

Hydrogen Valleys, a success story of the Clean Hydrogen Partnership

24 June 2025

Mirela Atanasiu

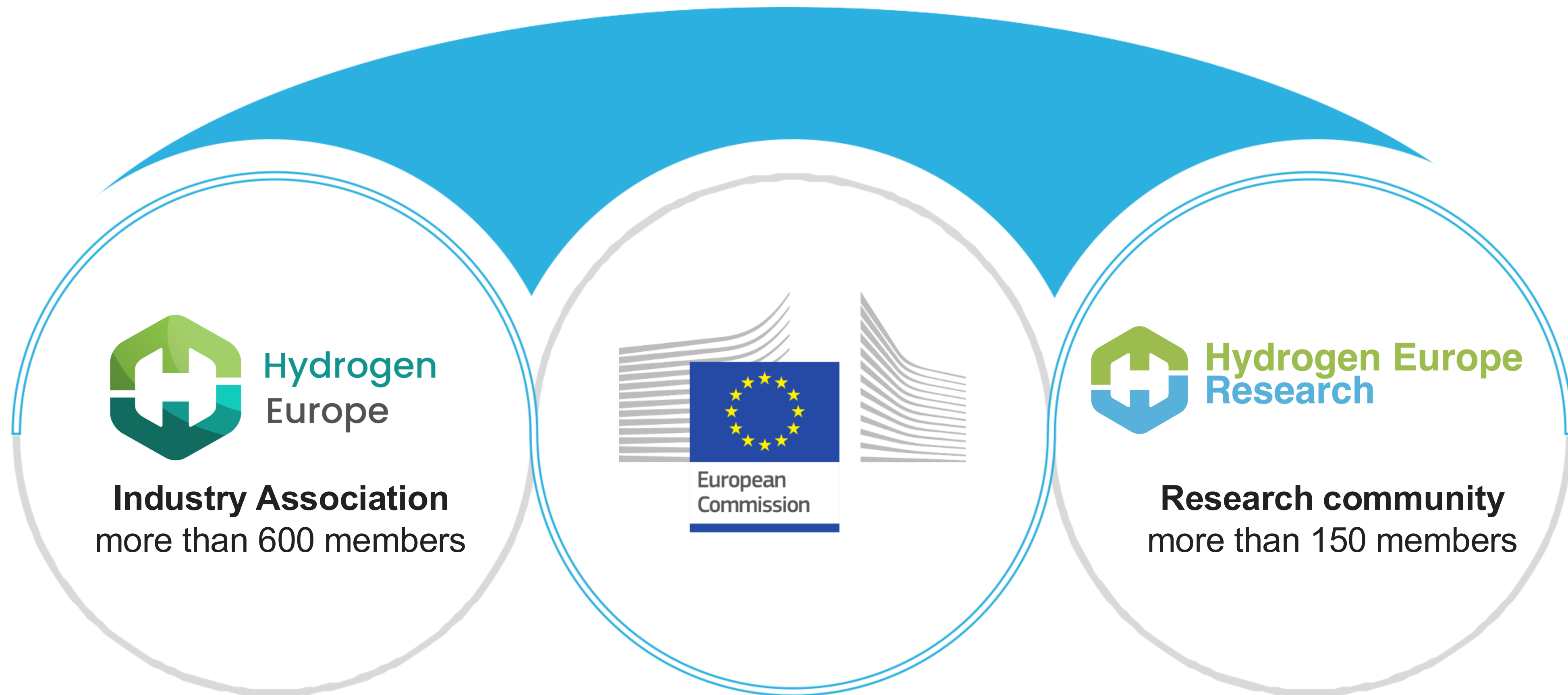
Head of Unit

Operations and Communication Unit



Clean Hydrogen Joint Undertaking

EU Institutional Public-Private Partnership (IPPP)



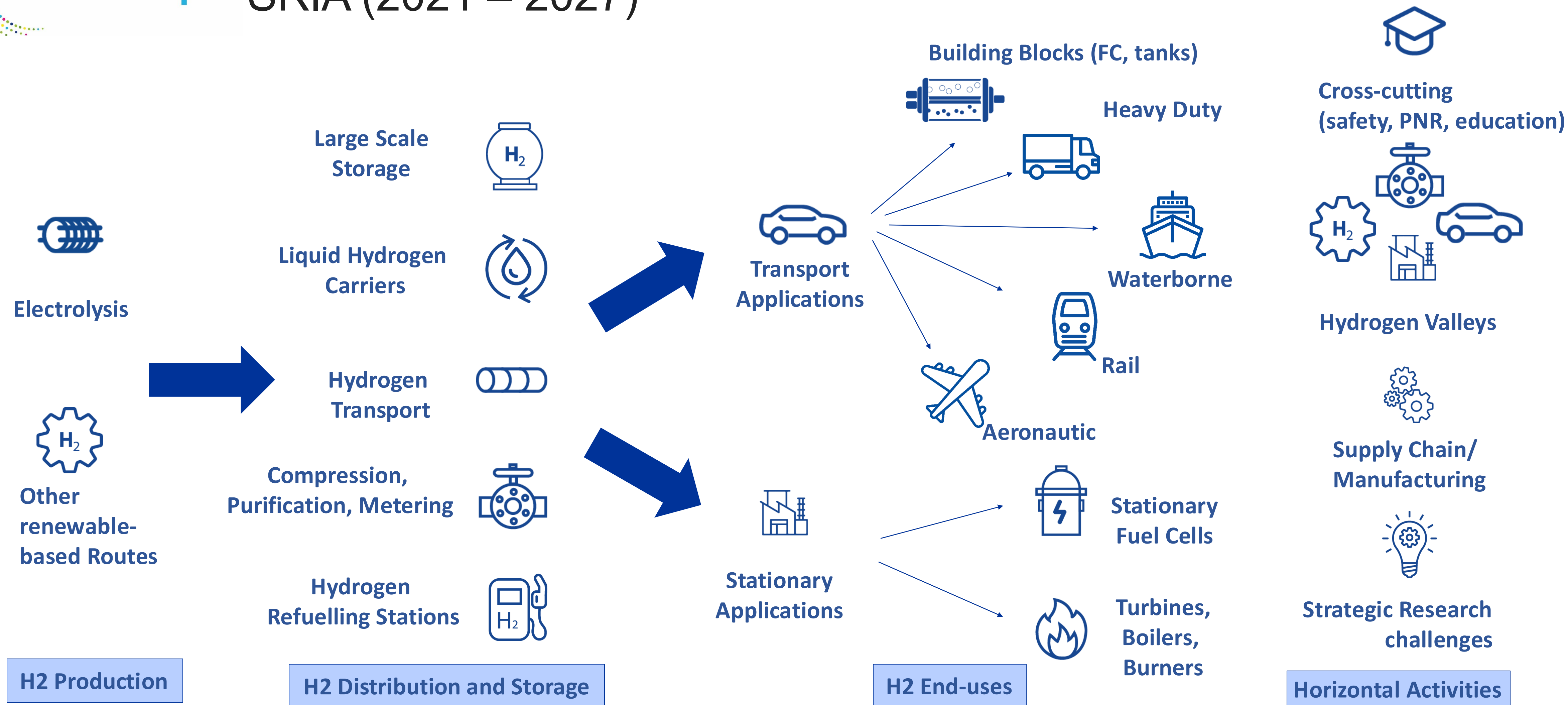
1 billion EURO from Horizon Europe* to implement R&I activities and facilitate the transition to a greener EU society through the development of hydrogen technologies

