



MINISTÈRE
DE L'ENSEIGNEMENT
SUPÉRIEUR
ET DE LA RECHERCHE

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Égalité
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Matinée d'information Clean Hydrogen Partnership Appels 2023

7 février 2023

Le Webinaire est enregistré. Il sera disponible en replay ainsi que les présentations après la matinée d'information.



Ordre du jour

- **10H00-10H10 : Propos introductifs et présentation des premiers résultats 2022 (appel 1) du partenariat Clean Hydrogen, Annabelle Rondaud, *Ministère de l'Enseignement supérieur et de la Recherche, Représentante FR au SRG de Clean Hydrogen***
- **10H10-10H40 : Présentation des appels 2023 de Clean Hydrogen, Lionel Boillot, *Project Manager, Clean Hydrogen Partnership***
- **10H40-10H50 : Questions-réponses**
- **10H50-11H10 : Comment préparer une bonne proposition ?, Lionel Boillot**
- **11H10-12H00 : Session de réseautage animée par Vasile Iosub, *PCN Climat/Energie***

Présentation des premiers résultats *2022, call 1*

Call: HORIZON-JU-CLEANH2-2022

- Hydrogen production
- Hydrogen distribution
- Transport
- Heat and Power
- Cross-cutting
- Hydrogen Valleys



Total budget:
300.5 M€

Publication: 1st March 2022



	Budget (EUR 300.5 million)	Topics	Deadline
First deadline (2022-1)	179.5	26	31 st May 2022
Second deadline (2022-2)	121.0	15	20 th September 2022

Résultats Call HORIZON-JTI-CLEANH2-2022-1: chiffres-clés

Base ecorda sept. 2022

Overview

- Proposals submitted = 79 (dont 3 ineligibles/inadmissibles)
- Proposals above threshold = 50

Budget

- Budget requested = 412 MEUR
- Available budget = 179,5 MEUR

Topics

- 24 topics covered by successful proposals (sur 26)
- 27 projects selected

Area	Topic (HORIZON- JTI- CLEANH2- 2022...)	Indicative budget in topic (Million EUR)	Proposals submitted	Ineligible or inadmissible proposals	Above threshold proposals	Clean Hydrogen JU contribution requested for above-threshold proposals (EUR)
Renewable Hydrogen Production	01-01	2.5	3		2	5,042,824.75
	01-02	2.5	2		1	2,497,013.75
	01-03	5	10		6	15,368,065.50
	01-06	4	3		2	8,040,547.00
	01-07	9	3	3	0	0
	01-09	6	2		1	3,023,324.00
Hydrogen Storage and Distribution	02-02	2.5	6		3	7,336,916.25
	02-03	5	2		2	9,999,979.00
	02-07	2.5	3		3	7,499,985.00
	02-08	5	3		2	9,615,133.50
	02-09	4	1		1	3,996,015.00
	02-10	8	1		1	3,999,382.00
Transport	03-02	6	6		6	18,202,930.75
	03-03	30	3		1	29,991,489.00
	03-04	5	0		0	0
	03-05	15	2	1	1	14,998,543.00
	03-06	20	3		3	59,954,701.75
	03-07	10	2		1	9,457,204.50
	03-08	5	2		2	9,332,640.00
Clean Hydrogen Power	04-02	4	5		2	7,998,023.75
	04-03	5.5	2		2	10,996,723.25
	04-04	8	4		2	8,162,705.00
Cross- Cutting	05-02	2	2		2	3,999,983.75
	05-04	2	1		1	1,997,361.00
	05-05	1	7		2	1,999,245.00
Strategic Research Challenge	07-01	10	1		1	9,993,657.00
TOTAL		179.5	79	4	50	263,504,393.50

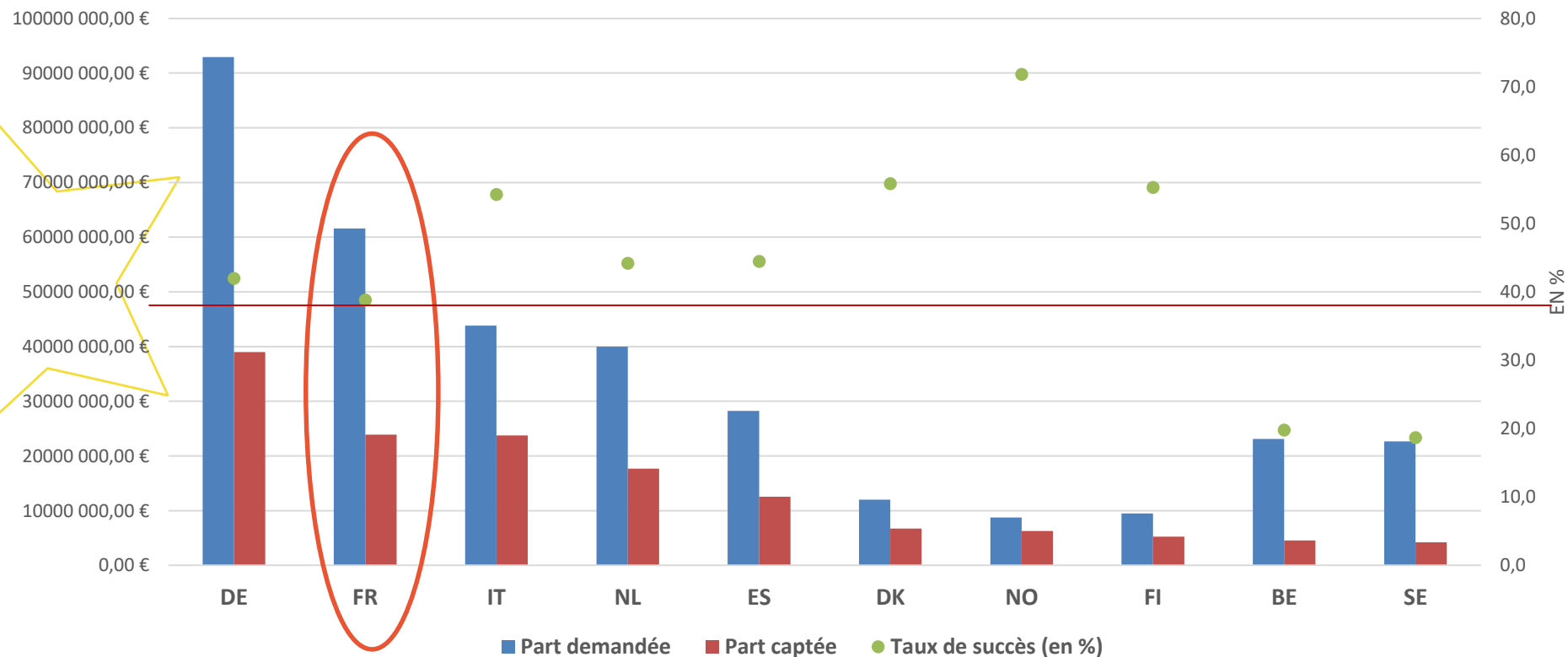
HORIZON-JTI-CLEANH2-2022-01-07 :Bringing green hydrogen MW scale off grid installations closer to technical and financial maturity

