



MISSION AND VISION STATEMENT

The Clean Hydrogen Joint Undertaking (JU) aims to support a sustainable hydrogen economy, contributing to the EU's climate goals. Clean Hydrogen JU's mission is to facilitate the transition to a greener EU society through the development of hydrogen technologies.

The Clean Hydrogen JU will contribute to the European climate neutrality goal by producing noticeable, quantifiable results towards the development and scaling up of hydrogen applications. The focus of Clean Hydrogen JU's research and innovation activities will primarily be the production of clean hydrogen, as well as the distribution, storage and end-use applications of low-carbon hydrogen in hard to abate sectors.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster:	Pillar II – Cluster 5: Climate, energy and mobility
Type of partnership:	Institutionalised (Art 187 TFEU) – joint undertaking
Coordinating entity:	Governing Board of the Clean Hydrogen Partnership
Total estimated budget:	At least EUR 2 bn
EU commitments:	Up to EUR 1 bn
Partners' commitments:	At least EUR 1 bn
Predecessor under Horizon 2020:	Fuel Cell and Hydrogen (FCH) 2 Joint Undertaking

FIND OUT MORE

<https://clean-hydrogen.europa.eu>

<https://ec.europa.eu/newsroom/chju/newsletter-archives/36192>

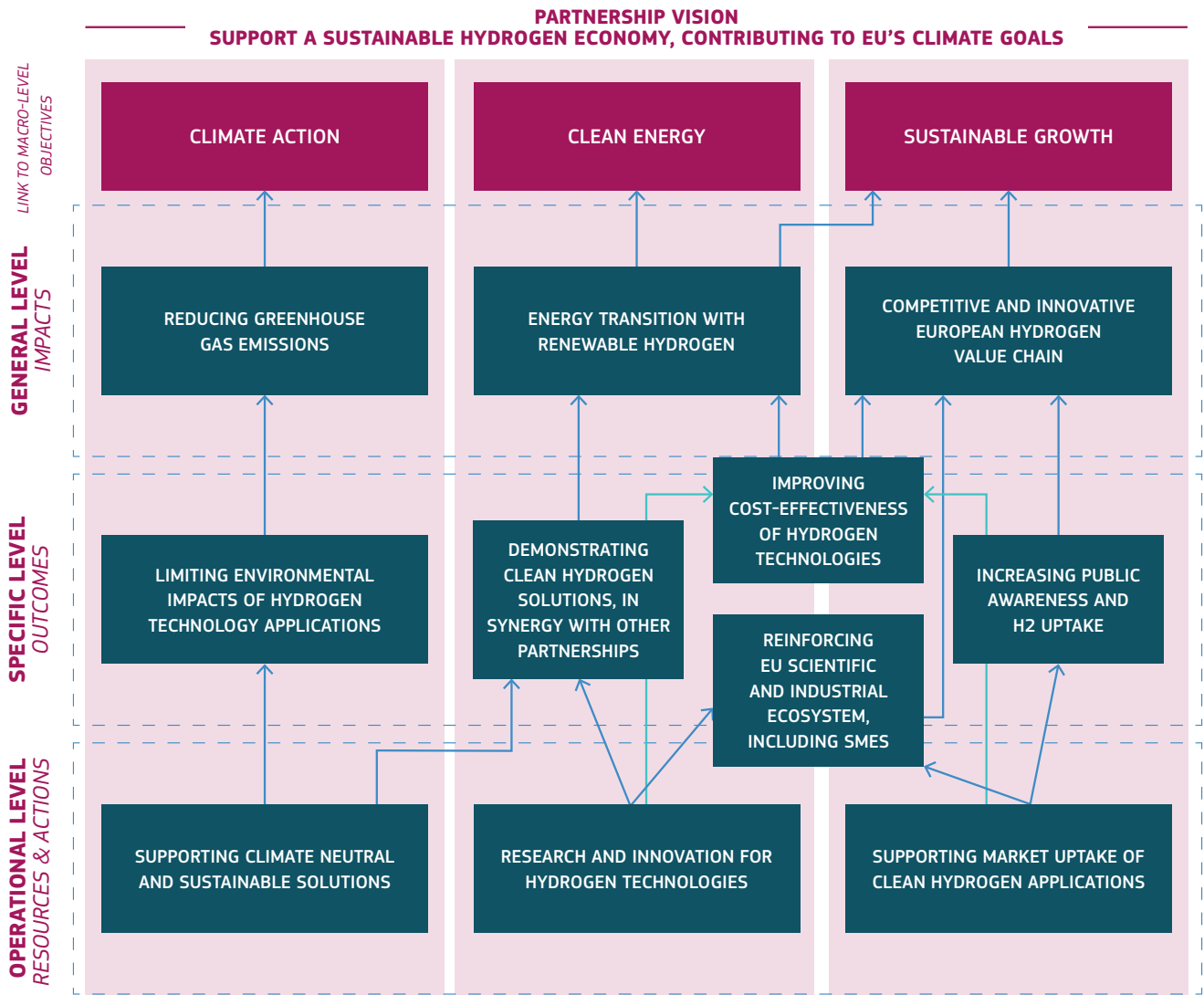
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PARTNERSHIP SPECIFIC IMPACT PATHWAY (PSIP)





