



## **IPHE Country Update May 2025 – October 2025:**

### **European Commission**

<b>Name</b>	Patrice Millet
<b>Contact Information</b>	<a href="mailto:patrice.millet@ec.europa.eu">patrice.millet@ec.europa.eu</a> Tel: +32 229-85140
<b>Covered Period</b>	May 2025 – October 2025

#### **1. New Initiatives, Programs, and Policies on Hydrogen and Fuel Cells**

##### **The Strategic Transport Investment Plan – STIP**

The European Commission adopted on 05/11/2025 a communication on the “Sustainable Transport Investment Plan” (STIP), setting out a pivotal roadmap to rapidly accelerate the energy transition of aviation and waterborne transport sectors. A key component of the EU Competitiveness Compass and the Clean Industrial Deal, this initiative provides for the first time a common approach to boost investments into renewable and low-carbon fuels for these sectors.

The Investment Plan responds to the urgent need to unlock investments and scale up production of renewable and low-carbon fuels. To meet the fuel targets set out in the ReFuelEU Aviation and FuelEU Maritime Regulations, a significant volume of around 20 million tonnes of sustainable alternative fuels (13.2 Mt of biofuels and 6.8 Mt of e-fuels) will be needed by 2035. This calls for substantial investments from the market, with an estimated €100 billion required by 2035 to drive production.

Key actions to boost investments

Regulatory stability is key for attracting investments into renewable and low-carbon fuels. With the STIP, the Commission sends a clear signal to investors that its targets are stable, and that it will support the sector throughout the transition.

The EU measures under this plan are expected to mobilise at least €2.9 billion until the end of 2027.

- To rapidly remove key investment barriers and bridge the financial gap in the short-term, InvestEU will mobilise at least €2 billion for sustainable alternative fuels until 2027.
- The Commission will propose €300 million by end of this year to support the production of hydrogen for sustainable aviation (SAF) and maritime (SMF) fuels through the European Hydrogen Bank.
- The Commission will support R&I projects with around €133 million under Horizon Europe.
- The Commission will mobilise €153 million for synthetic aviation fuel projects and €293 million for maritime fuel projects under the Innovation Fund.



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

Additionally, an eSAF Early Movers Coalition pilot project will be launched by end of this year, together with committed Member States, aiming to mobilise at least €500 million for synthetic aviation fuel projects.

The Investment Plan will also strengthen international partnerships to boost global production of these fuels, while at the same time protecting EU investments and ensuring fair competition for EU fuel producers and users.

### The Hydrogen and gas markets decarbonisation package

The EU hydrogen and gas decarbonisation package, consisting of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789, was adopted in May 2024. It also introduces a new regulatory framework for dedicated hydrogen infrastructure. EU countries have until mid-2026 to transpose the revised Gas Directive into national law.

The revised rules create a level-playing field, based on EU-wide rules, for the hydrogen market and infrastructure and remove barriers that hamper their development. They also create the right conditions for some of the existing natural gas infrastructure to be decommissioned and if needed repurposed for hydrogen, which will lead to cost savings and support decarbonisation at the same time.

Additionally, the recast Gas Directive introduces a system of requirements and certification of low-carbon hydrogen, complementing the revised Renewable Energy Directive (EU/2023/2413).

*“Low-carbon hydrogen refers to hydrogen the energy content of which is derived from non-renewable sources, which meets the GHG reduction threshold of 70 % compared to 94 g CO<sub>2</sub>eq/MJ that is set out in the methodology for assessing their GHG savings from renewable fuels of non-biological origin (‘RFNBOs’) and recycled carbon fuels under the EU Renewable Energy Directive”.*

### Delegated Act on low-carbon hydrogen

As per the Directive (EU) 2024/1788, the Commission has to adopt a methodology for evaluating the emission savings of low-carbon fuels. The Delegated Act covers all relevant production pathways (e.g. hydrogen produced from low-carbon electricity and hydrogen produced from natural gas applying CCUs) and create a level playing field between various forms of hydrogen. The act provides the last missing element for the methodology to identify what qualifies as low-carbon hydrogen. The scrutiny period for the European Parliament and the Council ended on 10 November 2025 and entry into force should follow in the next couple of weeks.