HORIZON-JTI-CLEANH2-2022-03-04 : LH2 tanks for heavy-duty vehicles



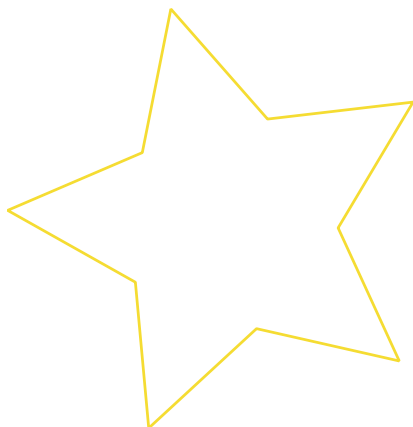
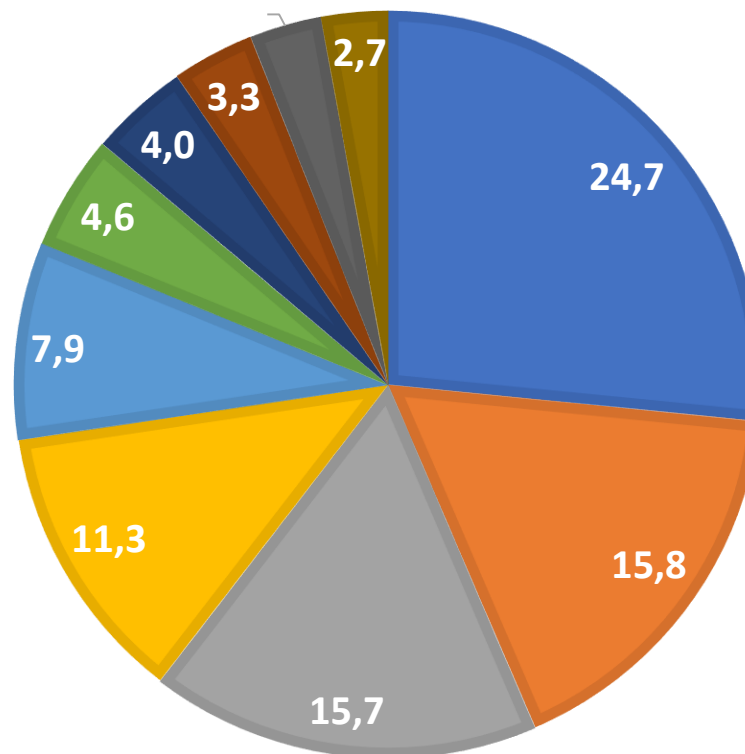
	Données UE	Données FR
Nbre Prop./projets	76/27	42/21
Taux de succès (proj.)	35,5%	50%
€ demandés/€captés	412M€/155M€	62M€/24M€
Taux de succès (€)	37,6%	38,8%

