

Introduction to Strategic Research and Innovation Agenda and Annual Work-Programme 2023

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Clean Hydrogen Joint Undertaking

EU Institutional Public-Private Partnership (IPPP)



To facilitate the transition to a greener EU society through the development of hydrogen technologies

Clean Hydrogen Partnership/JU

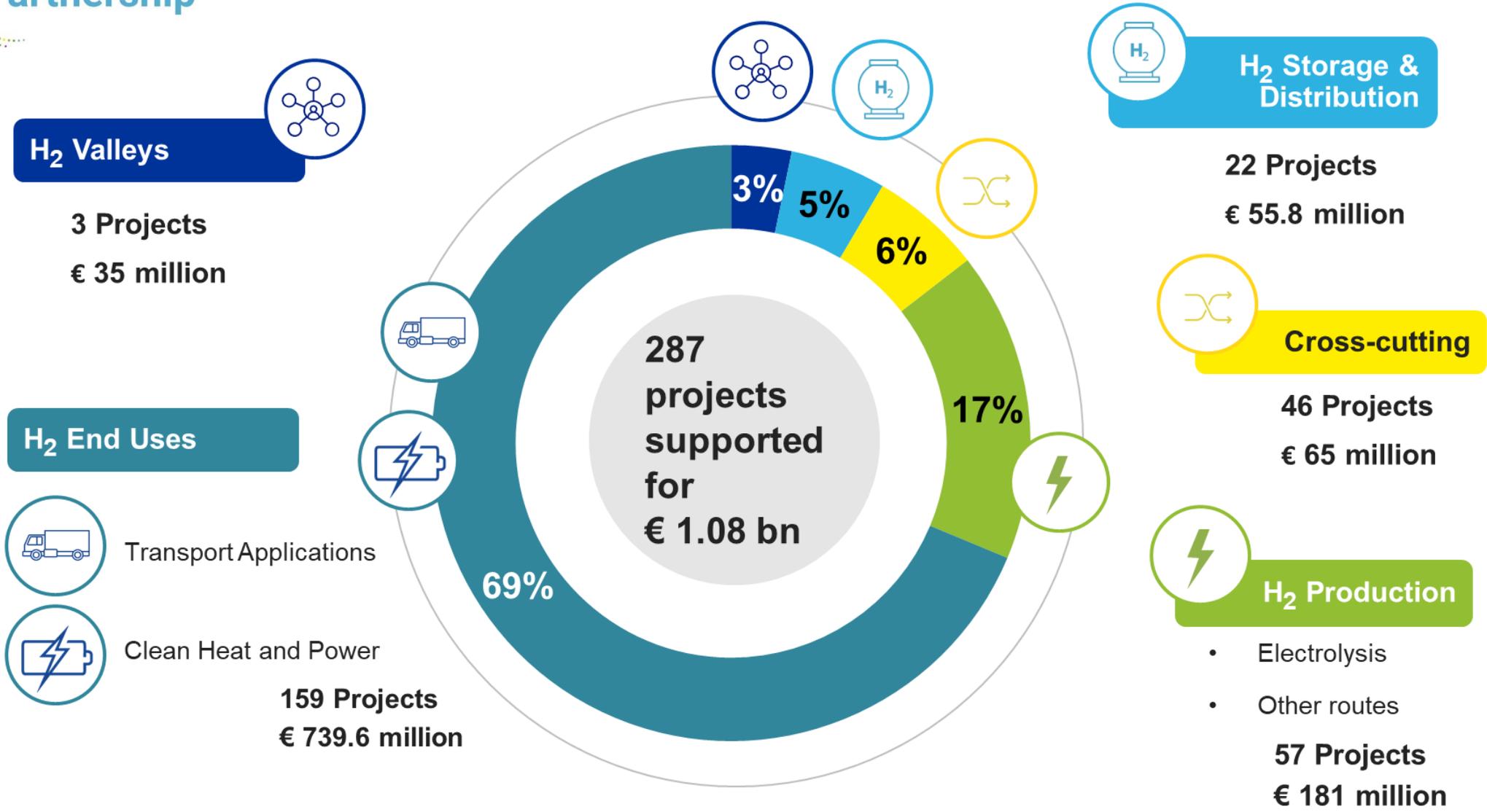
- Council Regulation establishing the Joint Undertakings under Horizon Europe
(adopted 19 November 2021 & into force 30 November 2021)

- Budget: 1 billion EURO from Horizon Europe (to commit until 2027 and implement until 2031)
- Governance: Governing Board (three members: Commission, HE, HER) + advisory bodies (SRG, SG)
- *Need also to collect independent opinions of the wider scientific community, through a scientific advisory workshop (during H2Week/H2Forum)*

Research & Innovation Activities (SRIA multi-annual doc)

- Renewable hydrogen production
- Hydrogen transmission, distribution and storage
- End-use technologies in transport, buildings and industry (incl. fuel cells, burners, boilers, etc.)