### ENNOH

The revised Gas Regulation establishes the European Network of Network Operators for Hydrogen (ENNOH) to support the cost-efficient development and operation of hydrogen pipelines in the EU. This association for the EU-level cooperation of hydrogen transmission network operators will be responsible for the:

- development of draft network codes for hydrogen to ensure the optimal management of the Union hydrogen network, and



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

- Development of hydrogen ten-year network development plans (TYNDP) in cooperation with ENTSO-E and ENTSG in the framework of the EU-level integrated network planning. ENNOH will take over completely this task from ENTSG as of 1<sup>st</sup> January 2027.

Final statutory documents have been published in July 2025.

### 2. Hydrogen and Fuel Cell R&D Update

#### Call for Proposals 2025 of Clean Hydrogen JU

The Call for Proposals has an indicative total budget of EUR 184.5 million, including EUR 80 million to be directed exclusively towards Hydrogen Valleys topics according to the REPowerEU Plan. It also includes EUR 20 million from United Kingdom appropriations.

212 proposals were submitted. Following the closure of the call and the evaluations, a total of 24 proposals were retained for funding. Additional projects will be selected for funding using the United Kingdom appropriations.

The majority of the projects that will be supported are expected to finalise the grant preparation and signature before the end of 2025.

#### Hydrogen Valleys Facility

In June 2024, the Clean Hydrogen JU launched a tender to set-up and run a 'Hydrogen Valleys Facility' aiming at accelerating the number of hydrogen valleys in Europe. The facility includes project development assistance<sup>1</sup> to support Hydrogen Valleys at different level of maturity. The facility includes activities aiming to ensure that the knowledge gathered, and the lessons learnt from Hydrogen Valley projects (including skills) are retained, collected, analysed and widely disseminated and used in a structured and efficient way. The Facility will also be used to maintain and update the Mission Innovation Hydrogen Valley Platform. The Hydrogen Valleys Facility was launched as part of the Hydrogen Valleys Days<sup>2</sup> in June 2025. From 36 applications received, the Clean Hydrogen Partnership selected 15 highly promising Hydrogen Valley projects from 8 EU Member States and 3 Horizon Europe associated countries. A new Call for Application for PDA support is planned in 2026.

### 3. Demonstration, Deployments, and Workforce Developments Update

#### Clean Hydrogen Partnership is supporting 21 Hydrogen Valleys across Europe

Acknowledging the role of the Clean Hydrogen JU in initiating the concept of Hydrogen Valleys and of its initial support, the European Commission allocated to the Clean Hydrogen Partnership an additional €200 million through RePowerEU, to double the number of Hydrogen Valleys in Europe by 2025. Altogether, the Clean Hydrogen JU has supported to date 21 hydrogen valleys projects<sup>3</sup> across 19 European countries, out

---

<sup>1</sup> [PDA Programme | PDA - H2V](#)

<sup>2</sup> [Hydrogen Valley Days 2025 - Clean Hydrogen Partnership](#)

<sup>3</sup> [https://www.clean-hydrogen.europa.eu/get-involved/hydrogen-valleys\\_en](https://www.clean-hydrogen.europa.eu/get-involved/hydrogen-valleys_en)



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

of which 20 projects are still ongoing. Together they represent project costs for more than 1.3 bill EUR with a JU total funding of just above 250 MEUR.

With the results from call for proposals 2025, it is expected that the number of hydrogen valleys supported by the partnership will increase to more than thirty.

### Discover the 7 new success stories of 2025

Discover the companies that grew with our grants into successful enterprises, our hydrogen valleys, the research done on developing standards, and inspiring projects focusing on end-uses.

1. [Bringing hydrogen buses to new cities across Europe](#)
2. [Building the standards to power Europe's hydrogen economy](#)
3. [Hydrogen Valleys: Powering innovation and regional growth across Europe](#)
4. [On the road to zero emissions: Advancing MEA performance for fuel cell vehicles](#)
5. [Pushing the boundaries of hydrogen combustion in gas turbines](#)
6. [Scaling up innovation: An incubator for Europe's electrolyser industry](#)
7. [Transforming EU-funded research into real-world solutions](#)

### MultiPLHY Project Achieves Breakthrough in Renewable Hydrogen Production with World's Largest High-Temperature Electrolyzer<sup>4</sup>

The pioneering [MultiPLHY](#) project demonstrating renewable hydrogen production has reached a key milestone: The consortium partners have successfully started up the world's largest multi-megawatt high-temperature electrolyzer (HTE) in an industrial environment at Neste's renewable products refinery in Rotterdam, the Netherlands.