Part demandée/Part captée (en €) et taux de succès des 10 premiers pays

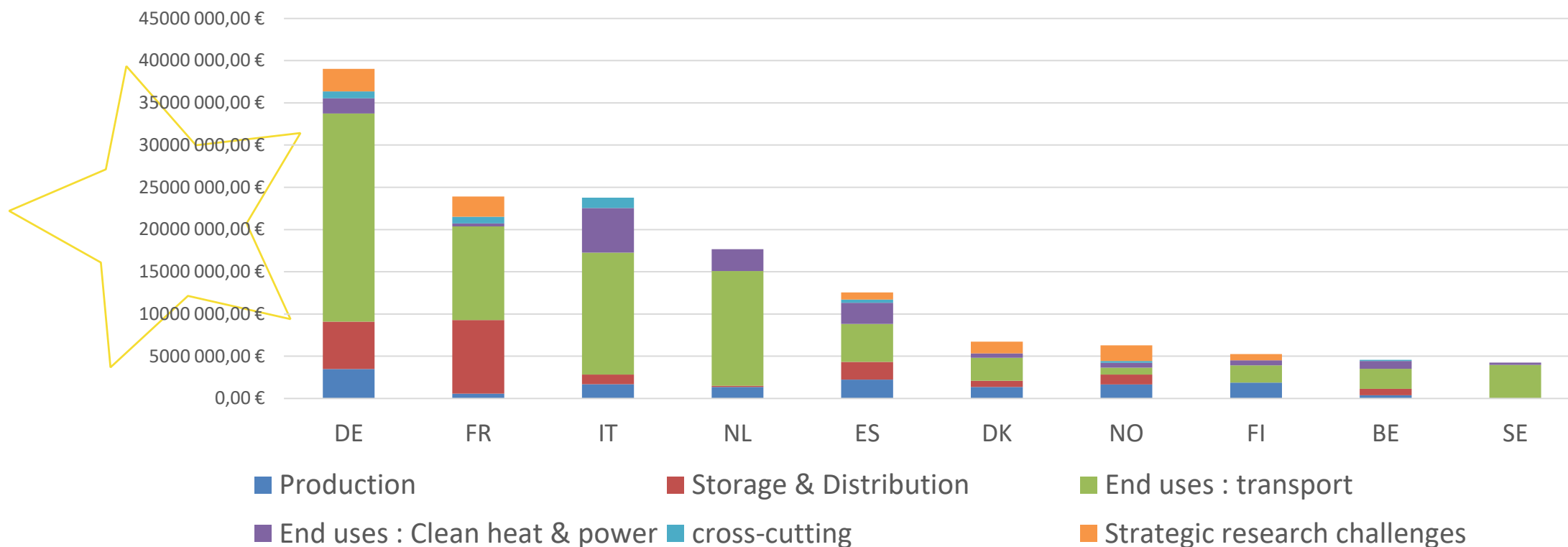


PART CAPTÉE EN % ENTRE LES 10 PREMIERS PAYS

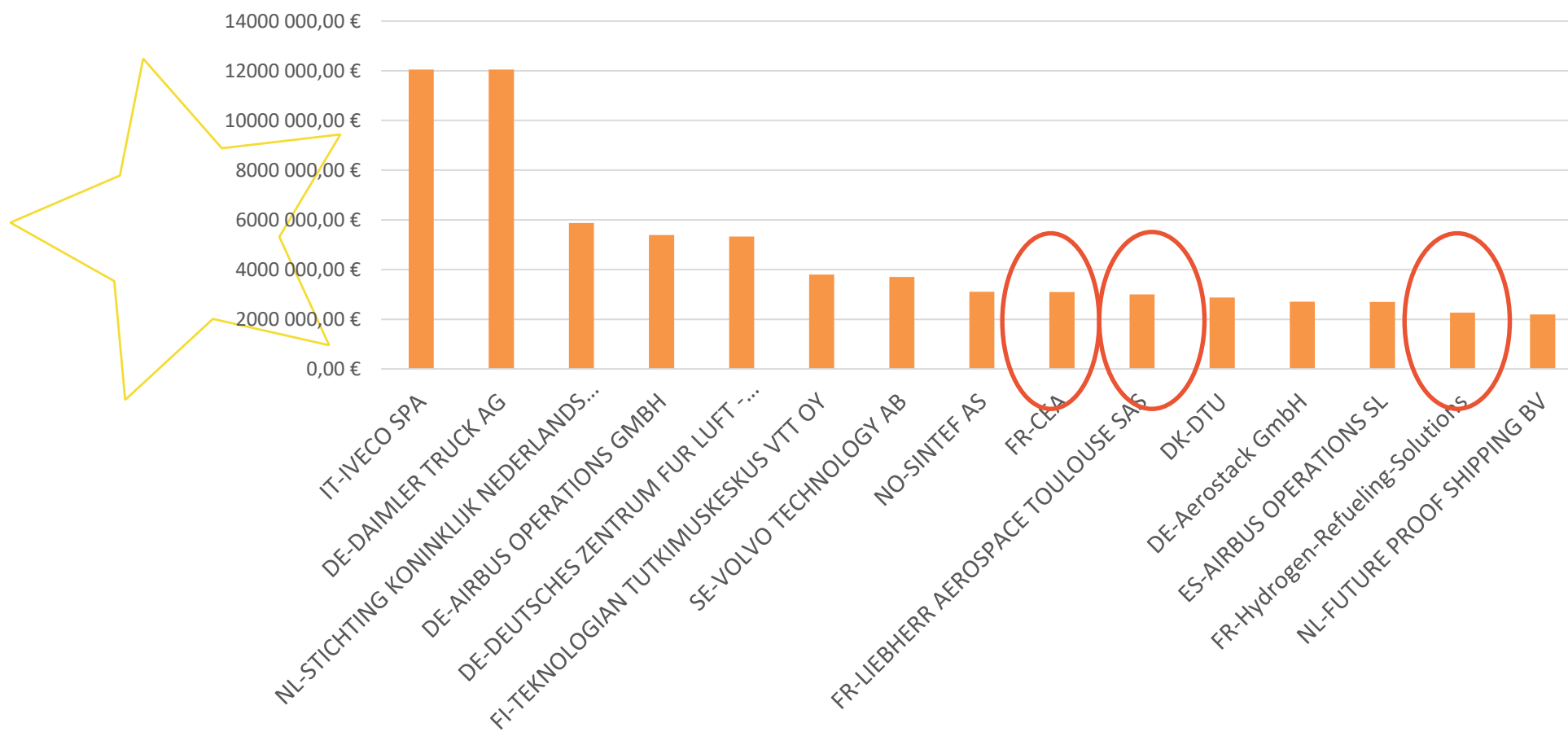
■ DE ■ FR ■ IT ■ NL ■ ES ■ DK ■ NO ■ FI ■ BE ■ SE



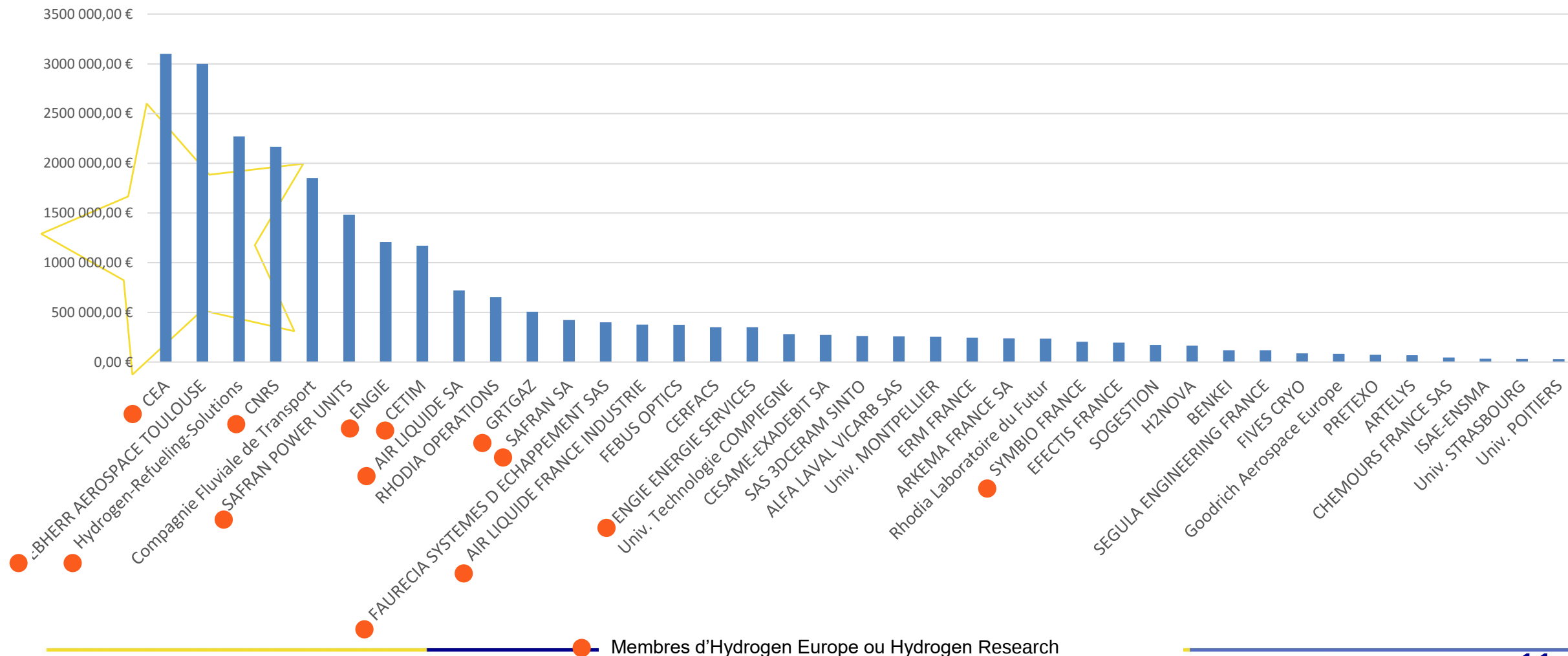
Part captée (en M€) par "thématique"