*** additional 200 million EURO for Hydrogen valleys (under RePowerEU)**

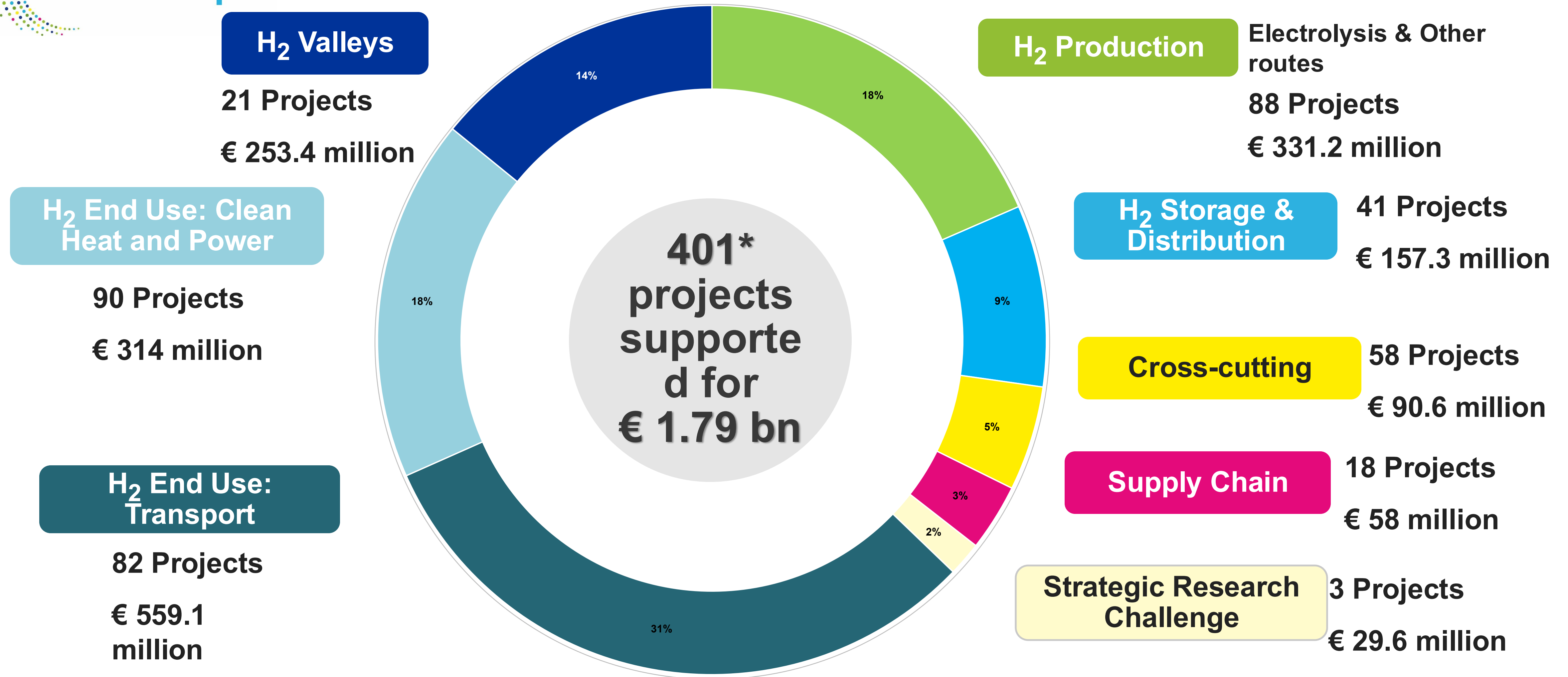
Strategic Research & Innovation Agenda

SRIA (2021 – 2027)

3



Clean Hydrogen JU Programme



* Not all projects from Call 2024 are included as they are still under preparation

Working with regions - Raising awareness, developing ideas and implementing hydrogen projects

5

Regions initiative (2016-2018)

To support cities and regions with an interest in FCH technologies

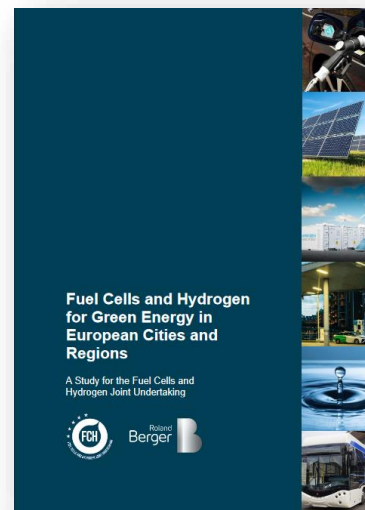


Engagement

- Business cases for FCH applications;
- Mapping of local assets;
- Identification of existing funding;

Report

- FCH applications: status and potential;
- FCH plans and ambitions;
- Way forward;



MOU

- 89 European Regions;
- 22 countries
- 1/4 of Europe's population, surface & GDP;



Hydrogen Valley S3P Platform

Project Development Assistance (2021-onwards)