Projects in the Clean Hydrogen JU



H₂ Valleys

3 Projects
€ 35 million

H₂ End Uses

- Transport Applications
- Clean Heat and Power

159 Projects
€ 739.6 million

H₂ Storage & Distribution

22 Projects
€ 55.8 million

Cross-cutting

46 Projects
€ 65 million

H₂ Production

- Electrolysis
 - Other routes
- 57 Projects
€ 181 million

It excludes the results of call 2022-1 and 2022-2

Objectives



General

 Support the implementation of the Commission's **Hydrogen Strategy**

 Stimulate **research and innovation on clean hydrogen** production, distribution, storage and end use applications

 Strengthen the **competitiveness of the EU clean hydrogen value chain**

 Contribute to the EU ambitious **2030 and 2050 climate ambition**

Specific

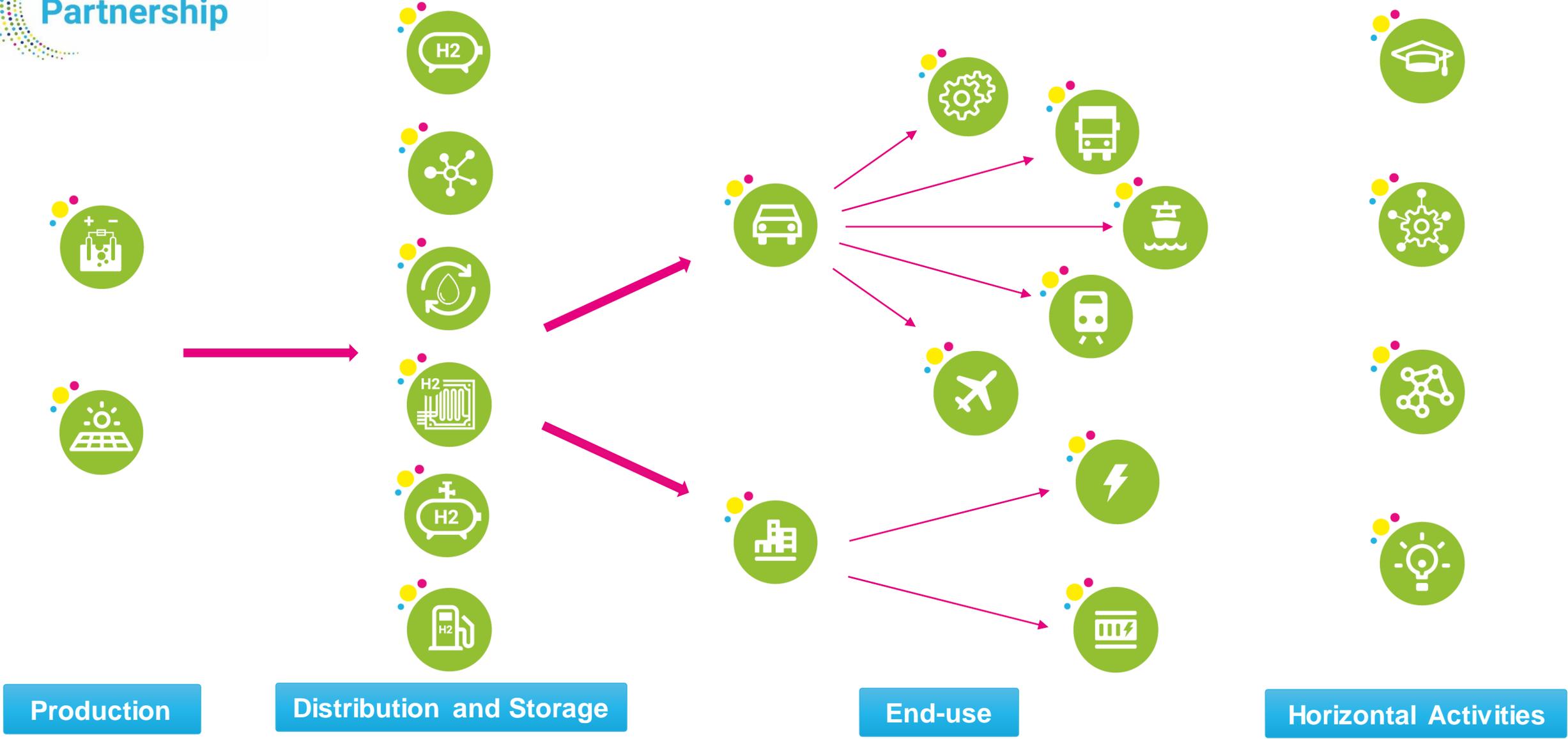
 Improve the **cost-effectiveness, efficiency, reliability**, quantity and quality of clean hydrogen solutions across **entire value chain**