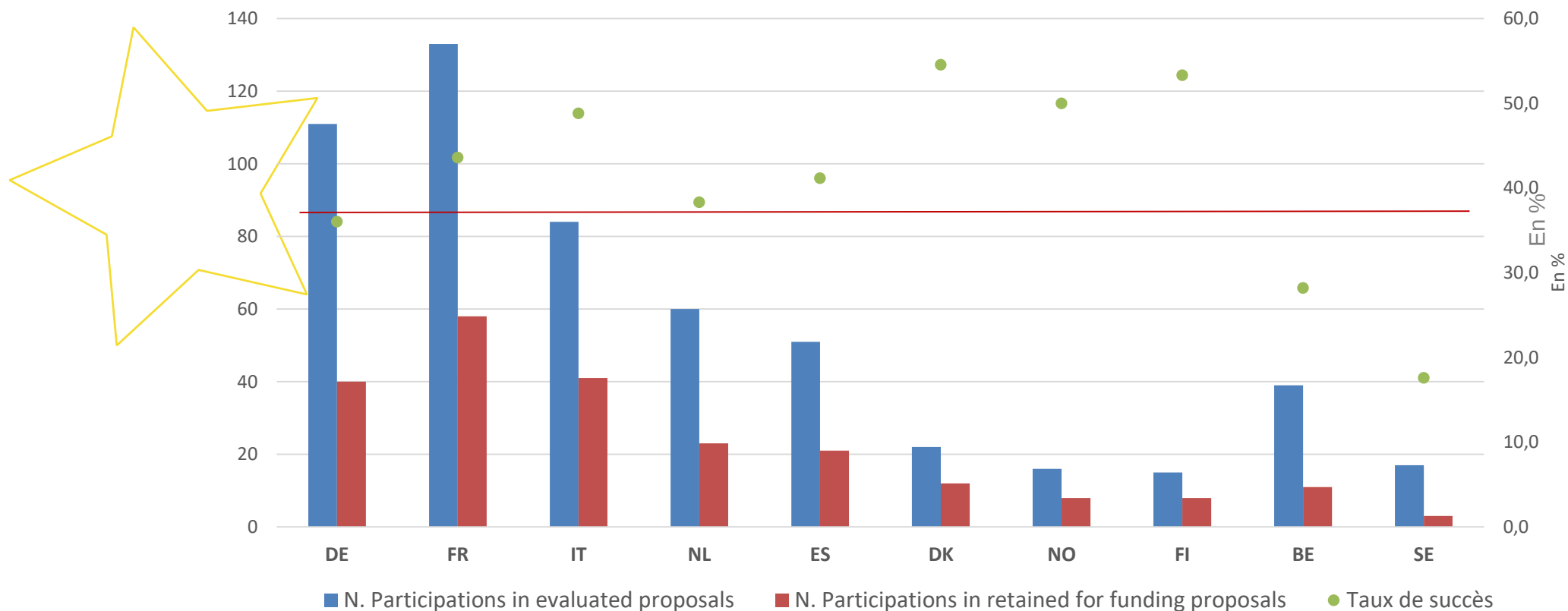
Les 15 premiers européens



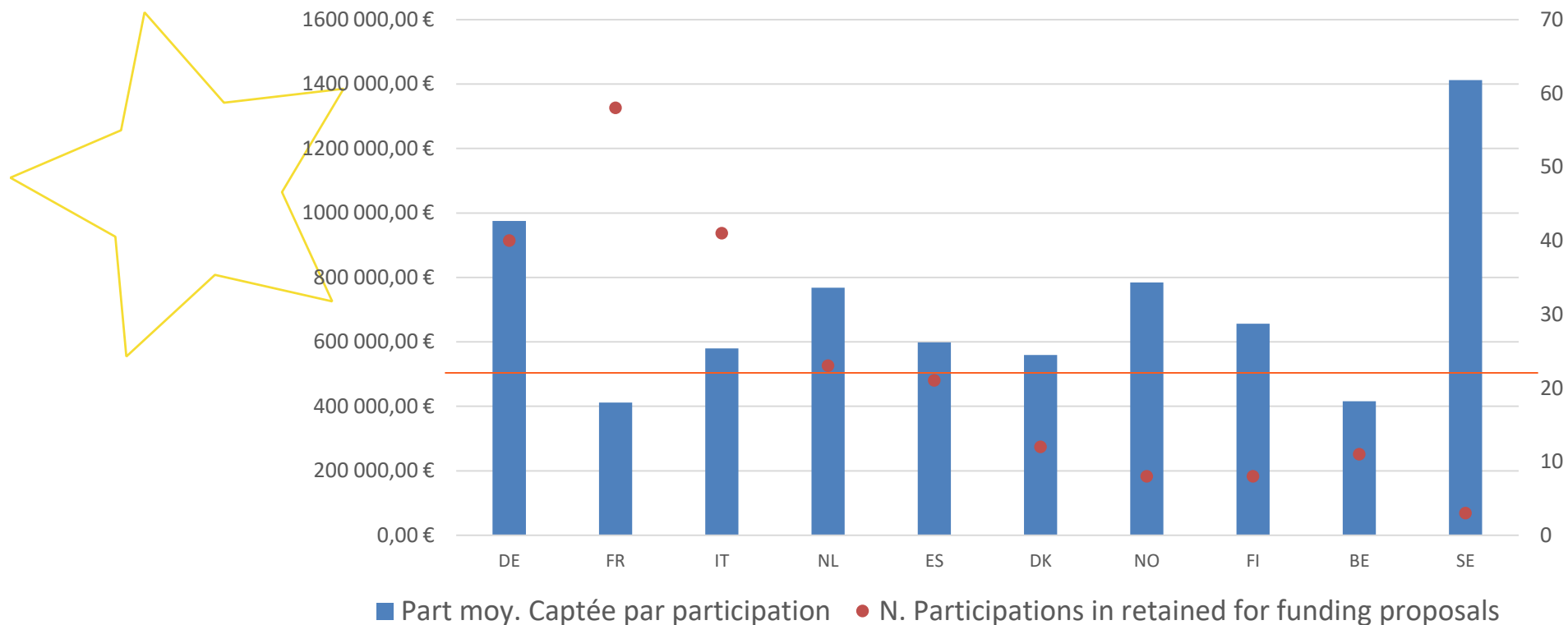
Les lauréats français



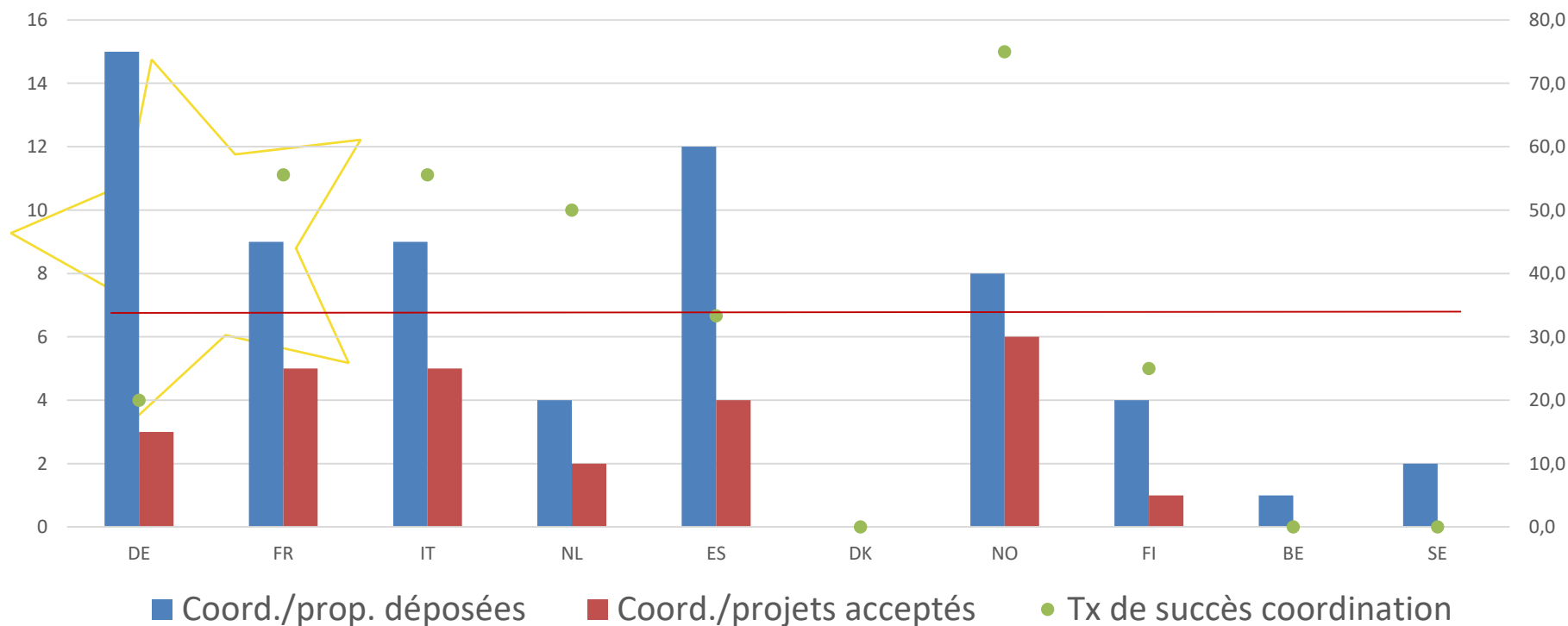
Nb participations dans propositions évaluées/retenues et taux de succès



Budget moyen par participation : 155M€ distribués pour 279 participations. Soit 554 000€/participation