The pilot project demonstrates the viability of renewable hydrogen in reducing the use of fossil hydrogen in the refining industry. Replacing hydrogen produced from fossil raw materials with renewable hydrogen is one of the key means to lower greenhouse gas emissions in refining. As a next step in the demonstration project, a test program will validate the technology's performance characteristics.

### Reversible Fuel Cell / Electrolyser System Installed in Switzerland<sup>5</sup>

As a result of the project [SWITCH](#) (2020–2024), the project demonstrator developed and tested during the program has now been transferred to EPFL by HyGear (NL), the partner responsible for system integration.

This achievement shows how European funding in clean hydrogen innovation is helping bridge the gap between research and deployment. By supporting projects like SWITCH, the Clean Hydrogen Partnership is accelerating the rollout of advanced hydrogen technologies, building industrial partnerships (EPFL–Gaznat–SolydEra–HyGear), and strengthening Europe's position in the global hydrogen economy.

---

<sup>4</sup> [https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/multiplhy-project-achieves-breakthrough-renewable-hydrogen-production-worlds-largest-high\\_en](https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/multiplhy-project-achieves-breakthrough-renewable-hydrogen-production-worlds-largest-high_en)

<sup>5</sup> [https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/reversible-fuel-cell-electrolyser-system-installed-switzerland\\_en](https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/reversible-fuel-cell-electrolyser-system-installed-switzerland_en)



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

### HyLICAL - Magnetic Cooling for efficient Hydrogen Liquefaction<sup>6</sup>

The project has reached a major milestone with the launch of Europe's first magnetocaloric pilot plant for hydrogen liquefaction. Developed within HyLICAL by the Helmholtz-Zentrum Dresden-Rossendorf (HZDR) and start-up MAGNOTHERM, the demonstrator represents a breakthrough in sustainable, energy-efficient magnetic cooling and sets the stage for large-scale industrial application.

### Successful Completion of the FCH2Rail Project<sup>7</sup>

The [FCH2RAIL](#) (Fuel Cell Hybrid Power Pack for Rail Applications) project has successfully developed, demonstrated, and certified a Fuel Cell-electric hybrid train prototype.

The FCH2RAIL prototype offers a zero-emission alternative, integrating a bi-modal drive system that operates either on electricity (from overhead lines) or hydrogen-powered hybrid modules when no overhead supply is available.

The project marks a significant step toward decarbonizing European rail transport, proving that hydrogen hybrid systems can provide a practical and sustainable replacement for diesel engines on non-electrified routes

## 4. Events and Solicitations

### Publications

#### Study on techno-economic life-cycle assessment comparisons of hydrogen delivery options (September 2025)<sup>8</sup>

This paper presents a techno-economic assessment (TEA) combined with an environmental life cycle assessment (LCA) of various hydrogen delivery options within Europe, aiming to identify the most sustainable and cost-effective methods for transporting renewable hydrogen. Five hydrogen carriers—compressed hydrogen, liquid hydrogen, ammonia, methanol, and a liquid organic hydrogen carrier—are compared, assuming that hydrogen is produced via renewable electrolysis in Portugal and transported to the Netherlands by either ship or pipeline. The findings align with much of the existing literature, indicating that the most economically and environmentally sustainable options for long-distance hydrogen delivery are shipping liquid hydrogen and transporting compressed hydrogen via pipeline. Chemical carriers tend to involve higher costs and environmental impacts, largely due to the additional energy and materials (e.g., extra solar panels) required in hydrogen conversion steps (i.e., packing and unpacking).

#### Study on integrity and safety challenges of pipelines for hydrogen transport (May 2025)<sup>9</sup>

Europe's existing natural gas grid is seen as a promising asset to repurpose for the transportation of hydrogen. This technical report provides a literature review of

---

<sup>6</sup> [https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/hylical-magnetic-cooling-efficient-hydrogen-liquefaction\\_en](https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/hylical-magnetic-cooling-efficient-hydrogen-liquefaction_en)

<sup>7</sup> [https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/successful-completion-fch2rail-project\\_en](https://www.clean-hydrogen.europa.eu/projects-dashboard/project-updates/successful-completion-fch2rail-project_en)

