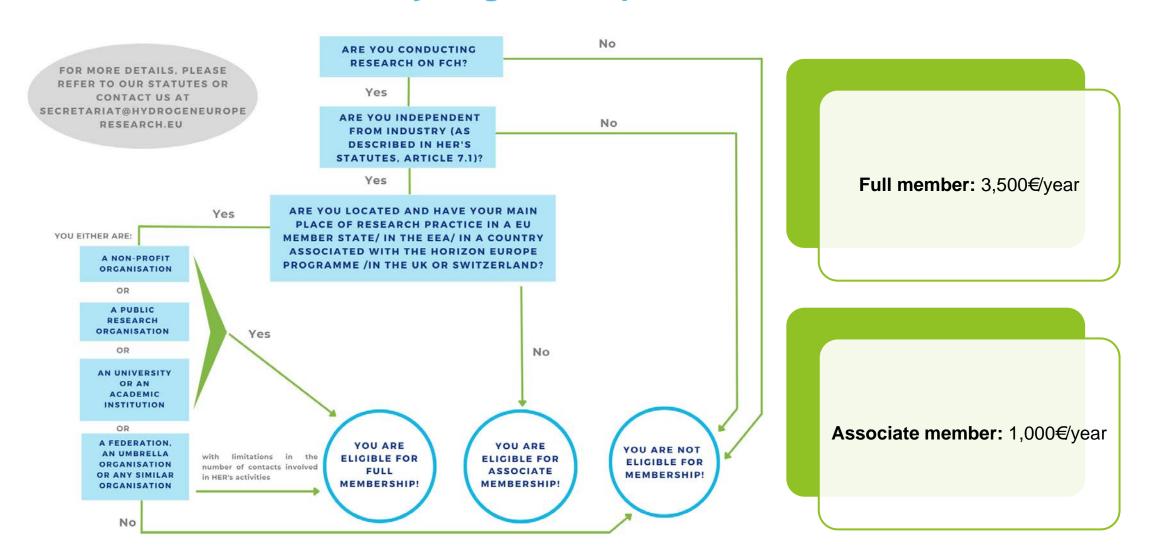
The main topics to be dealt with as a starting point will be (non-exhaustive list):

- Understanding the trends and needs for hydrogen skills
- Presentation of projects and best practices on skills, trainings and education
- Identification of relevant funding opportunities
- Matchmaking to build consortia / find new contributors for projects
- Monitoring of EU policies on employment and skills in relation with hydrogen and green skills

HER is involved in projects related to skills and trainings such as the <u>FCH Observatory</u> and the recently awarded project <u>GreenSkills4H2</u>.



Become a Hydrogen Europe Research member!





Hydrogen Europe

Key numbers

- 400+ members (including 25+ EU regions and 30+ national associations)
- c.50 staff
- 100,000+ followers on social medias

Vision

We are the European association representing the interest of the hydrogen industry and its stakeholders, promoting hydrogen as an enabler of a zero-emission society. Our vision is to propel global carbon neutrality by accelerating European hydrogen industry.

Mission

- Enable the adoption of clean hydrogen
- Bring together a very broad range of stakeholders as sole and united voice of the European hydrogen industry
- Promote and coordinate research, development and innovation of clean hydrogen technologies
- Be the driving force for the future direction of the hydrogen sector





Hydrogen Europe

Features & Benefits	Industry Corporate Member	Non-Industry Corporate Member	Project Members
General Assembly Voting Rights	igoremsize	\otimes	\otimes
Access to Hydrogen Europe's Newsletters	igotimes	igotimes	igotimes
Access to Hydrogen Europe's Funding & Market Digest	igoremsize	igotimes	igotimes
Access to R&I Structure & Technical Committees	\otimes	\otimes	Topics titles v2 & v3
Access to Policy Working Groups	\bigotimes	igotimes	\otimes
Access to H2roNetZero Monthly Webinar	igotimes	igoremsize	\bigotimes
Access to all Hydrogen Europe's Reports	\bigcirc	igotimes	\bigotimes
Access to Networking & Speaking Opportunities	$\overline{\otimes}$	\bigcirc	\bigotimes
Use of Hydrogen Europe's Website & Social Media	igotimes	\bigcirc	$oldsymbol{\check{\otimes}}$
Posting job ads on Hydrogen Europe's Website	$\overline{\otimes}$	$\overline{\diamondsuit}$	\bigotimes





Thank you for your support!



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