Coordination : participation ds propositions déposées/retenues et taux de succès



Les coordinateurs FR

- AIR LIQUIDE SA
- CETIM
- CNRS
- ENGIE
- SAFRAN POWER UNITS
- CEA
- AIR LIQUIDE SA
- PERSEE
- FRANCE SUPPLY CHAIN by ASLOG

En rouge, les lauréats



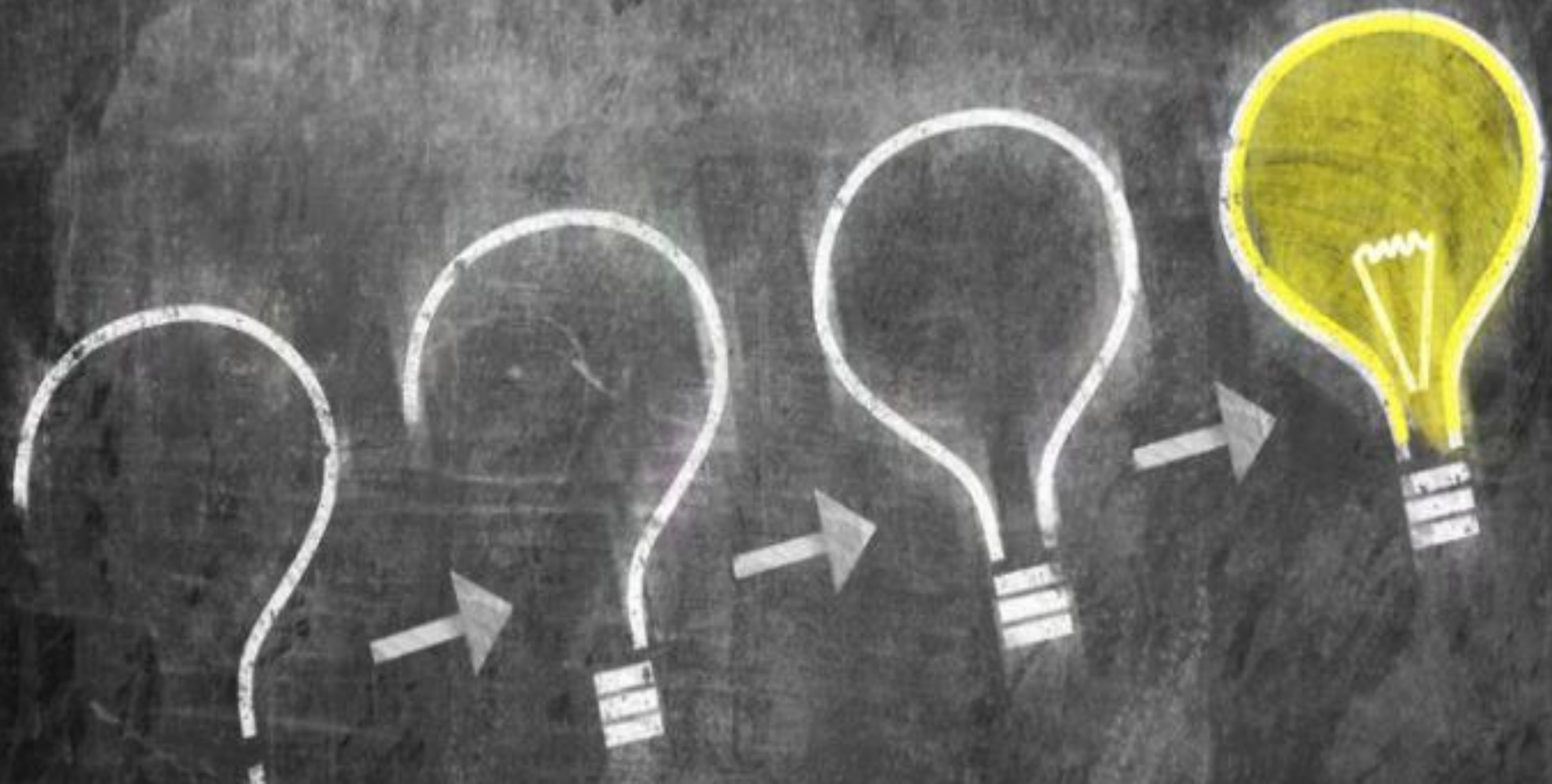
Consultation 3 en 1 de la Commission européenne (H2020, HE, plan stratégique 2025-2027). Date de clôture : 23/02/2023