<sup>8</sup> <https://link.springer.com/article/10.1007/s11708-025-1041-1>

<sup>9</sup> <https://publications.jrc.ec.europa.eu/repository/handle/JRC140673>



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

hydrogen's impact on pipeline materials, particularly steel and polymers. Hydrogen is known to reduce the ductility, fracture toughness, and the fatigue crack growth resistance of steel materials commonly found in transmission pipelines. It is also known to permeate through polymeric materials that are often used in the distribution grid. The possible implications for pipeline integrity and safety are reviewed. This report emphasises the need for further experimental research and practical experience combining material science and safety engineering disciplines. Key areas lacking knowledge include the full- or large-scale validation on pipeline sections of small-scale laboratory results, the behaviour of typical pipeline defects, and the long-term performance of polymeric pipeline materials, all under the influence of gaseous hydrogen. The report highlights the essential role of testing facilities such as the High-Pressure Gas Testing Facility (GasTeF) of the European Commission's Joint Research Centre in addressing these gaps.

### **Events & Initiatives**

#### **Hydrogen Valleys Days 2025<sup>10</sup>**

The second **Hydrogen Valley Days** took place on **24–25 June 2025 in Brussels**, under the theme **“Hydrogen Valleys: Driving Europe’s Competitiveness.”** The event gathered stakeholders from across the hydrogen value chain to exchange on project development, market opportunities, and collaboration.

The agenda highlighted success stories and lessons learned from leading Hydrogen Valley projects, including those supported by the Clean Hydrogen Partnership. Key topics included permitting, skills, financing, and emerging lead markets in mobility and industry. Participants also learned about strategic initiatives such as the Hydrogen Valleys Facility and the Hydrogen & Derivatives Mechanism.

It was co-organised by the Clean Hydrogen Partnership and the European Commission.

#### **EU Hydrogen Innovation Forum<sup>11</sup>**

This year's edition of the European Hydrogen Week featured the **EU Hydrogen Innovation Forum**, which was co-organised by the Clean Hydrogen Partnership and the European Commission.

Held on **2–3 October 2025** at the Thon Hotel EU in Brussels, the two-day event, themed *“Driving Europe’s Competitiveness and Market Uptake with R&I in Clean Hydrogen Technologies,”* highlighted **start-ups and scale-ups** as key enablers of the green industrial transformation.

Discussions centred on enhancing Europe’s competitiveness through hydrogen R&I, empowering innovative SMEs, addressing future skills and investment needs, and fostering synergies across EU, national, and regional funding programmes.

---

<sup>10</sup> [https://www.clean-hydrogen.europa.eu/media/news/hydrogen-valley-days-2025-showcases-europes-hydrogen-future-summary-and-outcomes-available-2025-07-24\\_en](https://www.clean-hydrogen.europa.eu/media/news/hydrogen-valley-days-2025-showcases-europes-hydrogen-future-summary-and-outcomes-available-2025-07-24_en)

<sup>11</sup> [https://www.clean-hydrogen.europa.eu/european-hydrogen-week/european-hydrogen-week-2025/eu-hydrogen-innovation-forum\\_en](https://www.clean-hydrogen.europa.eu/european-hydrogen-week/european-hydrogen-week-2025/eu-hydrogen-innovation-forum_en)





## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

### 15 Hydrogen Valleys selected for PDA under the H2V Facility's first successful Call<sup>12</sup>

The first Call for Applications for **Project Development Assistance (PDA)** for Hydrogen Valleys closed on 19 September with a strong response: 36 applications were submitted from 18 EU and Horizon Europe countries. Despite market uncertainty and a short summer application window, the high number of proposals shows strong commitment and interest from public and private hydrogen project developers in accessing practical support for advancing their projects.

The Clean Hydrogen Partnership selected 15 highly promising Hydrogen Valley projects from 8 EU Member States and 3 Horizon Europe associated countries. 9 PDA light and 6 PDA plus applicants were selected.

### Launch of the Hydrogen Valleys Knowledge Centre<sup>13</sup>

The Clean Hydrogen Partnership has launched the **Hydrogen Valleys (H2V) Knowledge Centre**, a dedicated resource for sharing knowledge and building capacity for Hydrogen Valleys and the wider hydrogen community.