PARTNERSHIP'S Key Performance Indicators

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
1. Supporting sustainable solutions	% of budget (2 indicators)	2.5*	20	35	50	
2. Early research projects	% of budget	10*	10	10	10	
3. Demonstration projects	# of projects	43*	20	40	60	
4. Education and training	# of projects	4*	2	4	6	
5. Monitoring technology progress	Qualitative indicator	N/A	N/A	N/A	N/A	
6. Supporting EC in H2 market uptake	Qualitative indicator	N/A	N/A	N/A	N/A	
OUTCOMES						
7. Environmental impact and sustainability	TBD	TBD	TBD	TBD	TBD	
8. Capital cost of hydrogen applications	€/kilowatt (2 indicators)	TBD	TBD	TBD	TBD	
9. Research and Innovation Synergies	# of projects	5*	5	10	20	
10. Public perception of hydrogen	Qualitative indicator	N/A	N/A	N/A	N/A	
11. Total persons trained	# of persons	4 163*	1 000	3 000	6 000	
12. Patents and publications	# of patents / publications	12*/289	17/350	20/400	25/450	
13. Promoting cross-sectoral solutions	# of projects	15*	10	15	25	
IMPACTS						
14. Expected avoided emissions	Million tonnes of CO ₂ -eq	TBD	N/A	N/A	N/A	TBD (2030/2050)
15. Deployment of electrolyzers	Gigawatt	1	4	6	10	40 (2030)
16. Market uptake of clean hydrogen	Mt of clean hydrogen consumed	0.155	0.7	1	2	10 (2030)
17. Total cost of hydrogen at end-use	€/kg	8	6.5	5.5	4.5	3 (2030)
18. Size of private hydrogen sector	Qualitative indicator	N/A	N/A	N/A	N/A	

The work on the KPIs is under progress. After their approval from the Clean Hydrogen Partnership's governing board, it is expected that a robust and transparent methodology will be developed with the help of experts in 2022. This especially applies for all elements of the table labelled 'TBD' (to be determined). The methodology will be published on the Clean Hydrogen Partnership's website. For economy of space, some of the KPIs were merged in the table above. More detailed information on the partnership's KPIs, activities, performance and impacts can be found in the partnership's Strategic Research and Innovation Agenda and activity reports, which are available on the partnership's website.

* Baseline refers to the achievement over the lifetime of the predecessor partnership (FCH 2 JU).



SYNERGIES WITH OTHER EUROPEAN AND NATIONAL INITIATIVES

HYDROGEN VALLEYS: PROVIDING INSIGHTS IN THE EMERGING HYDROGEN ECONOMY

Since 2014, FCH JU has pursued the concept of hydrogen valleys, a defined geographical area where several hydrogen applications are combined and integrated within an FCH ecosystem. Hydrogen valleys are the most synergetic type of projects, involving different types of stakeholders (public and private partners, large companies and SMEs, private companies, and research institutions). They often combine various sources of funding: private, national, regional and EU funding streams, of which the JU funding is just a small share. Prime examples of these hydrogen valleys are the three recent projects of FCH JU: HEAVENN*, Green Hysland** and BIGHIT***. The Clean Hydrogen JU will continue to support hydrogen valleys as one of its main activities.

*<https://heavenn.org/>

**<https://greenhysland.eu/>

***<https://www.bighit.eu/>

FCH JU & CEF: COOPERATING FOR THE FUTURE

In 2017, FCH JU supported at the time the largest deployment project of fuel-cell buses in Europe, introducing new bus fleets into urban bus operations on a large scale. To further support the deployment and operation of the buses, it is essential to also provide or fund the required refuelling infrastructure for the buses.

This was achieved by the successful cooperation with the Connecting Europe Facility programme (CEF) and its project MERHLIN, through the parallel funding of seven hydrogen refuelling stations – complementarily to the JIVE deployment of 144 buses.

The successful cooperation in the JIVE-MERHLIN projects has paved the way for further possible synergies between the Clean Hydrogen JU and other EU funding streams.