Représentants Fr au sein du SRG de Clean Hydrogen Partnership

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- [Page Web sur les partenariats du Cluster 5](#)
- [S'inscrire à la liste de diffusion du PCN Climat-Energie](#)



Matinée d'information et de réseautage sur les appels 2023 de Clean Hydrogen

07 Février 2023

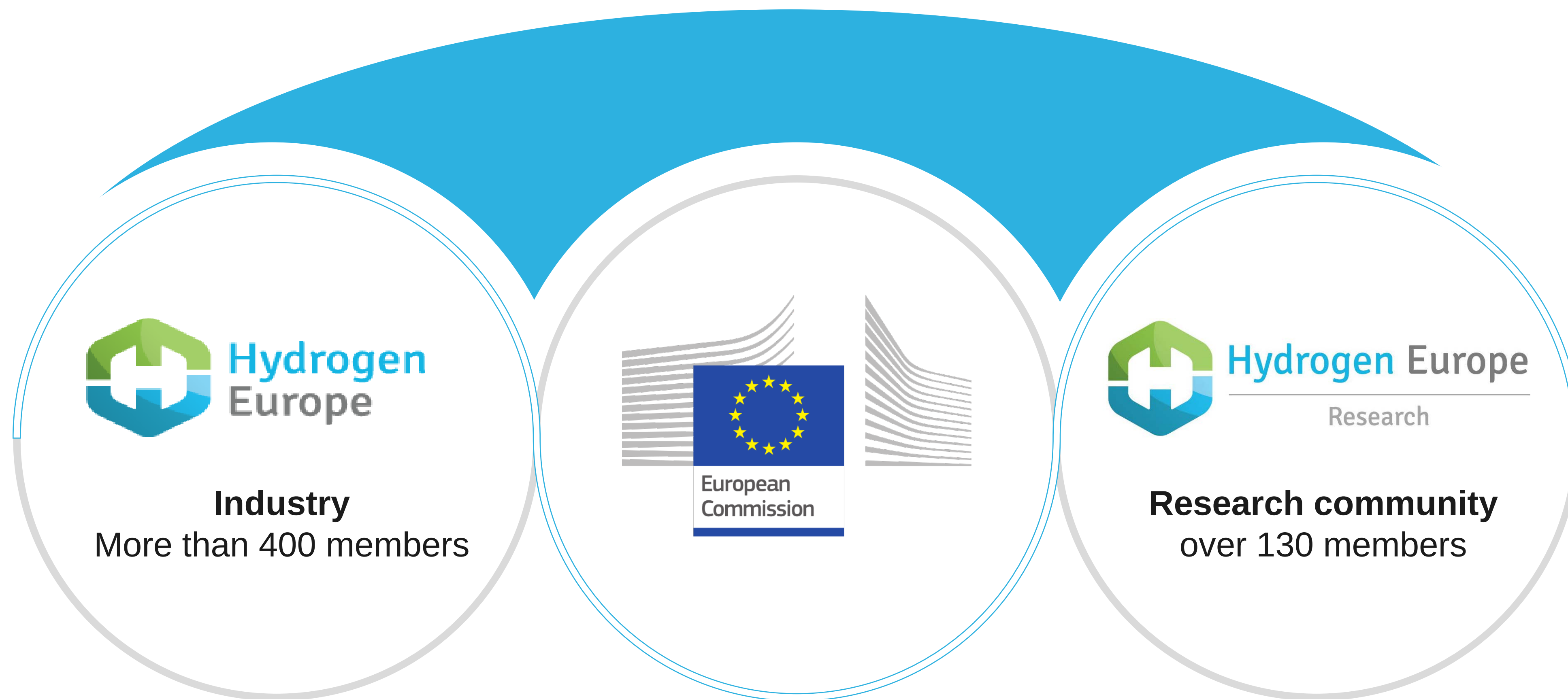
Lionel BOILLLOT

Clean Hydrogen Joint Undertaking



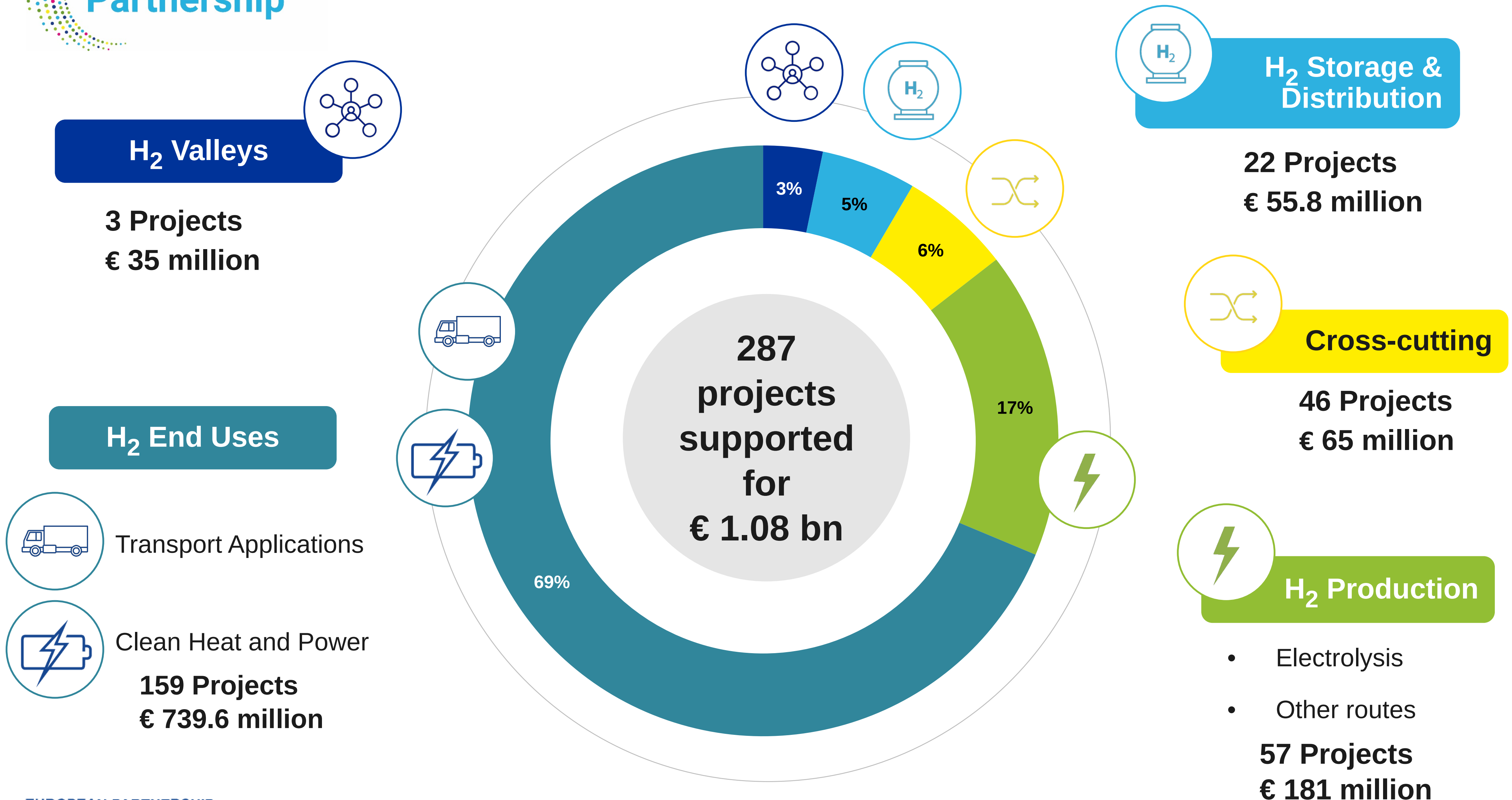
Clean Hydrogen Joint Undertaking

EU Institutional Public-Private Partnership (IPPP)



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

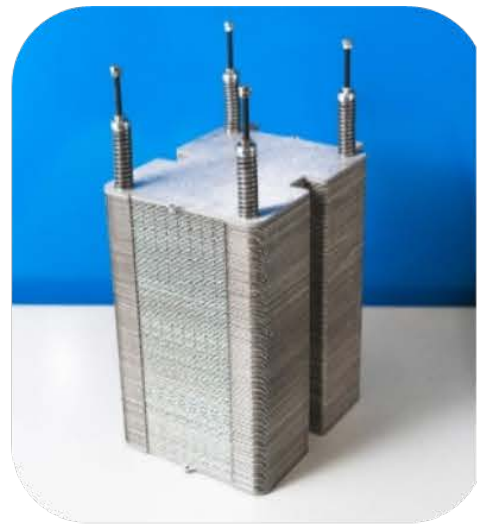
Projects in the Clean Hydrogen JU



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

A 14 years journey of the Fuel Cells and Hydrogen JU

From research to delivering hydrogen solutions in the market: from individual applications to H2 Valleys



Manufacturing



Green H2
production



