

# Introduction to Strategic Research and Innovation Agenda and Annual Work-Programme 2022

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

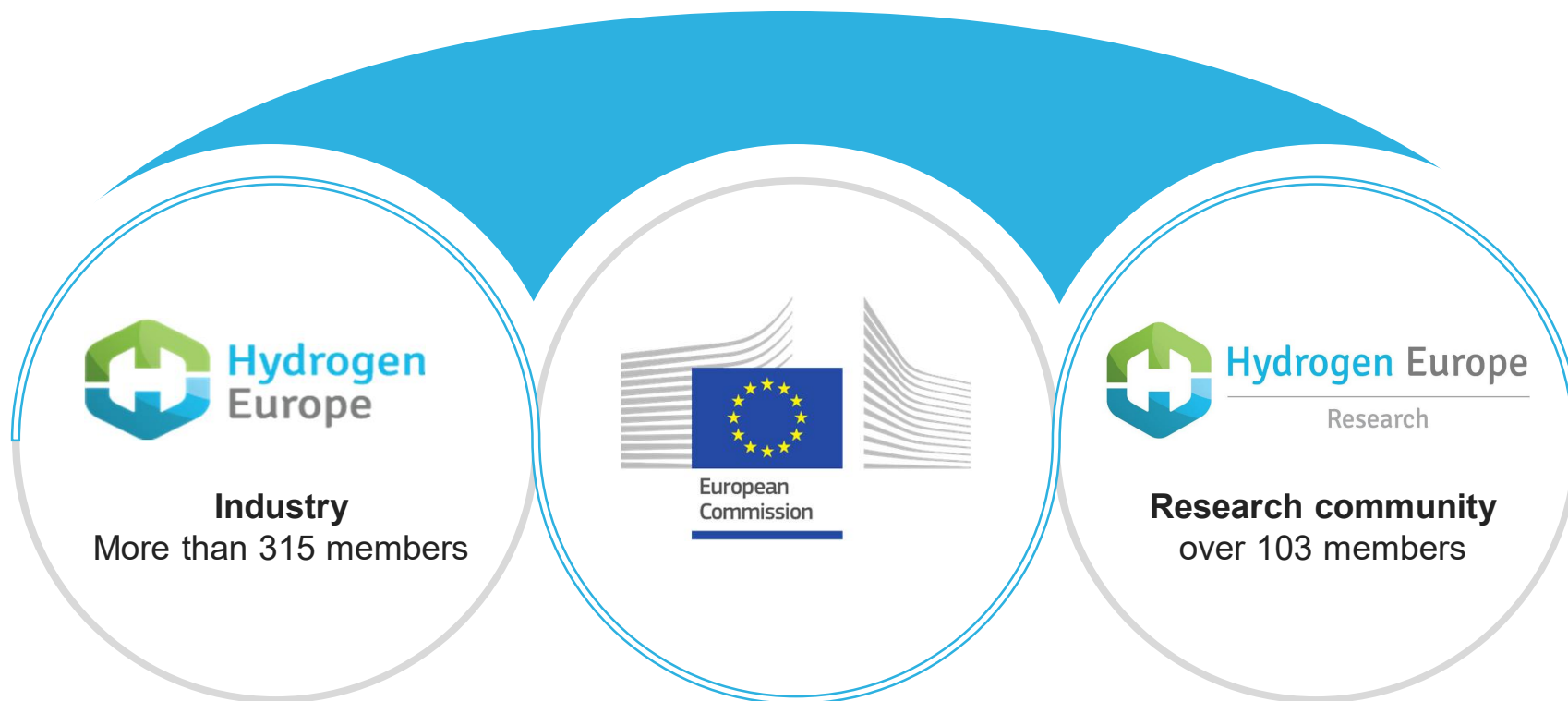
- Budget: 1 billion EURO from Horizon Europe (to commit until 2027 and implement until 2031)
- Governance: Governing Board (three members: Commission, HE, HER) + advisory bodies (SRG, SG)
- *Need also to collect independent opinions of the wider scientific community, through a scientific advisory workshop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