COLLABORATION ON HYDROGEN ACROSS EUROPEAN PARTNERSHIPS

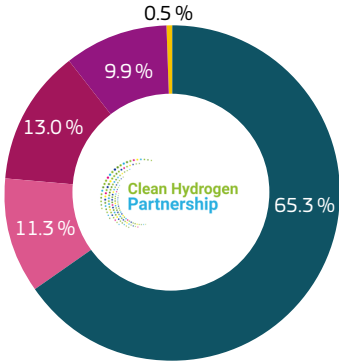
The Clean Hydrogen JU aims to establish structured collaboration with many other European Partnerships, since hydrogen can be deployed as a fuel, energy carrier and for storing energy. The most relevant identified European Partnerships are Towards Zero-emission Road Transport, Zero Emission Waterborne Transport, Europe's rail, clean aviation, processes for the planet and clean steel. Towards this goal, the Clean Hydrogen JU in close cooperation with other end-use partnerships, developed common roadmaps, aiming to better coordinate the planned activities per partnership in the context of R&D in hydrogen technologies. This common planning aims to prevent overlaps, enable synergies and lead to more visible impacts of hydrogen technologies in the context of the Horizon Europe Programme. This effort will be supported by the stakeholders group*, which will promote the cooperation and synergies between partnerships in the domain of hydrogen. The stakeholders group is set up as an official advisory to the Clean Hydrogen JU's governing board, made up of representatives from all sectors along the hydrogen value chain, as well as from other partnerships.

* https://www.clean-hydrogen.europa.eu/about-us/organisation/stakeholders-group_en



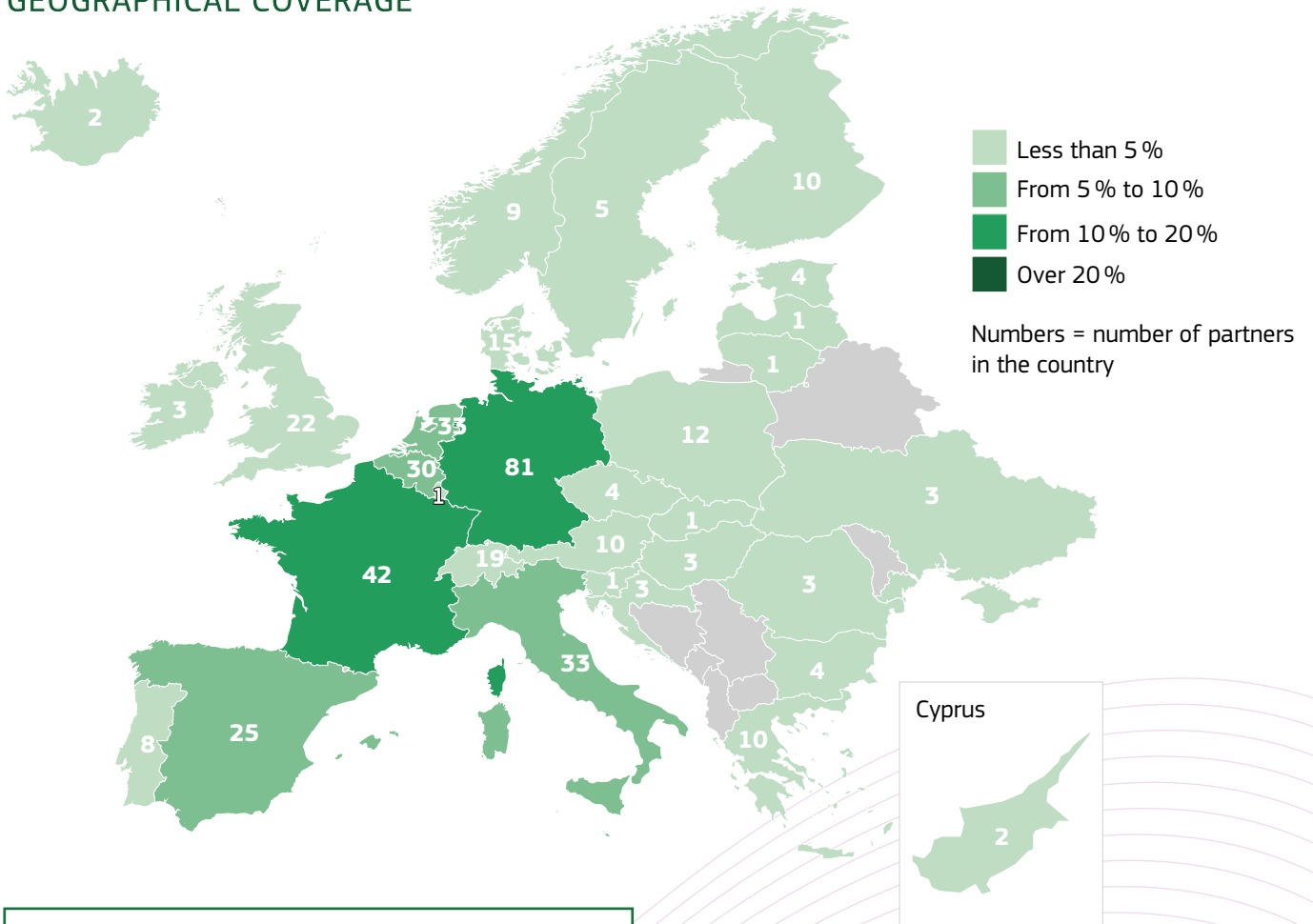
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 415
 92.8 % of the partners are represented in the map
 Other partners that do not fit to the map are from Australia, Canada, Japan, Morocco, Turkey and United States .