Buses



ships



Aviation



Research

PoC



Domestic heat
and power



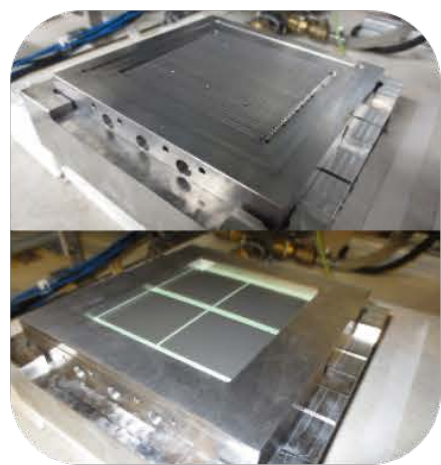
Heat and power
for industry



Heavy duty trucks



Logistics machinery



Materials



Gensets



Light duty
vehicles



Trains

Réalisations importantes en France, financées en partie par le FCH / Clean Hydrogen JU

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Le déploiement en flotte avec l'infrastructure nécessaire est pertinent

Plus grande flotte de chariots élévateurs d'Europe

- Plus de 100 chariots
- Différents types
- Gains de productivité



Plus importante flotte de taxi du monde

- Plus de 150 taxis
- Un service au même prix
- Nouveau concept mobilité "zero émission"



1er constructeur de camionnettes H2 au monde

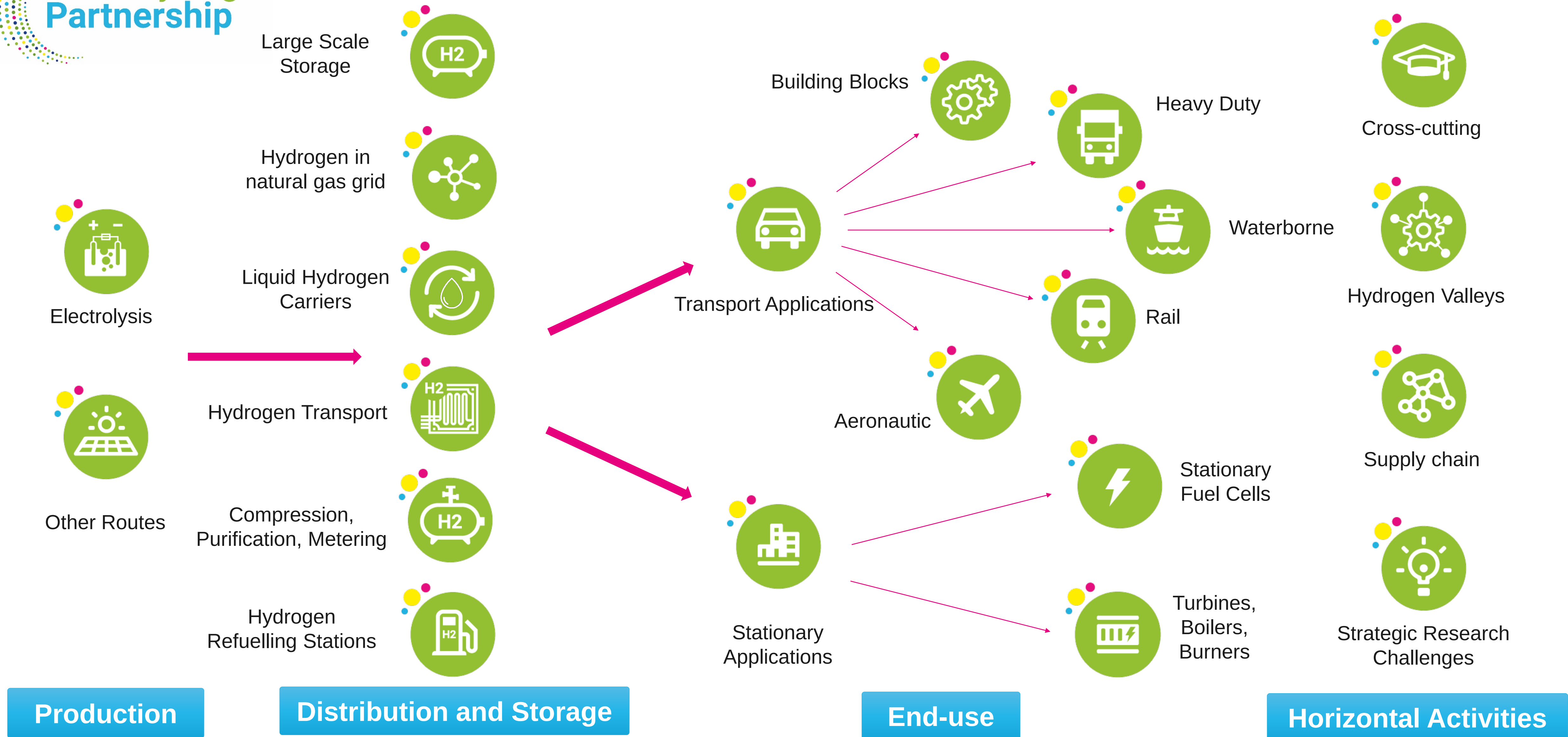
- Symbio avec Renault et Stellantis
- ~400 HyKangoo déployées
- Sur les routes en FR, DE et UK
- Cofely (ENGIE) possède une flotte de 50 HyKangoo