- EVALUATING**
 - technical feasibility
 - economic feasibility
 - technology readiness
 - level of completion
- SUPPORT IN**
 - scoping
 - right scaling
 - reducing risk
 - easing implementation
- CONSIDERING**
 - regional context
 - project team capacities
 - market availabilities
 - best-practices in procurement and operatorship
- SPECIFYING**
 - use cases / technology setup
 - project activities and responsibilities
 - project timelines and milestones
 - cost structures and financing strategies
 - project governance

<https://europa.eu/!McW9JP>

From idea to project plan

JU Annual Work Plans

Clean Hydrogen JOINT UNDERTAKING
(Clean Hydrogen JU)
WORK PROGRAMME 2023



<https://europa.eu/!WYcrhy>

Support to investments: H2 projects including H2 Valleys

MI2.0 H2V Platform



<https://h2v.eu>

Global collaboration

Working with regions - Raising awareness, developing ideas and implementing hydrogen projects

6

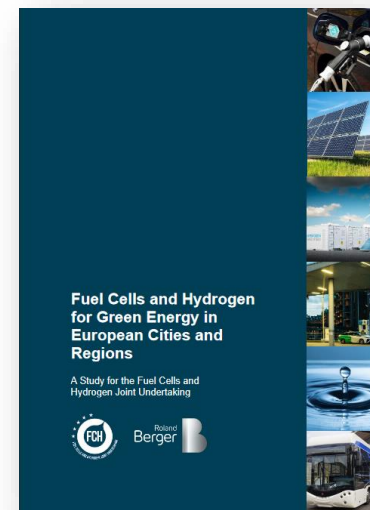
Regions initiative (2016-2018)

To support cities and regions with an interest in FCH technologies



Engagement

- Business cases for FCH applications;
- Mapping of local assets;
- Identification of existing funding;



Report

- FCH applications: status and potential;
- FCH plans and ambitions;
- Way forward;



MOU

- 89 European Regions;
- 22 countries
- 1/4 of Europe's population, surface & GDP;

Hydrogen Valley S3P Platform

Project Development Assistance (2021-2023)



25 Regions supported
€ 1.4 bn CAPEX
500+ MW Electrolysers
30+ HRS

JU Announced Work Plans

21 Hydrogen Valleys funded
+250 M€ JU funding

~100 Hydrogen Valleys worldwide
(3/4 yet to take FID)



<https://h2v.eu>



Working with regions - Raising awareness, developing ideas and implementing hydrogen projects

7

Regions initiative (2016-2018)

To support cities and regions with an interest in FCH technologies



Engagement

- Business cases for FCH application
- Mapping of local assets;
- Identification of existing funding;

Report

- FCH applications: status and potential;
- FCH plans and ambitions;
- Way forward;

MOU

- 89 European Regions;
- 22 countries
- 1/4 of Europe's population, surface & GDP;



Hydrogen Valleys Facility 5 years

Memorandum of Cooperation with Managing Authorities

Project Development Assistance (2021-2023)



EVALUATING

- technical feasibility
- economic feasibility
- technology readiness
- level of completion

25 Regions supported
€ 1.4 bn CAPEX
500+ MW Electrolysers
30+ HRS



JU Annual Work Plans

21 Hydrogen Valleys funded
+250 M€ JU funding



~100 Hydrogen Valleys worldwide
(3/4 yet to take FID)



<https://h2v.eu>

Hydrogen Valley S3P Platform

Repowering the EU with Hydrogen Valleys

March 2023

“Hydrogen Valleys are key for the creation of a European research and innovation area for hydrogen.”

Comm. Mariya Gabriel



STATE OF THE UNION 2020

September 2020

“I want NextGenerationEU to create new European Hydrogen Valleys to modernise our industries, power our vehicles.”

Ursula von der Leyen.

July 2020

European Hydrogen
Strategy

May 2022

REPowerEU Plan

- **200 MEUR top-up for the Clean Hydrogen partnership** to double the number of Hydrogen Valleys