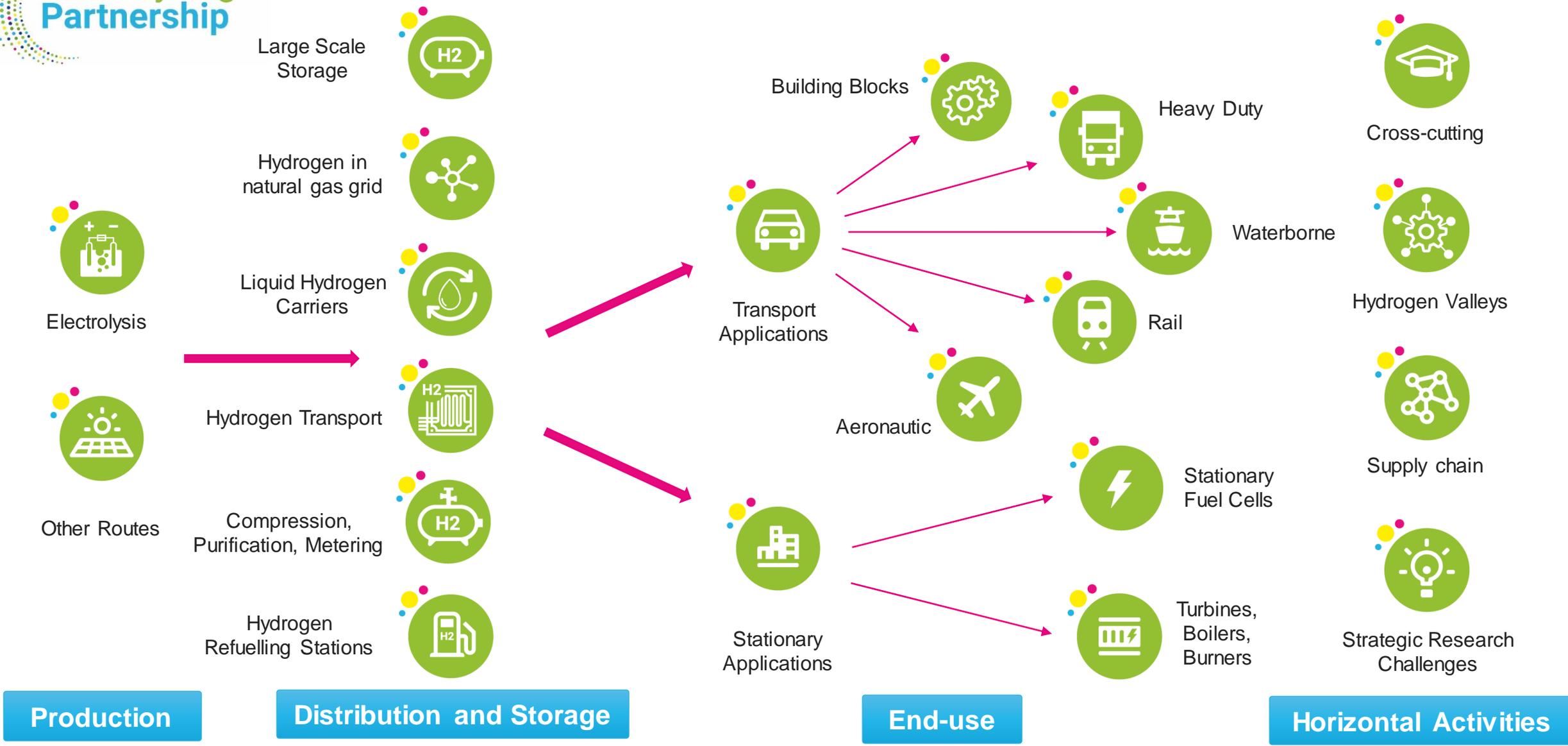
 Strengthen the **knowledge/capacity of scientific and industrial actors** along the Union's hydrogen value chain while supporting the **uptake of skills**