# 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




# 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

# Building on FCH JU Programme legacy

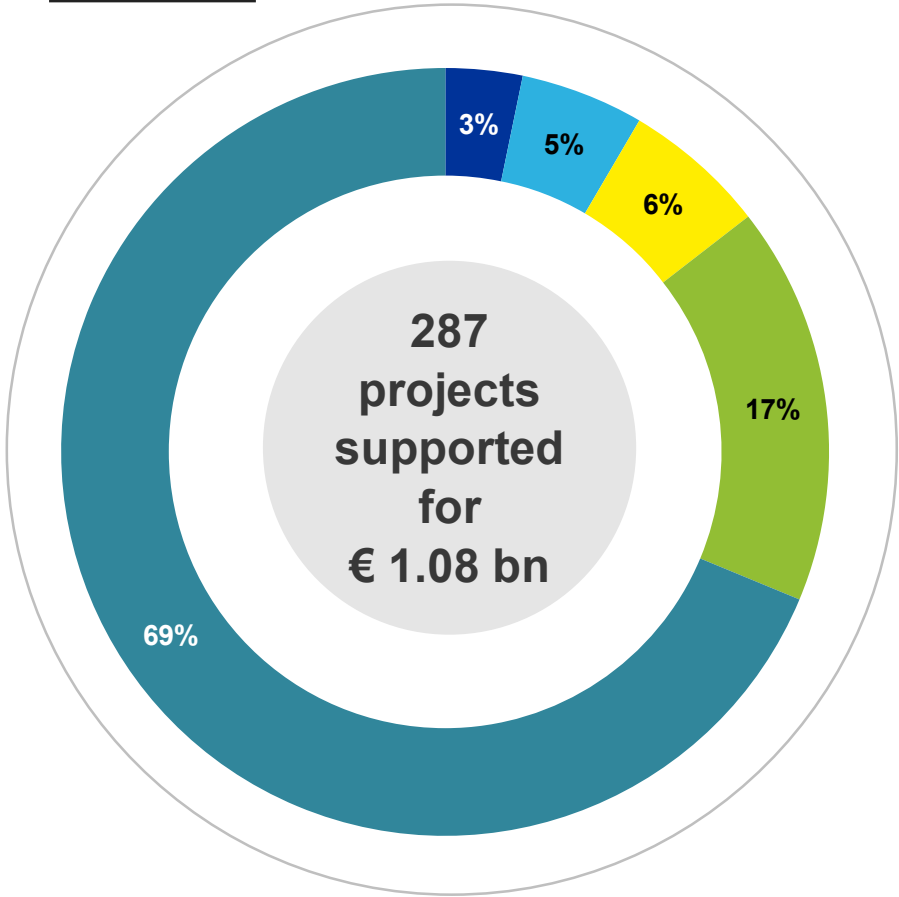
## H<sub>2</sub> Valleys

3 Projects  
€ 35 million

## H<sub>2</sub> End Uses

- Transport Applications
- Clean Heat and Power

**159 Projects**  
**€ 739.6 million**



## H<sub>2</sub> Storage & Distribution

22 Projects  
€ 55.8 million

## Cross-cutting

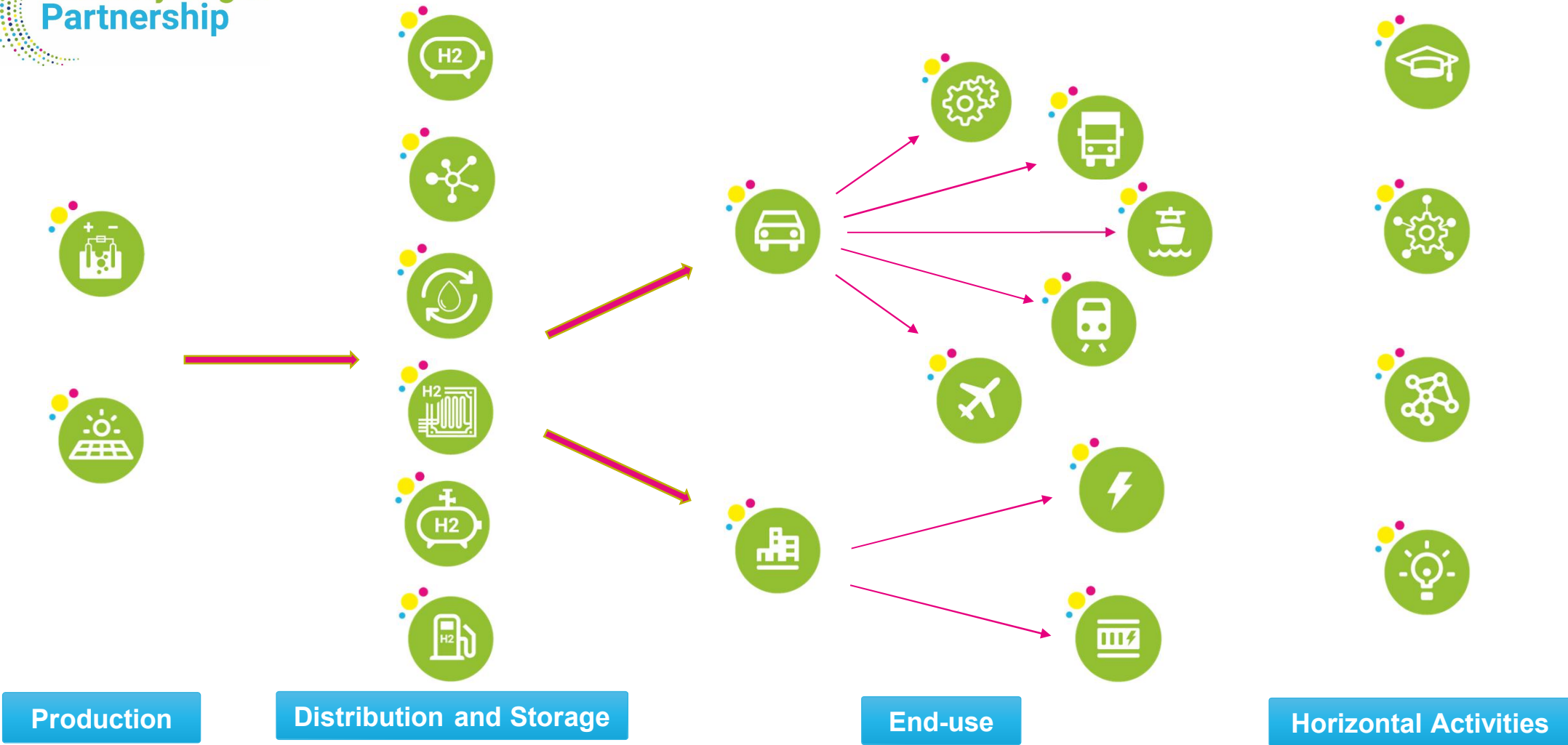
46 Projects  
€ 65 million

## H<sub>2</sub> Production

- Electrolysis
- Other routes

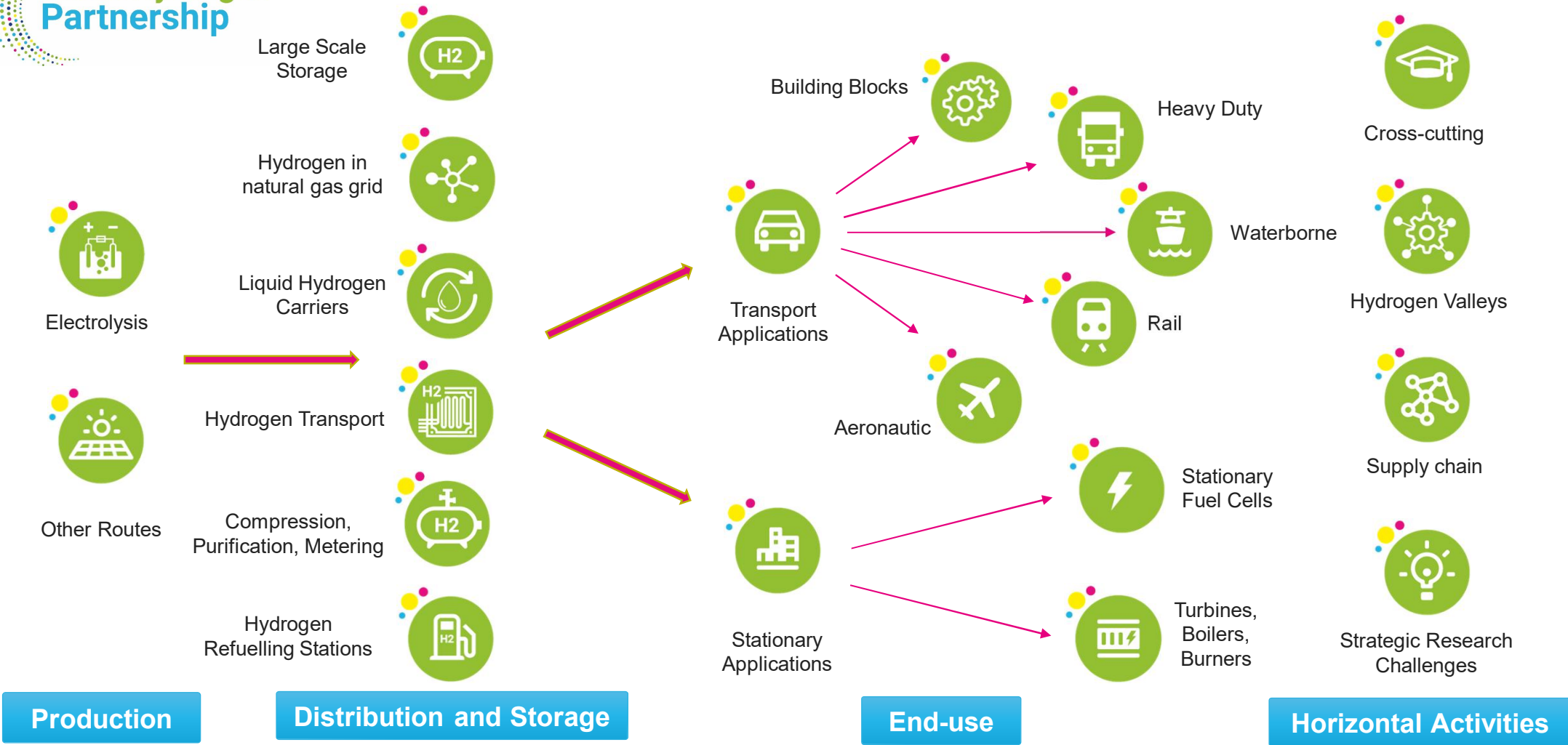
**57 Projects**  
**€ 181 million**

# SRIA: Research & Innovation Activities





# SRIA: Research & Innovation Activities



# Other Activities

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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 2022



## Call for proposals 2022

The Call for Proposals will have two deadlines, with a **total budget of EUR 300.5 million**

	Budget (EUR million)	Publication	Deadline
First deadline	179.5	1 <sup>st</sup> of March 2022	31 <sup>st</sup> of May 2022
Second deadline	121.0	1 <sup>st</sup> of March 2022	20 <sup>th</sup> of September 2022



# Novelties in the call conditions



## 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

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## 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



Hydrogen  
Europe



Hydrogen Europe  
Research