June 2024

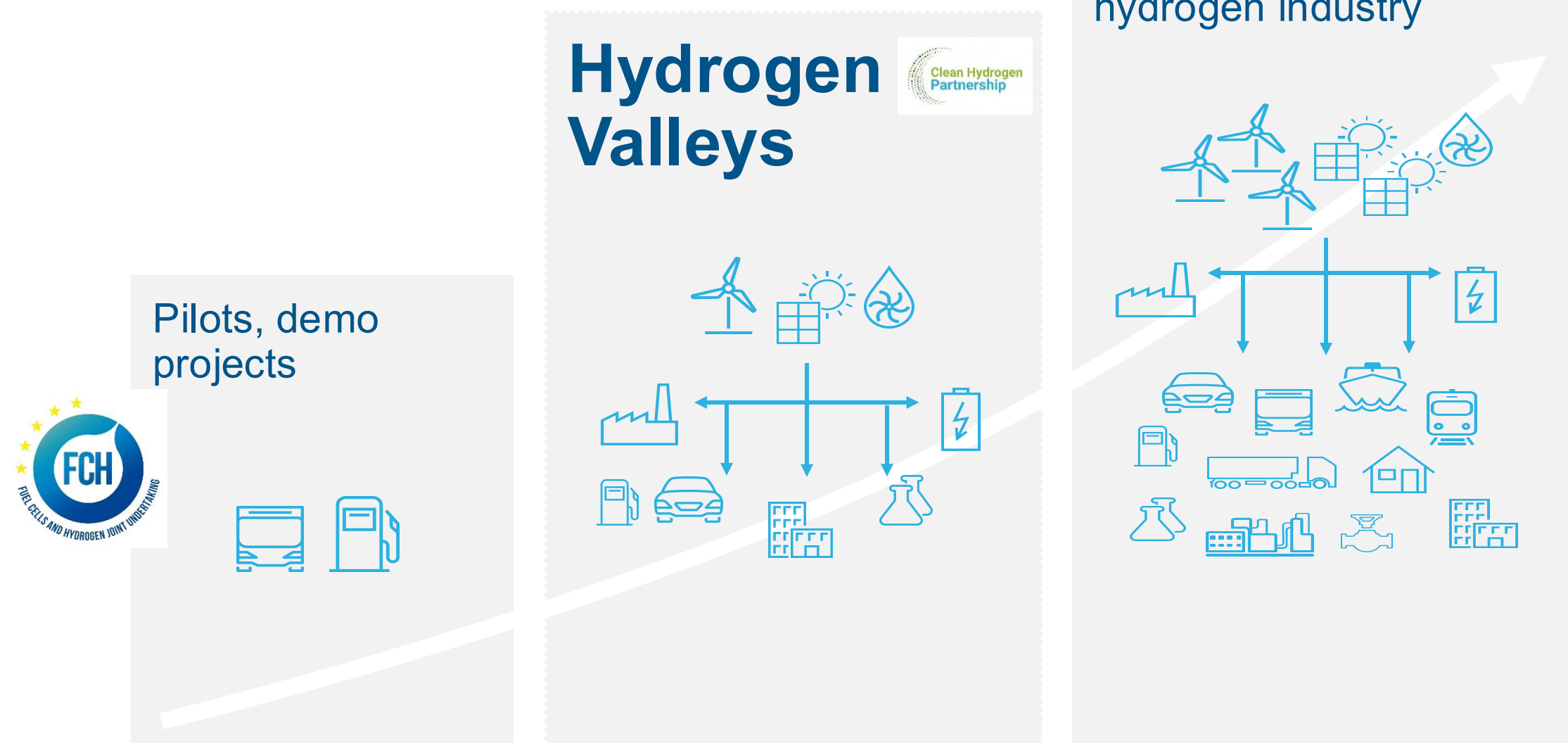
European Hydrogen Valley
Roadmap

- **European Commission’s inspirational target of 50 Hydrogen Valleys under construction or operational by 2030 across the entire EU**

“Hydrogen Valleys” are local market makers for clean hydrogen – Integrated infrastructure projects along the whole value chain

Bottom-up contribution to market development

- Next-generation H2 market development
- Integrated (and larger-scale) projects covering the full value chain



What they're made of

- **Large-scale joint investment** (x10 m EUR and up to multi-bn EUR)
- **Full hydrogen value chain coverage**
 - Centralized clean hydrogen production (*de facto* mostly green H2)
 - Shared infrastructure (e.g., pipelines, refueling stations)
 - Multiple end-uses (e.g., petrochemical industry, hydrogen road mobility)
- **Geographically defined scope** (from local, regional to international/cross border)

Implementing RePowerEU Plan

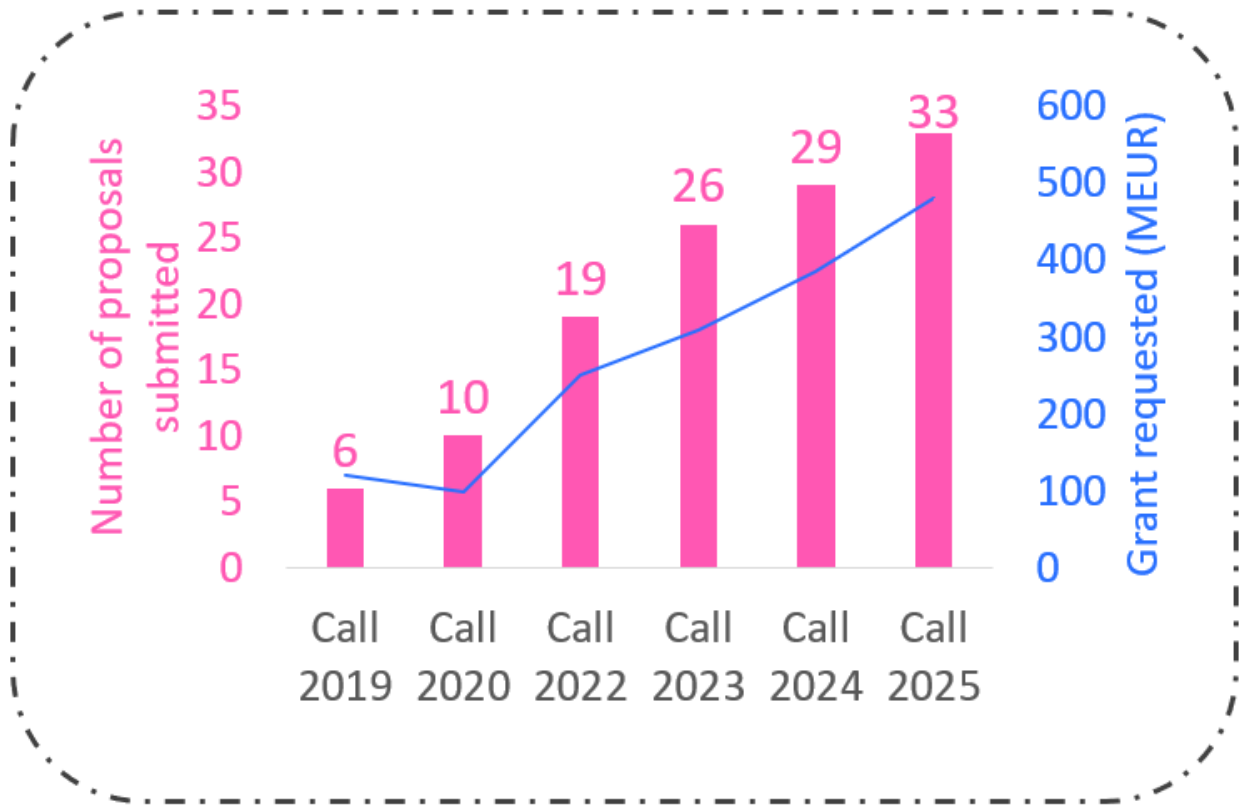
Supporting Hydrogen Valleys from preparation to implementation

- Support to “**brains & bricks**”
 - e.g. pre-FID activities, preparation of Call for Tenders, costs infrastructure/equipment & construction works, commissioning, monitoring... -> for H₂ related activities
- **New** (renewable) hydrogen production **capacity**
- Shared or **common infrastructure**
- **Minimum H₂ production / use** per year & number of sectors/applications covered
- EU/JU funding represents (approx.) 20-30% of the total investment costs -> **additional sources of financing** needed
- Demonstrate **scalability**
- Foster **replicability** and cooperation -> knowledge transfer
- **Strengthening competitiveness** of the EU hydrogen value chain



Building on the Hydrogen Territory concept, introduced in the Call 2015 (BIG-HIT), the Clean Hydrogen Partnership has supported the demonstration of Hydrogen Valleys since 2019

