

Fuel Cells & Hydrogen Research in Europe

Hydrogen as Enabler for a Carbon-neutral Society



Our vision and mission

Hydrogen Europe Research aims to contribute to the achievement of carbon neutrality by accelerating 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

Low Technology Readiness Level (TRL) research is still needed to develop the next generations of materials, components and products.

INFRASTRUCTURES

The development of research and technology infrastructures is essential to bringing new technologies into the market.

SUSTAINABLE DEVELOPMENT

The evaluation of the carbon footprint related to the production, distribution, and usage of hydrogen is fundamental to provide consumers with a choice.

EDUCATION

An educational framework should be a priority of European and national policies, as it can play a vital role in developing a new European workforce on hydrogen technologies.



Structure

GENERAL ASSEMBLY

EXECUTIVE BOARD

SECRETARIAT

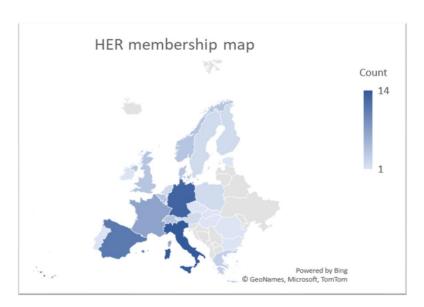


Hydrogen Europe Research at a glance

We represent the European Hydrogen Scientific Community with 103 members in 25 countries.



50 Higher education establishments 53 Research organisations



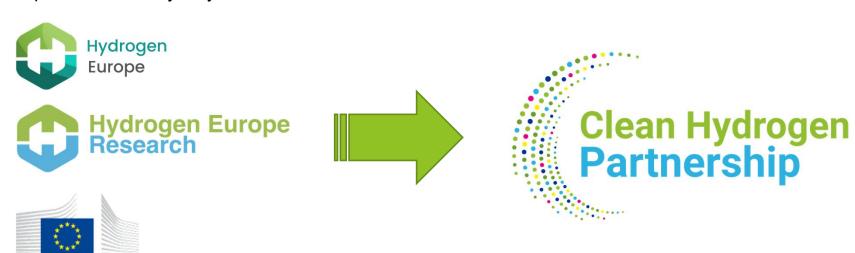


500+ scientists
involved in defining priorities
for the FCH sector



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



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

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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 & burner

SO7 Decarbonise Industry

RM17 - H2 in industry

Technical Committee 4 - Heat & Power

S08 Hydrogen Valleys

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

Technical Committee 7 – Hydrogen Valleys

Technical Committee 6 Supply Chain

SO9 Supply Chain Manufacturing & scale-up



Other activities: Policy & Skills

In 2021, two new Working Groups were set up within HER

Policy Working Group:

Discussion and identification of policy topics of interest 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.** A technical paper entitled "For a long perspective impact of European Research and Industrial Sectors" was released in February 2022.



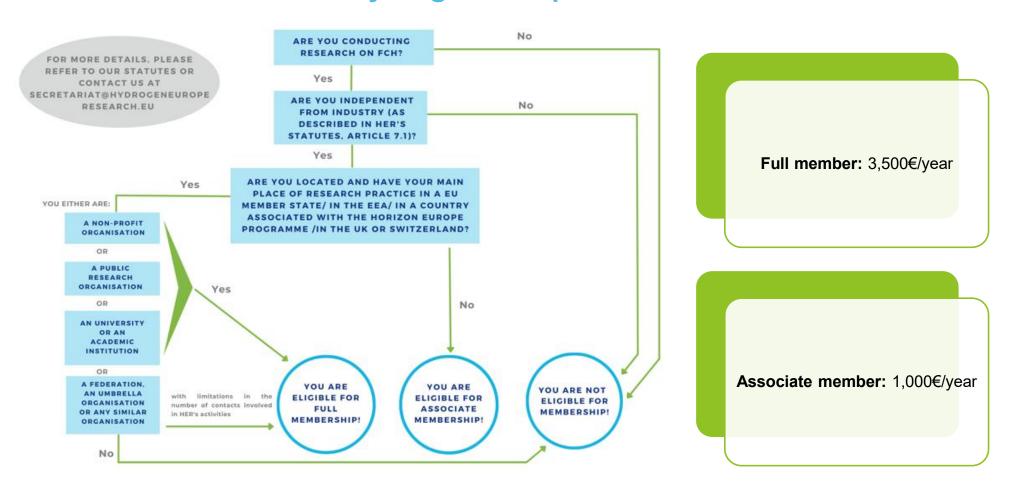
Skills Working Group:

Following the launch of the European Pact for Skills by the European Commission on 10 November 2020, HER has set up, together with Hydrogen Europe, a **working group on Skills** to reflect on the topic of skills, trainings, and education in the field of hydrogen and fuel cells.

HER is also a **partner in the <u>FCH Observatory</u>** and manages the data stream on Education and Training.



Become a Hydrogen Europe Research member!







Thank you for your support!



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