Part of the H2V Facility, the Knowledge Centre is accessible via [www.h2v.eu](http://www.h2v.eu) and provides practical guidance across four key dimensions: commercial, technical, regulatory, and governance. Users can download materials on topics such as securing offtake, market overviews, contracting strategies, and milestone planning toward Final Investment Decision (FID). Interactive formats, including webinars and workshops, will begin in Q4 2025.

### **European Hydrogen Week 2025**

The European Hydrogen Week 2025 took place from 29 September to 02 October in Brussels. The first three days were organised by industry group Hydrogen Europe and consisted of a High-Level Policy Conference as well as a Business-to-Business Forum. The Innovation Forum took place subsequently and were led by the Clean Hydrogen Partnership, featuring more technical discussions as well as a Start-Ups Day focused on nascent initiatives. More information can be found at the event page<sup>14</sup>.

## **5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding**

### Innovation Fund

The latest calls of the Innovation Fund (IF24 NZT and Batteries) opened on 3 December 2024 and closed for applications on the 24 April 2025.

The IF24 NZT call had a budget of €2.4 billion, divided in topics of large, medium, and small-scale projects, for clean tech manufacturing, and for pilots. It received 359 applications, collectively requesting EUR 21.7 billion, from 28 EEA countries. Projects in the full hydrogen value chain (including renewable and low carbon hydrogen

<sup>12</sup> [https://www.clean-hydrogen.europa.eu/media/news/15-hydrogen-valleys-selected-pda-under-h2v-facilitys-first-successful-call-2025-10-16\\_en](https://www.clean-hydrogen.europa.eu/media/news/15-hydrogen-valleys-selected-pda-under-h2v-facilitys-first-successful-call-2025-10-16_en)

<sup>13</sup> [https://www.clean-hydrogen.europa.eu/media/news/launch-hydrogen-valleys-knowledge-centre-2025-10-16\\_en](https://www.clean-hydrogen.europa.eu/media/news/launch-hydrogen-valleys-knowledge-centre-2025-10-16_en)

<sup>14</sup> <https://euhydrogenweek.eu/conference/home-2/>



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

production, derivatives and e-fuels production, electrolyser manufacturing, fuel cells, etc) are eligible under the IF24 NZT call. Results will be public on Q4 2025. All projects that meet the evaluation criteria will receive a STEP Seal awarded the Commission, regardless of whether they are selected for funding.

As announced in the Clean Industrial Deal, the plans to commit EUR 6 billion from the Innovation Fund in 2025, including for clean tech, battery manufacturing, the European Hydrogen Bank and industrial decarbonisation.

### The European Hydrogen Bank

In 2022, the Commission launched the European Hydrogen Bank to support the scale-up of production and deployment of renewable hydrogen across Europe, contributing to the decarbonisation of European industry. It consists of a domestic and an international leg and the mechanism to scale up the hydrogen market. Under the domestic leg, funding is awarded as a fixed premium in €/kg of verified and certified renewable fuel of non-biological origin (RFNBO) hydrogen produced.

A second renewable hydrogen auction opened on 3 December 2024 and awarded up to €1.2 billion support to renewable hydrogen producers located in the European Economic Area (EEA), contributing to the further creation of a European market for renewable hydrogen by de-risking investments with public support.

This call for proposal included two topics subject to separate competitive bidding procedures:

- a general topic to support the production of RFNBO hydrogen regardless of the sector in which it will be consumed (€1.0 billion); and,
- a specific topic for the production of RFNBO hydrogen to be used in the maritime sector (€200 millions).

15 projects were selected under the general topic corresponding to a bid volume of 1.332 kt<sub>H<sub>2</sub></sub> / 10 yrs and a bid capacity of 1.060 Mwe.

The 3 projects selected under the maritime topics (all from Norway) correspond to a bid volume of 995 kt<sub>H<sub>2</sub></sub> / 10 yrs and a bid capacity of 114 Mwe

The winning bidders will produce the renewable hydrogen in Europe with a subsidy that will help to close the price difference between their production costs and the market price and accelerate the deployment of cleaner fuels.

Projects must reach financial close within 2.5 years and enter into operation within 5 years.

In parallel, Spain, Lithuania, and Austria are allocating up to €836 million in national funding for projects in their countries through the 'Auctions-as-a-Service' feature. This allows Member States to identify and fund eligible projects in their territories that meet the auction's qualification criteria but cannot be funded by the Innovation Fund due to budgetary limitations. 'Auctions-as-a-service' is open to all Member States, enabling them to benefit from the EU-level auction platform and award national funding to additional projects with simplified procedure.