 Demonstrations of clean hydrogen solutions with a view to **local, regional and Union-wide deployment**, aiming to involve stakeholders in all Member States and across **entire value chain**

 Increase **public and private awareness, acceptance** and uptake of clean hydrogen solutions

SRIA: Research & Innovation Activities





Other Activities

Additional activities are necessary to fulfil the Clean Hydrogen JU objectives



- **Developing synergies with other partnerships and programmes**
- Regulations, Codes and Standards
- European Hydrogen Safety
- European Hydrogen Sustainability and Circularity
- Knowledge management
- Competitiveness, SMEs
- International Cooperation
- Communication activities

Annual Work Plan 2023

Total budget: 195 M€

Publication date: 17th January 2023

Opening of submission: 31st January 2023

Deadline: 18th April 2023



Call for proposals 2023



Novelties in the call conditions

10



Full capitalised costs for purchases

(equipment, infrastructure or other assets purchased specifically for the action)

For the topics listed below, in line with the Clean Hydrogen JU SRIA, mostly **large-scale demonstrators or flagship projects specific equipment, infrastructure or other assets purchased specifically for the action (or developed as part of the action tasks) can exceptionally be declared as full capitalised costs.**



Seal of Excellence

For **two topics in the Call (related to H2 Valleys)** the 'Seal of Excellence' will be awarded to applications exceeding all of the evaluation thresholds set out in this Annual Work Programme but cannot be funded due to lack of budget available to the call.

Novelties in the call conditions



Maximum EU/JU funding per topic

- **Additional eligibility criterion to limit the Clean Hydrogen JU requested contribution**
- For actions performed at high TRL level, including demonstration in real operation environment and with important involvement from industrial stakeholders and/or end users such as public authorities
- **Expected to leverage co-funding as commitment from stakeholders.** e.g. through the private investment or co-funding from regional/local funds



Involvement of private members

- **Additional eligibility criterion to ensure that one partner in the consortium is a member of either Hydrogen Europe or Hydrogen Europe Research**
- For topics targeting actions for large-scale demonstrations, flagship projects and strategic research actions, where the industrial and research partners of the JU play a key role in accelerating the commercialization of hydrogen technologies

Opportunities for synergies – for all applicants (in particular flagship projects)

- Possibilities for **complementary funding from other R&I-relevant EU, national or regional programmes** (such as European Structural and Investment Funds, Recovery and Resilience Facility, Just Transition Fund, Connecting Europe Facility, Innovation Fund, Modernisation Fund, LIFE, InvestEU, etc.), as well as private funds or financial instruments.
- Encouraged to consult **the national recovery and resilience plans in order to identify specific mentions of synergies with Horizon Europe** and to detect further opportunities for complementarity between the plans' rich R&I portfolio and the Framework Programme.
- Specific opportunities for **synergies with other partnerships** have been included in some topics' description.
- Whenever synergies are foreseen, they should be reflected in **a financing structure and strategy describing the business model, including envisaged sources of co-funding/co-financing and in line with state-aid rules.**

Call 2023 specific requirements:

- Additional two flagship topics (Hydrogen Valleys) strongly recommend **synergies/complementary funding from regional/local funding** and foresee the awarding of a 'Seal of Excellence' to applications which cannot be funded due to lack of budget, therefore increased chances to find alternative funding in other Union programmes, including those managed by national or regional Managing Authorities.

Safety Plans

- For all topics a **'safety by design' approach should be considered**. In particular, for topics involving Innovation Actions proposals should provide a **preliminary draft on 'hydrogen safety planning and management' at the project level**, which will be further developed during project implementation (deliverables to be reviewed by the European Hydrogen Safety Panel)
- For topics involving Research and Innovation Actions or Innovation Actions, projects should foresee to **report any safety-related event that may occur during the project implementation to the European Commission's Joint Research Centre (JRC) dedicated database HIAD** through mailbox JRC-PTT-H2SAFETY@ec.europa.eu

CertifHy

- For some of the topics involving Innovation Actions it is expected that **Guarantees of Origin (GOs) will be used to prove the renewable character of the hydrogen that is produced/used**.

Projects with hydrogen production/consumption:

Issuance/purchase and subsequent cancellation of GOs from the relevant Member State issuing body;

If the latter is not yet available, the consortium may proceed with the issuance/purchase and cancellation of non-governmental certificates (e.g. CertifHy).