Increased interest in the Clean Hydrogen JU Calls



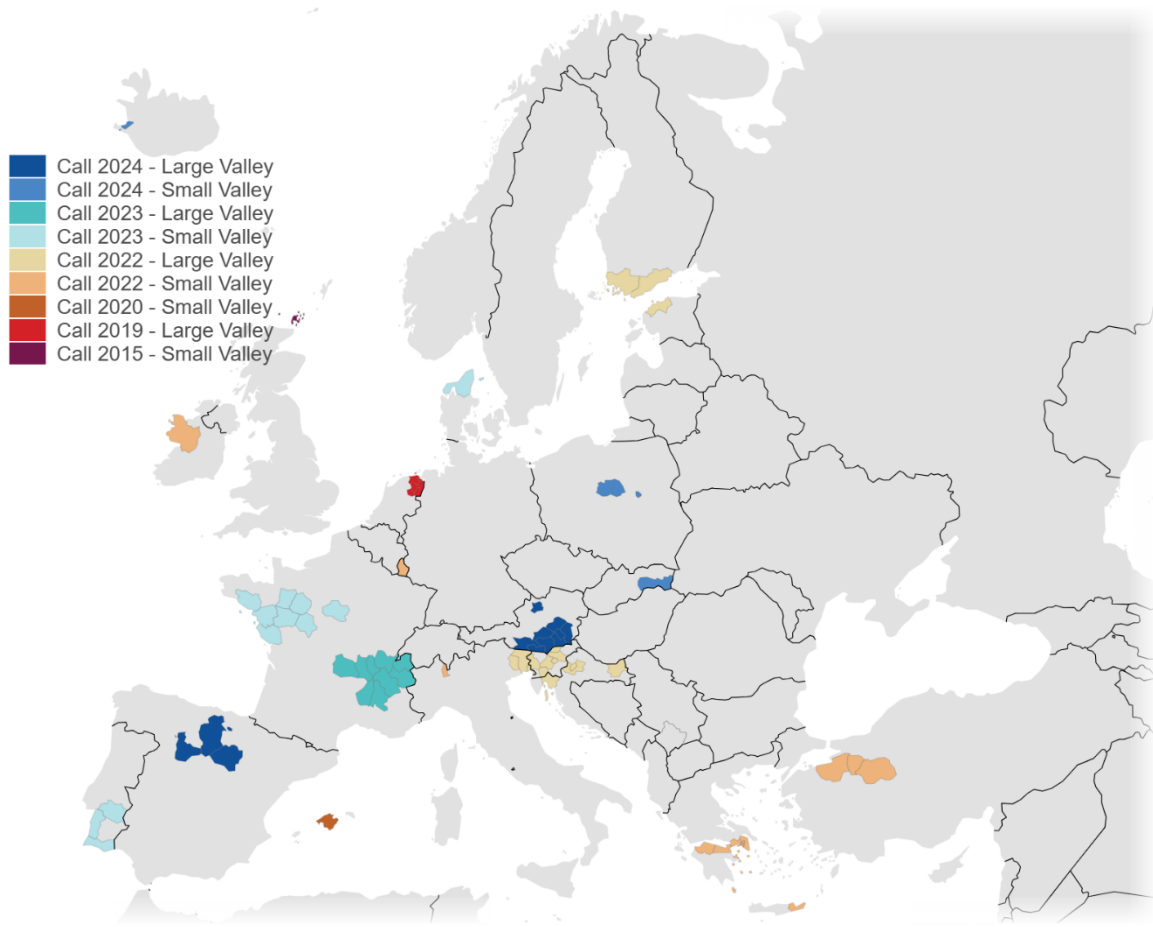
**includes only eligible/admissible proposals*

Increased interest in Hydrogen Valleys

REPowering the EU with Hydrogen Valleys (as of May 2022)

200 M€* top-up, spread across 3 years, to double H2V in EU by 2025

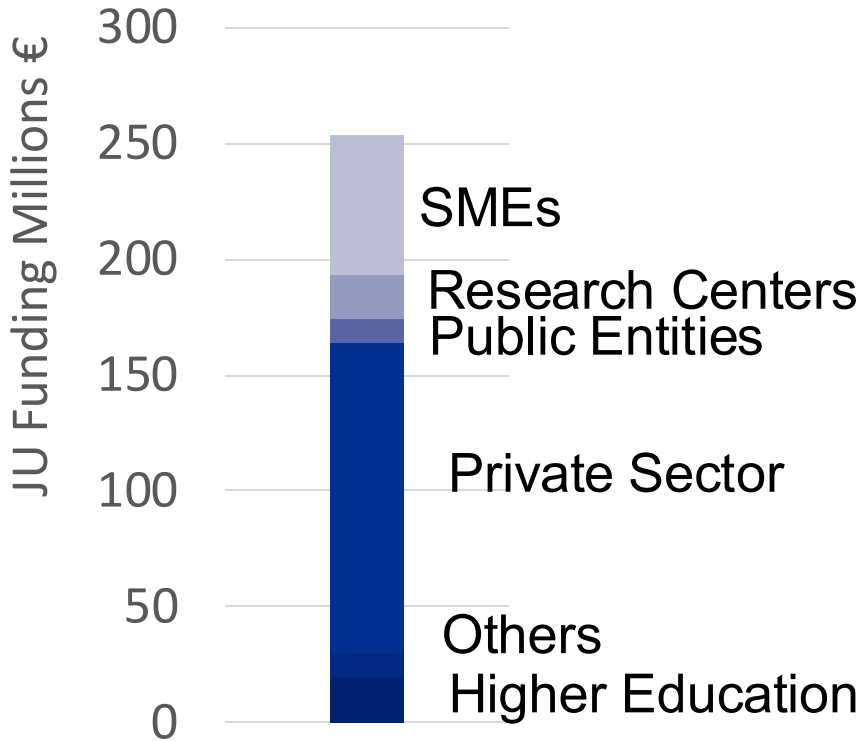
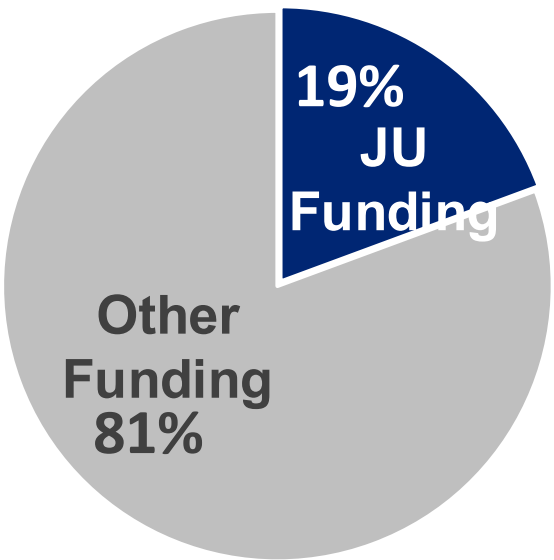
21 Hydrogen Valleys supported to date
19 European countries