As announced in the CID, the Commission will launch a third auction for under the European Hydrogen Bank with a budget of up to EUR 1 billion before the end of 2025.

The international leg of the Hydrogen Bank is focusing efforts on a Team Europe approach to pool financial resources from Member States.





## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

### The Hydrogen Mechanism

Under the Hydrogen Mechanism, the Commission is supporting the market development of hydrogen and accelerate investments. This mechanism is provided for under the Regulation (EU) 2024/1789 for internal market rules for gas and hydrogen. It will support the development of the European hydrogen market by (i) connecting off-takers and suppliers, (ii) informing on hydrogen infrastructure needs and (iii) connecting with the financial institutions to incentivize investments.

The Commission opened the online marketplace on 12 November to connect hydrogen producers and buyers, aiming to accelerate the clean energy transition. Producers can submit offers until 2 January 2026, with anonymised data published on 19 January before buyers express interest. The initiative supports EU goals to produce and import 10 million tonnes of renewable hydrogen by 2030.

## 6. Regulations, Codes & Standards, and Safety Update

### Hydrogen Incidents and Accidents Database HIAD

The Hydrogen Incident and Accident Database (HIAD) is a historical collection of hydrogen-related safety events provided by the Joint Research Centre (JRC) of the European Commission and the European Clean Hydrogen Partnership to contribute to the improvement of a safety culture for hydrogen technologies, to assist the identification of hydrogen-specific hazards and risks, and to provide lessons learned and returns of experience applicable to the hydrogen supply chain and end-uses. On 1<sup>st</sup> January 2025 the JRC issued a new version of the Hydrogen Incident and Accident Database (HIAD 2.1) with improved descriptors and that includes the latest publicly available events. HIAD 2.1 is available and downloadable from the JRC Major Accidents and Hazard Bureau (MAHB) platform: <https://minerva.jrc.ec.europa.eu/en/shorturl/capri/hiadpt>. At the same link an interactive tool to enhance HIAD 2.1 visualisation and to provide user-customised analytical functions, including dashboard, is available.

### EU – OECD Hydrogen Fuel Risks Webinar Series

On 11 March 2025, the Commission and the OECD organised 4<sup>th</sup> webinar on Hydrogen Fuel Risks. The fourth meeting of the EU Technical Working Group for Seveso Inspections (TWG 2) and OECD Working Party on Chemical Accidents focused on the challenges, safety considerations, and regulatory standards associated with using ammonia as an energy carrier for hydrogen. Participants highlighted the importance of collaboration among policy experts, industry stakeholders, and safety professionals to ensure safe and effective implementation.<sup>15</sup>

Since 2023, the Commission - JRC's Major Accident Hazards Bureau (MAHB) – collaborates with partners in chemical accident risk management within the OECD on organisation of a series of webinars focused on the different aspects of managing the

<sup>15</sup> [https://minerva.jrc.ec.europa.eu/en/shorturl/minerva/hydrogen\\_fuel\\_risks\\_webinar\\_part\\_4](https://minerva.jrc.ec.europa.eu/en/shorturl/minerva/hydrogen_fuel_risks_webinar_part_4)



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

risks associated with hydrogen fuel. JRC Major Accident Hazards Bureau has published on its website programmes, available presentations and reports from the four webinars that have taken place from 15 September 2023 to 11 March 2025.<sup>16</sup>

### International Hydrogen Safety Conference ICHS

The 11<sup>th</sup> International Conference on Hydrogen Safety (ICHS2025) took place on 22-25 September in Seoul, Korea. The IPHE and the European Commission endorse the ICHS conference, and the JRC is member of the Organising and Scientific Committees. More than 200 paper contributions were submitted and peer-reviewed, and the conference programme is available at: <https://hysafe.info/ichs2025/>. At the conference the JRC gave two oral presentations on JRC activities in hydrogen safety, entitled 'Integrity and Safety of Repurposed Hydrogen Pipelines in the European Union', and 'A Historical Analysis of Safety of Hydrogen Transport Technologies Based on Incidents Records'. The JRC also chaired the conference session on Material Compatibility. Two JRC contributions on the topics of the oral presentations were published in the Book of Proceedings of the ICHS2025 conference.