Explicit encouragement for International Collaboration



Mission Innovation 2.0

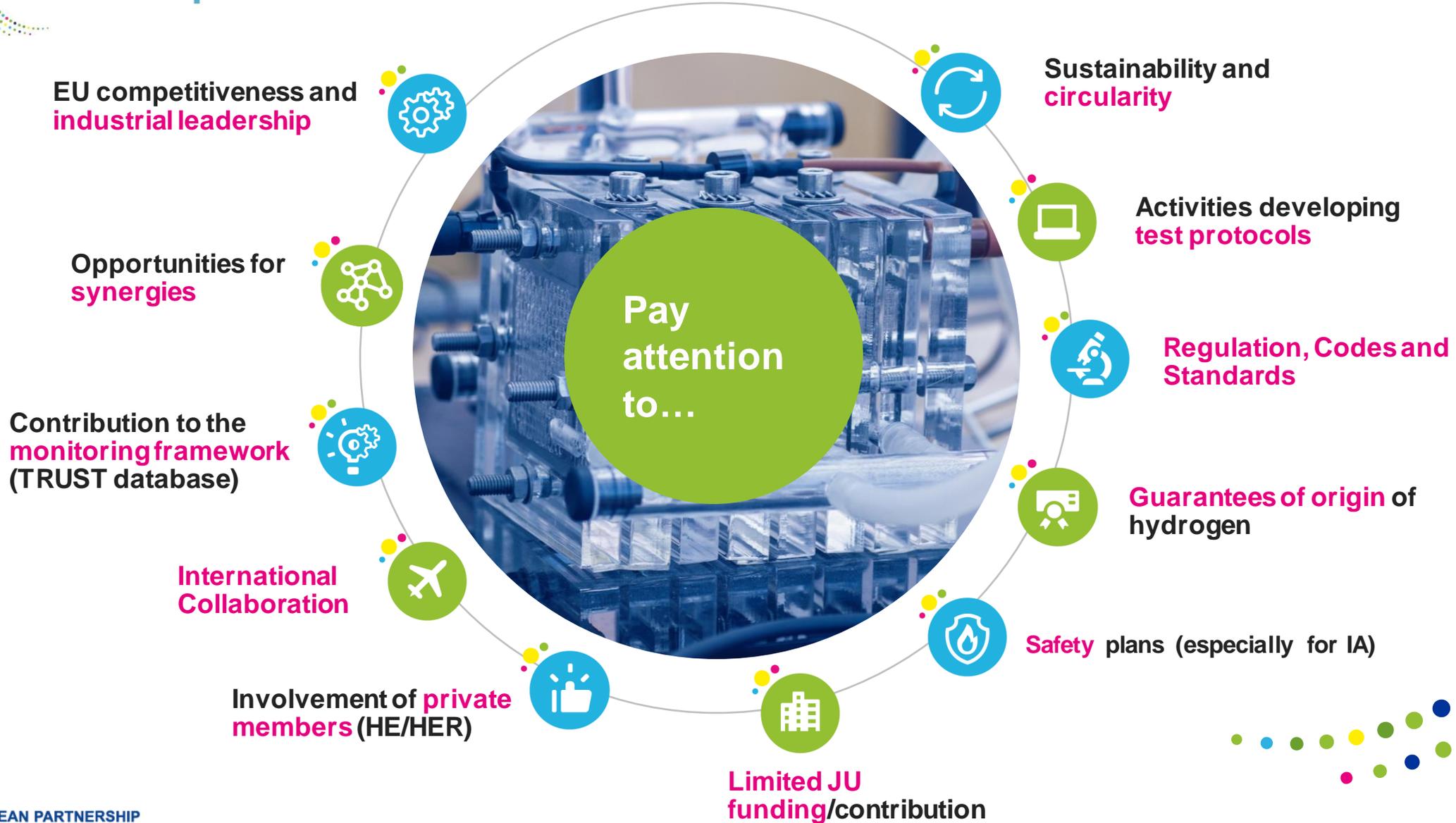


For some identified topics, **proposals are expected to contribute towards the activities of Mission Innovation 2.0 - Clean Hydrogen Mission**. Cooperation with entities from Clean Hydrogen Mission member countries, which are neither EU Member States nor Horizon Europe Associated countries, is encouraged.



In recognition of the benefits that international collaboration can bring, encouragement of international collaboration beyond EU Member States and Horizon Europe Associated Countries could be foreseen.

Summary of call conditions elements to pay attention to:



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For further information
<https://www.clean-hydrogen.europa.eu/>