+30, 000 tons H2 / year
~ 300 MW equiv*. Electrolyser capacity

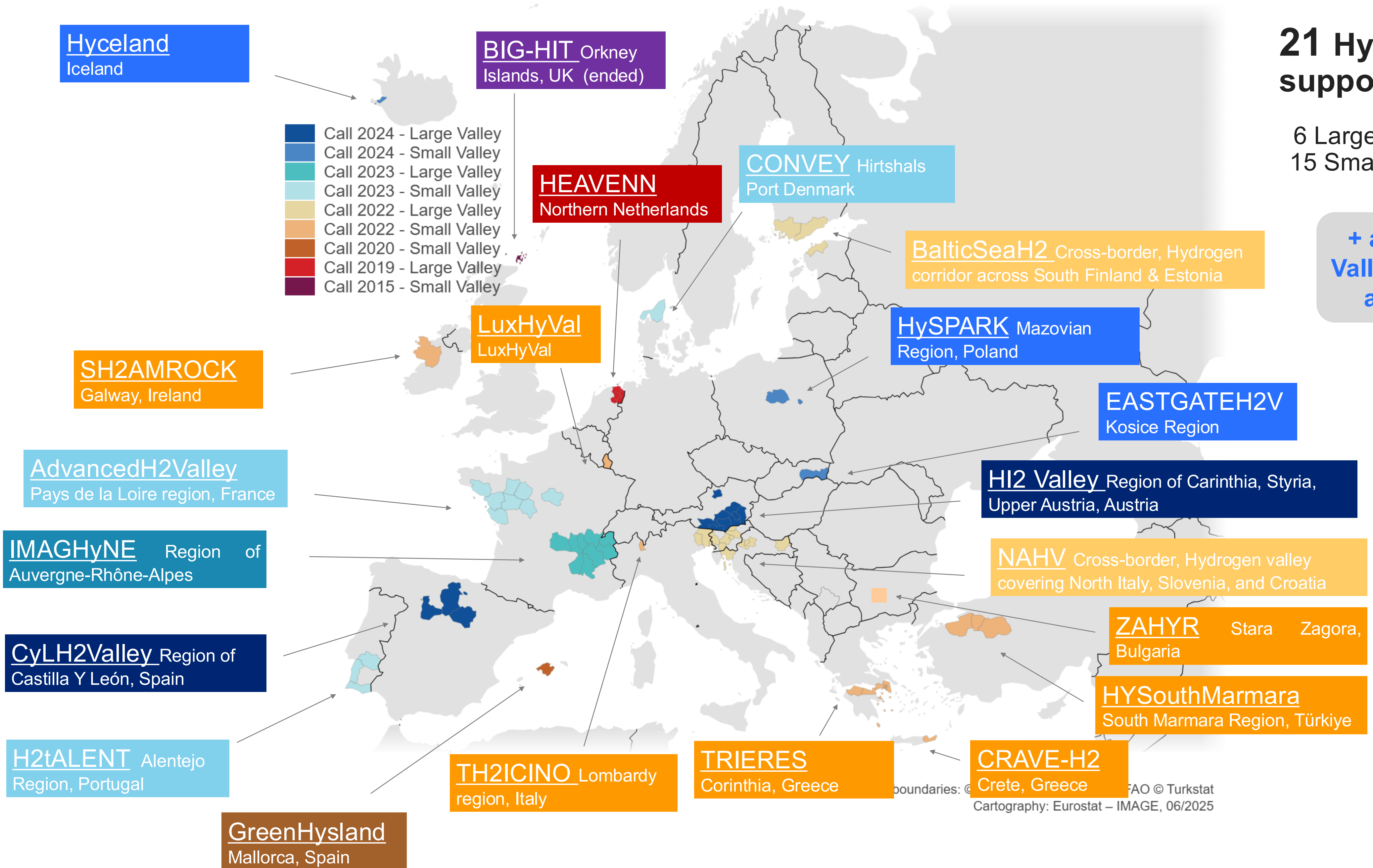
Support to date

Total costs: +1,300 M€
JU funding: +250 M€



488 beneficiaries receiving funding from around 40 countries

** This is an estimated equivalent electrolyser capacity calculated using the H2 production requirements of the Call topics. The actual “to be installed” capacity may differ*



21 Hydrogen Valleys supported to date

6 Large-Scale
15 Small-scale

+ additional Hydrogen Valleys will be supported as of January 2026

Excludes Hydrogen Valleys included in the [Mission Innovation H2VP](#) (100 Valleys worldwide, 67 European)

Synergies and combination of funding

Where are our efforts?

- Hydrogen Valleys projects require significant investments
- The funding of the Clean Hydrogen Partnership covers **only a fraction**, additional funding is necessary
- Combination of funding (private + public) is not straightforward, **what are we doing**

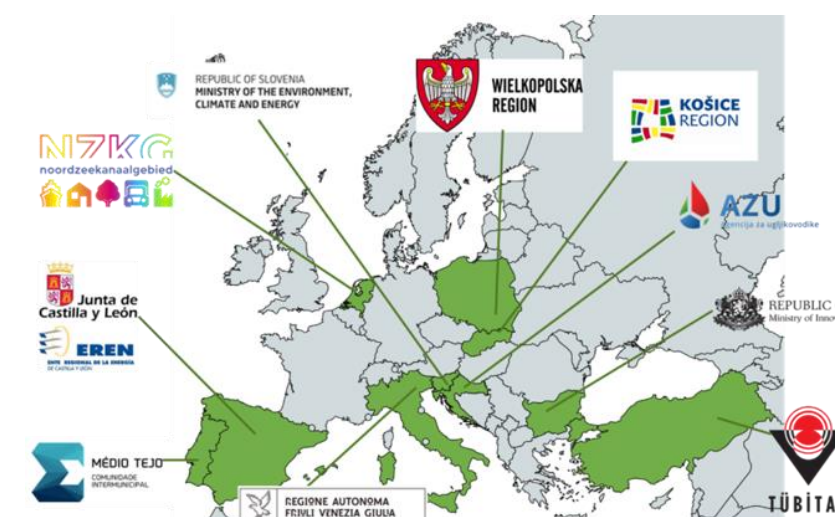
STEP Seal



Awarded to Hydrogen Valleys proposals exceeding evaluation thresholds
Facilitates alternative **cumulative or combined funding** from several EU budget instruments, including possibility for direct support from Cohesion policy funds, without additional selection procedures

