



REPowering the EU with **Hydrogen Valleys**

What is a Hydrogen Valley?

Hydrogen Valleys are geographical areas where clean hydrogen is produced and locally used by households, local transport, and industrial plants. Hydrogen Valleys showcase how the European Union's hydrogen economy works at local level and includes citizens.

Hydrogen Valleys can be interconnected via hydrogen corridors.

Hydrogen Valleys vary in size and scope, and adapt to local energy needs. They can be:

- Local, small-scale and mobility focused;
- Local, medium-scale and industry-focused;
- International, large-scale and export focused.

Why are Hydrogen Valleys important for REPowerEU?

- Hydrogen Valleys scale up green hydrogen production and supply to meet the growing demand from hard-to-abate sectors such as the cement, steel, and glass industries, as well as heavy-duty transport.
- Hydrogen Valleys contribute to EU energy independence while accelerating the clean energy transition and pursuing the decarbonisation objectives under the European Green Deal.

Hydrogen Valleys projects were initiated by the Fuel Cells and Hydrogen Partnership (FCHP) between the European Commission and industry and research associations. Following their successful deployment, calls for proposals continue to be published to uphold the benefits coming from the versatility of using clean hydrogen in diverse sectors.



Hydrogen Valleys in Europe

Currently, 25 European Hydrogen Valleys are part of the [Hydrogen Valleys Platform](#)¹:

Austria

Linz

Belgium

Turnhout

Denmark

Hobro

France

Rhône-Alpes
Normandie
Bourgogne-Franche-Comté
Guyane Française

Germany

Munich
Mannheim
Heide
Hamburg
Oldenburg

Italy

Bolzano
Brescia

Netherlands

Northern Netherlands
Southern Netherlands
Zeeland

Portugal

Sines

Romania

Constanța

Slovakia

Kosice

Spain

Mallorca
País Vasco
Castilla y León

UK

North West England
Orkney Islands

The Hydrogen Valleys Platform has been prepared for the Clean Hydrogen Partnership to showcase hydrogen flagship projects around the world.

In May 2022, the RePowerEU plan set out to double the number of hydrogen valleys across Europe in the coming years. This number is growing steadily, and the platform is being updated to meet the reality.

¹ The [Hydrogen Valleys Platform](#) has been prepared for the Clean Hydrogen Partnership to showcase hydrogen flagship projects around the world. It helps current and future hydrogen project developers to collaborate and to gather meaningful information from experienced peers. It is also a source of information for all relevant stakeholders who support the development of hydrogen projects.



How does EU research & innovation contribute to the development of Hydrogen Valleys?

- The **Clean Hydrogen Partnership (2021-2027)**, successor of the **Fuel Cells and Hydrogen Partnership**, **has selected nine Hydrogen Valley proposals to be funded**, following its first call for proposals (2022). The total **EU funding awarded for the development of these nine Hydrogen Valleys amounts to €105.4 million**. The projects will focus on producing clean hydrogen to be used by end-users from the energy, transport, and industry sectors. It is expected that the projects will be able to mobilise private investments of at least five times the funding provided by the European Union (above €0.5 billion in total).
- To equip the workforce with the necessary skills, the European Commission has recently granted approximately **€4 million under the Erasmus+** programme to support a long-term partnership between industry and education. The aim is to develop education and training for the technical jobs that will be needed in the hydrogen industry, for example maintenance of hydrogen equipment, manufacturing of electrolyzers, reconversion of workers from the oil and gas industry.
- The Project Development Assistance initiative of the Clean Hydrogen Partnership helps Hydrogen Valleys developers in kickstarting their projects. The Clean Hydrogen Partnership has also set up a dedicated [Hydrogen Valleys Platform](#) for Hydrogen Valleys for best practice exchanges and match-making activities.
- In addition to the Clean Hydrogen Partnership, the European Union is investing in Hydrogen Valleys through various other funding programmes, including **Structural Funds** and the **Connecting Europe Facility**.
- The European Commission is co-leading the **“Mission-Innovation”** [Clean Hydrogen Mission](#), which aims at reducing the costs of hydrogen globally and designing and **deploying at least 100 Hydrogen Valleys worldwide by 2030** to unleash the global roll-out of clean hydrogen.
- Europe is today the leading producer of electrolyzers for clean hydrogen production, following a contribution of EU research and innovation (R&I) investment of **€150 million** since 2008. Since then, the **electrolyser capacity** in Europe has been increased with a factor 200, resulting in 20 Megawatt per electrolyser today.
- [Three projects, selected from the Horizon 2020 European Green Deal call](#), will receive a total EU contribution of €92 million to scale up the electrolyser capacities with the goal of demonstrating and deploying of a 100 MW electrolyser system by 2025.
- The European Commission is implementing the **EU Hydrogen Strategy**, adopted in July 2020, aiming to drastically accelerate the development of clean hydrogen.
- To accelerate the European Union transition to a hydrogen economy, the European Commission issued in January 2022 a [Staff Working Document](#) on hydrogen highlighting the EU R&I support for implementing the **Green Deal hydrogen strategy** and contributing to a roadmap of actions. This includes among others developing and implementing a strategic R&I agenda on Green Hydrogen with the EU Member States.
- During 2023, the European Commission will present a roadmap to accelerate the deployment of Hydrogen Valleys across Europe.