## 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



## Flagship projects

*expected to have significant impact in accelerating the transition to a hydrogen economy, to demonstrate the viability of clean hydrogen solutions at scale*

Topic	Full Cap. Costs (9)	Seal of Excellence (6)	Limited JU funding (9)	 (10)	Dead line
<b>HORIZON-JTI-CLEANH2-2022-01-08:</b> multi-MW electrolysers in industrial applications	X			X	20/09
<b>HORIZON-JTI-CLEANH2-2022-01-10:</b> offshore RES to H2	X			X	20/09
<b>HORIZON-JTI-CLEANH2-2022-03-03:</b> HD Trucks along TEN-T	X		X	X	31/05
<b>HORIZON-JTI-CLEANH2-2022-03-05:</b> H2 (FC) inland waterway vessels (TEN-T)	X		X	X	31/05
<b>HORIZON-JTI-CLEANH2-2022-06-01:</b> H2Valleys (large)	X	X	X	X	20/09
<b>HORIZON-JTI-CLEANH2-2022-06-02:</b> H2Valleys (small)	X	X	X	X	20/09



Complex projects requiring special conditions and preparation (in particular on synergies with CEF/regional funds)–

**Further guidance provided by the Programme Office (contact us!)**

- **Six Innovation Actions considered of strategic importance** (combined budget of EUR 116 million)
- Normally, **first-of-a-kind demonstration at scale, in real operational environment of the different generations of hydrogen products (including sectoral integration such as Hydrogen Valleys).**
- Concrete **synergies with other programmes and instruments** (such as other partnerships or other instruments at EU, national or regional level)

