

From research to regional ecosystems: the Clean Hydrogen Partnership powers Europe's energy transition



Over 18 years, the Clean Hydrogen Partnership and its predecessors have transformed Europe's fragmented hydrogen research landscape into a coordinated innovation and industrial ecosystem. Aligning public funding with industry and research expertise, the Partnership has supported technologies from early research to industrial demonstration and regional deployment.

The partnership model: building a coordinated hydrogen ecosystem

Hydrogen is not a single technology or market. Renewable production must develop alongside storage, distribution and demand in transport, industry, heat and power. When European cooperation began, expertise was dispersed, projects were often small and isolated, and companies faced substantial risks in bringing promising ideas to market.

The Clean Hydrogen Partnership provides sustained, coordinated action. As the EU's only Joint Undertaking dedicated to energy, it brings together the European Commission, industry through Hydrogen Europe, and the research community through Hydrogen Europe Research. A common Strategic Research and Innovation Agenda turns shared priorities into calls spanning the hydrogen value chain. This long-term partnership provides the continuity needed to move technologies from research to demonstration and deployment, while aligning innovation with European

industrial and policy priorities.

Sustained R&I: turning research into industrial deployment

Since 2008, the Clean Hydrogen Partnership and its predecessors have supported 434 projects with total investment of EUR 4.4 billion, including EUR 2 billion in EU funding. Its portfolio across technology-readiness levels allows lessons from field demonstrations to feed back into research, improving performance, reliability, manufacturing and cost. Innovation Actions account for around 27% of grants but 56% of funding allocated through calls, reflecting the growing emphasis on larger demonstration projects and market uptake.

Supported low-temperature electrolyser capacity has increased from 150 kW to 50 MW, while the Partnership funding required per installed megawatt has fallen from EUR 20 million to EUR 0.5 million, making its support increasingly cost-effective.

Across Europe, Clean Hydrogen Partnership-supported fuel-cell buses have travelled 36 million kilometres, while their cost has fallen from around EUR 1.5 million to EUR 600,000 over more than 15 years of research and demonstration. More than 530 SMEs have received EUR 517 million in grants, and 84 supported SMEs subsequently raised EUR 5.18 billion in public and private funding. The Clean Hydrogen Partnership has also supported 28 Hydrogen Valley projects across 25 countries, bringing production, infrastructure and multiple end uses together in regional ecosystems.

"Hydrogen is a systemic technology, so progress depends on more than individual breakthroughs. By bringing research, industry and public authorities around a common agenda, the Clean Hydrogen Partnership has created the continuity needed to turn European innovation into industrial capability, competitive companies and regional hydrogen ecosystems."

Valérie Bouillon-Delporte, Executive Director, Clean Hydrogen Partnership

Creating lasting European value

The Clean Hydrogen Partnership's contribution extends beyond technology. Open calls help SMEs, start-ups and newcomers enter the programme, while skills initiatives prepare workers, public authorities and safety and permitting professionals for deployment. Links with European, national and regional instruments then help successful innovations progress towards industrial scale. Independent evaluations have highlighted its role in overcoming fragmentation and consolidating Europe's position as a global hydrogen leader. More than a funding programme, it connects research excellence, industrial capability and regional demand. Maintaining this long-term coordination will be essential if Europe is to convert its research leadership into lasting industrial competitiveness and large-scale deployment.

The goal To accelerate the development and deployment of clean hydrogen technologies by coordinating European research, industry and public authorities across the full value chain, strengthening companies and skills, and supporting competitive regional hydrogen ecosystems.

Key results Over 18 years, the Clean Hydrogen Partnership has created a pathway from early research to industrial demonstration and integrated regional deployment. Its 434 projects have scaled key technologies, mobilised public and private investment, helped SMEs and start-ups grow, strengthened skills and supported Hydrogen Valleys linking production, infrastructure and demand. These results demonstrate the value of a sustained partnership model that connects research, industrial development, skills and regional deployment.



Clean Hydrogen Partnership
Projects repository
Hydrogen Valleys
European Hydrogen Observatory



Co-funded by
the European Union

KEY ACHIEVEMENTS

18 YEARS OF COORDINATED ACTION

Connecting European research, industry and public authorities

434 PROJECTS SUPPORTED

EUR 4.4 billion in total project investment, including EUR 2 billion in EU funding

OVER 300-FOLD ELECTROLYSER SCALE-UP

The capacity of supported low-temperature electrolyser systems has increased from 150 kW to 50 MW

STRONG SME PIPELINE 530+

SMEs received EUR 517 million; part of them subsequently raised at least EUR 5.18 billion

28 HYDROGEN VALLEYS

Integrated regional projects supported across 25 European countries

IMPACTS

A LONG-TERM PARTNERSHIP

Coordinating research, industry and public authorities around shared priorities

FROM R&I TO MARKET

Sustained support from early research through demonstration and deployment

EUROPEAN COMPETITIVENESS

Helping companies, particularly SMEs and start-ups, validate technologies, attract investment and scale

SKILLS FOR DEPLOYMENT

Preparing workers, permitting authorities and safety professionals

LOCAL HYDROGEN ECOSYSTEMS

Hydrogen Valleys bringing production, infrastructure and demand together