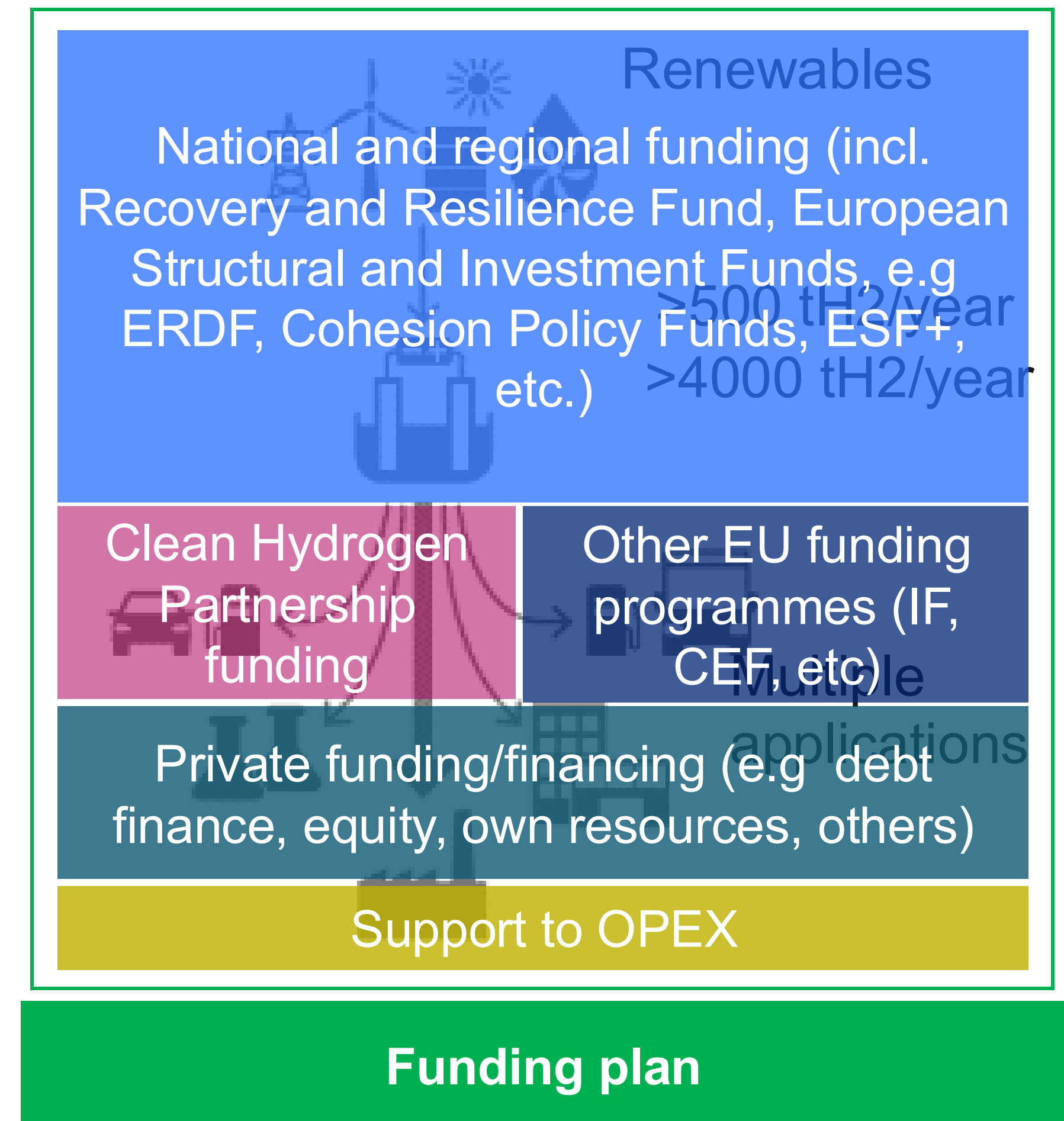
Looking ahead

Transfer of funds from Managing Authorities



Grant as a service

Others



Synergies with national and regional managing authorities¹⁴

Identifying areas of collaboration between the Clean Hydrogen JU (EU level) and National and Regional Public Authorities