# Synergies

## 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 2022 specific requirements:

- Two flagship topics (deployment of hydrogen trucks and inland vessels) in the Call 2022 strongly recommend **synergies/complementary funding for the H2 refuelling infrastructure from the Connection Europe Facility for Transport** (realisation of the alternative fuels targets for hydrogen along the TEN-T networks)
- 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 and Guarantee of Origin

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## 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](mailto: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.

A particular example is topic ***HORIZON-JTI-CLEANH2-2022-05-05: Research & Innovation co-operation with Africa on hydrogen***, in which additional eligibility criteria have been introduced to allow African countries to *i)* participate in proposal, *ii)* be eligible for funding and *iii)* ensure a sufficient geographical coverage of the African continent.

## Summary of novelties/call conditions elements to pay attention to:

- EU competitiveness and industrial leadership
- Opportunities for synergies (recommendation for complementary funding/co-funding)
- Contribution to the monitoring framework of the Clean Hydrogen JU (performance data reported annually in TRUST database)
- Guarantees of origin of hydrogen
- Safety plans
- Contribution to Regulation, Codes and Standards (in particular PNR activities)
- Contribution to sustainability and circularity
- Activities developing test protocols
- International Collaboration
- Involvement of private members (HE/HER)
- Limited JU funding/contribution

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