### European Hydrogen Safety Panel

The mission of the European Hydrogen Safety Panel (EHSP) is to assist the European Clean Hydrogen Partnership both at programme and project levels in assuring that hydrogen safety is adequately managed, and to promote and disseminate hydrogen safety culture within and outside of the Clean Hydrogen Partnership Programme.

The EHSP is composed of a multidisciplinary pool of experts grouped in ad-hoc working groups (task forces) according to the tasks to be performed and to expertise. Collectively, the members of the EHSP have the necessary scientific competencies and expertise covering the technical domain needed to make science-based recommendations to the Clean Hydrogen Partnership.

In 2024, the Clean Hydrogen Partnership concluded a service framework contract for the provision of support for coordinating and managing the EHSP, strengthening its coordination, activities, and impact, and experts were appointed in 2025. A task force within the EHSP is providing support to the further development of the Hydrogen Incident and Accident Database (HIAD). A new version HIAD 3.0, a knowledge management tool managed by the JRC and the Clean Hydrogen Joint Undertaking, and updated, maintained, upgraded and disseminated in collaboration with the European Hydrogen Safety Panel, is under preparation

## **7. International cooperation**

### Mission Innovation - Clean Hydrogen Mission (CHM)

Piero Venturi from DG Research and Innovation is the Director of the Clean Hydrogen Mission (CHM).

---

<sup>16</sup> [https://minerva.jrc.ec.europa.eu/EN/content/minerva/32adb4dd-5e93-11ee-9891-0050563f0167/eu\\_oecd\\_hydrogen\\_fuel\\_risks\\_webinar](https://minerva.jrc.ec.europa.eu/EN/content/minerva/32adb4dd-5e93-11ee-9891-0050563f0167/eu_oecd_hydrogen_fuel_risks_webinar)



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

CHM is one of seven flagship Missions within Mission Innovation and aims to catalyse action, investment, and knowledge exchange between member countries to accelerate the clean hydrogen transition. CHM is a multilateral forum of member countries and the European Commission. It consists of six co-leaders (Australia, Chile, European Union, Spain, United Kingdom, United States) and fourteen members (Austria, Canada, China, Finland, Germany, India, Italy, Japan, Republic of Korea, Morocco, Norway, Netherlands, Saudi Arabia, United Arab Emirates). CHM also maintains strong partnerships with other international organisations such as CEM H2, IPHE, IEA Hydrogen's TCP, UNIDO, CHP. What makes the CHM unique is its global coverage and the fact that it brings together members willing to mobilise joint efforts to develop a global hydrogen economy.

### Work plan 2025 and already launched actions:

In February 2025, CHM shared a work plan featuring 13 actions with its members. This plan is designed to meet the CHM's objective while aligning with the specific needs of each member. In 2025, CHM will be pursuing efforts in the following initiatives: 1. Research & Innovation to drive forward the identified R&I priorities, 2. Demand creation to help stimulate demand especially in hard-to-abate sectors, 3. Hydrogen Valleys to expand the number of integrated hydrogen projects and help them get past the FID stage, 4. Hydrogen Skills to support the creation of an hydrogen workforce, 5. Industry engagement to support the uptake of hydrogen technologies in industry.

Several activities have already been launched in 2025:

- The End-Use Workshop, organised by the UK and Chile on 27 March, which brought together 160 participants. The event highlighted research and development projects focusing on hydrogen end-use applications.
- The production of the R&I global priority report based on the results of the R&I survey carried out in 2024. It explores the opportunities and barriers associated with each R&I priority and sets out an action plan to move the priorities forward.
- The coordination of H3 Priority Action "Research and Innovation" together with the Breakthrough Agenda. This action involves several organisations such as IEA H2 TCP, IPHE, IRENA and UNIDO and aims to increase the number of clean hydrogen research and demonstration projects in various sectors and regions, with mechanisms for rapidly sharing the lessons learned.

### *Key messages and actions for MI-10 and beyond*

One of this year's milestones was the MI-10 meeting in Busan in August 2025. The Ministerial celebrated the launch of MI's 10-Year Impact Report<sup>17</sup>, which showcases cutting-edge developments across sectors including hydrogen, carbon removal, and green shipping. CHM used this event as a platform to present results, make announcements and strengthen its links with players wishing to contribute to the hydrogen transition.

---

<sup>17</sup> [10th-Anniversary-Mission-Impact-Report\\_compressed.pdf](#)