State-of-Play

- Assess policy and identify gaps and potential

RESEARCH

Select Managing Authorities

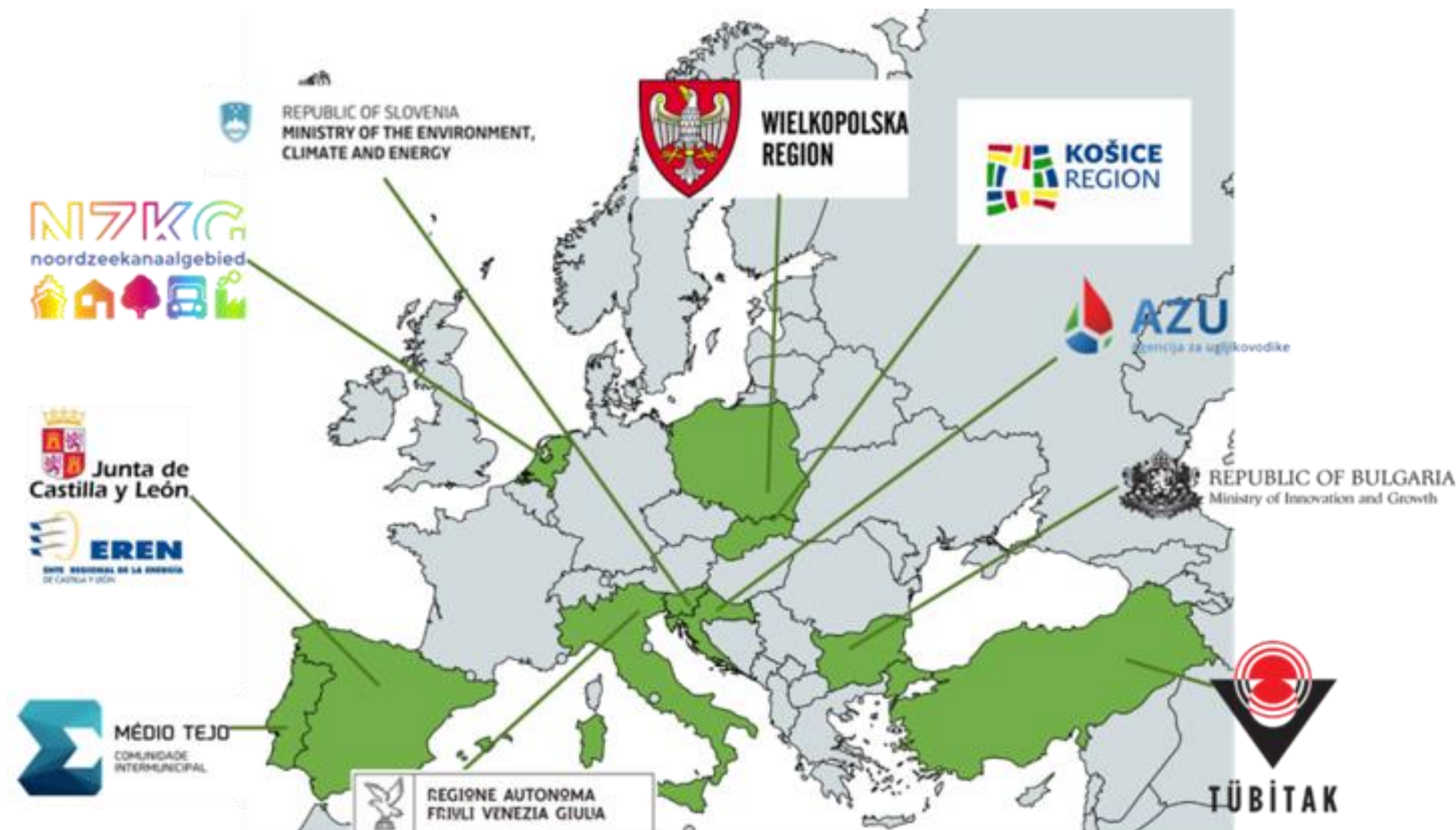
- Call of Expression of Interest (Jun/Jul 2023)
- 10 national and regional authorities selected**

ENGAGE

Memorandum of Cooperation

- Focusing on capacity building, knowledge management and funding
- 3 MoCs signed** in June 2024 (Bulgaria, Croatia and Italy)
- 6 MoCs** signed during the H2 week (18-22 November 2024) **1 MoC** signed end 2024

OPERATIONALISE



Programme Office North Sea Canal Area (Netherlands)

Wielkopolska Region (Poland)

Friuli Venezia Giulia Region (Italy)

Kosice Region (Slovakia)

Intermunicipal Community of Medio Tejo (Portugal)

Regional Public Body of Energy – Castilla y Leon (Spain)

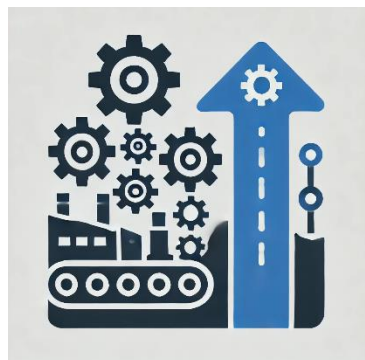
Scientific and Technological Research Council of Türkiye (Türkiye)

Slovenian Ministry of the Environment, Climate and Energy (Slovenia)

Croatian Hydrocarbon Agency (Croatia)

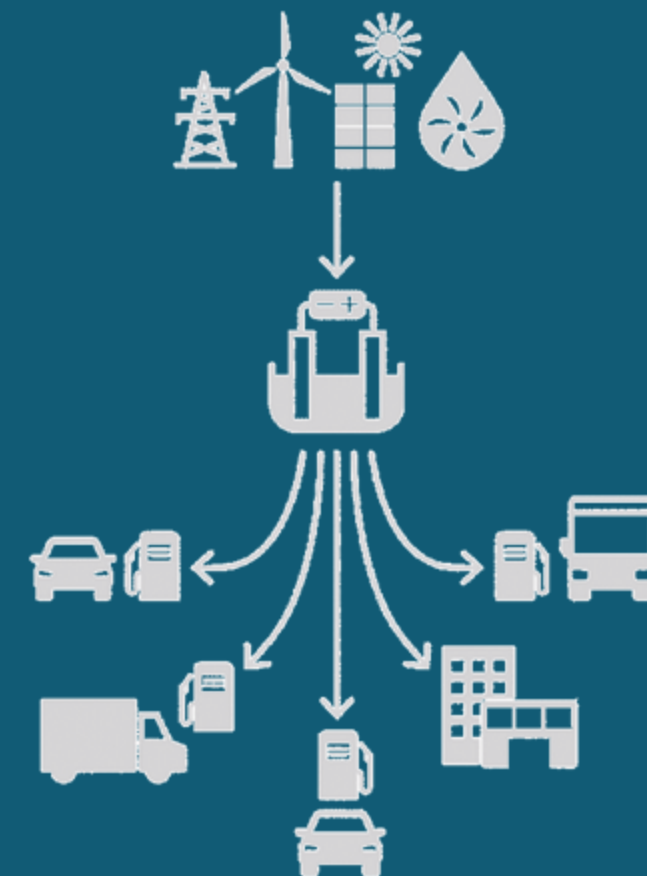
Bulgarian Ministry of Innovation and Growth (Bulgaria)

**Foster contribution to
European
competitiveness**



Start-ups

What next?



**Continue supporting
innovative demonstrators
and technical assistance**

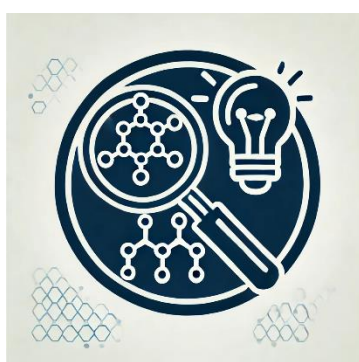


New business models

**Share lessons
learnt with policy
makers**



**Hydrogen Valleys Facility
Facilitate
Technical assistance & Know-
how exchange**



**Facilitate real synergies
among EU/National and
Regional programmes
including combination of
funding between**