Prix international du bus de l'année 2019 à Pau



Un nouveau constructeur de bus = Safran



Call for proposals 2023

Total budget: 195 M€
Publication date: 17th January 2023
Opening of submission: 31st January 2023
Deadline: 18th April 2023



Types of Actions and funding rates

RIA - Research and Innovation Actions

Activities that aim primarily to establish new knowledge or to explore the feasibility of a new or improved technology, product, process, service or solution. This may include **basic and applied research**, technology development and integration, testing, demonstration and validation of a small-scale prototype in a laboratory or simulated environment.

funding rate
max. **100%**

IA- Innovation Actions

Activities that aim directly to produce plans and arrangements or designs for new, altered or improved products, processes or services. These activities may include prototyping, testing, demonstrating, **piloting**, **large-scale** product validation and market replication.

funding rate
max. **70%***

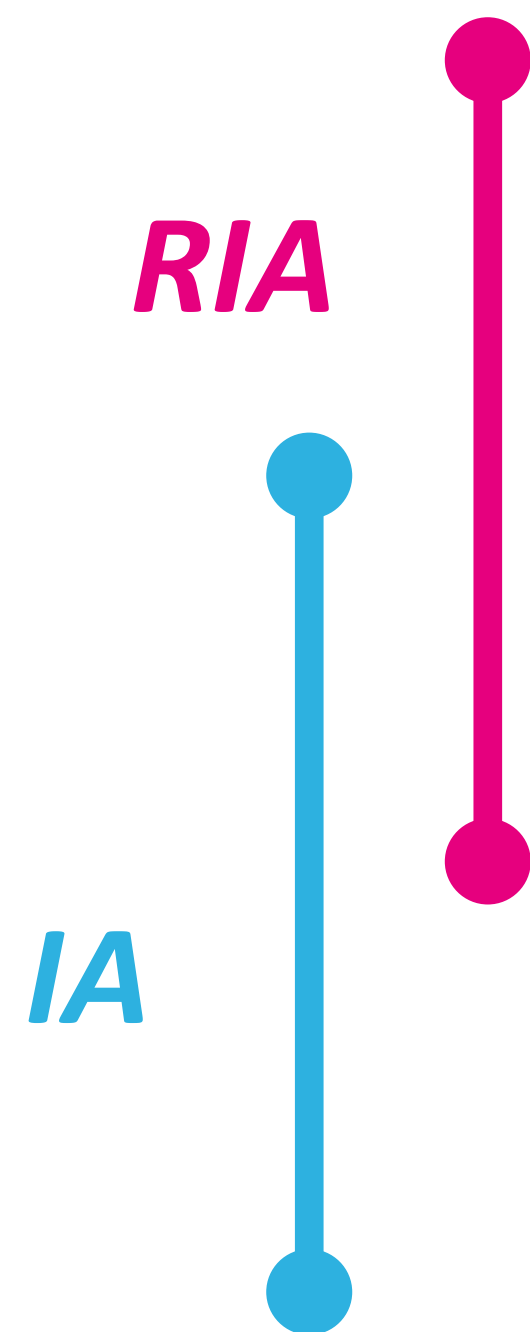
*Funding 100% for non-profit legal entities

CSA - Coordination and Support Action

Activities that contribute to the objectives of Horizon Europe. **This excludes R&I activities.** Also eligible are bottom-up coordination actions which promote cooperation between legal entities from Member States and Associated Countries to strengthen the European Research Area, and which receive no EU co-funding for research activities

funding rate
max. **100%**

Technology readiness levels (TRL)



TRL 1 – basic principles observed

TRL 2 – technology concept formulated

TRL 3 – experimental proof of concept

TRL 4 – technology validated in lab

TRL 5 – technology validated in relevant environment

TRL 6 – technology demonstrated in relevant environment

TRL 7 – system prototype demonstration in operational environment

TRL 8 – system complete and qualified

TRL 9 – actual system proven in operational environment



Topic description and structure

All topics are available in Annual Work Programme 2023: https://www.clean-hydrogen.europa.eu/about-us/key-documents/annual-work-programmes_en (pages 44-159)

ANNEX to GB decision no CleanHydrogen-GB-2022-13

Clean Hydrogen JOINT UNDERTAKING
(Clean Hydrogen JU)

WORK PROGRAMME 2023



In accordance with the Council Regulation (EU) 2021/2085 and with Article 33 of the Financial Rules of the Clean Hydrogen Joint Undertaking.
The work programme is made publicly available after its adoption by the Governing Board.

- TRL at start and end
- Consortium composition
- Indicative budget
- ...

- Technical targets
- Costs reduction
- Contribution to policies (env., indus., ...)
- ...

- Operational requirements
- Technical boundaries
- Extra focus on circularity, EU competitiveness, etc.
- Safety plan (IA)
- ...

Out-of-scope proposals = ineligible

HORIZON-JTI-CLEANH2-2022-02-06: Development of large scale LH2 containment for shipping

Specific conditions	
contribution per project	5 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.5 million.
Type of Action	Research and Innovation Action
Technology Readiness Level	Activities are expected to start at TRL 2-3 and achieve TRL 5 by the end of the project See General Annex B.

Expected outcomes

An important element of the European Hydrogen strategy is to support liquid hydrogen(LH2) deployment for various usages and to allow the energy transportation over longer distances. A further important element of the Hydrogen strategy is to contribute to the cost decrease by importing energy from low-cost zones by development of an international hydrogen trade, and thereby also enabling import of hydrogen to the European Union. In the end this will lead to increase the EU's competitiveness, manufacturing capabilities and secure the energy supply.

Shipping of LH₂ will represent a flexible means for transport of larger quantities of hydrogen over longer distances, as well as for regional distribution without a gas-grid. LH₂ also represent a dense form suitable for fuel storage for energy demanding applications.

Project results are expected to contribute to all of the following expected outcomes:

- Enable safe, cost- and energy efficient transport of bulk LH₂. Large scale LH₂ ship storage concepts need to be developed for shipping of LH₂ at energy system scale, in the order of GW hydrogen energy flux. An important aspect is

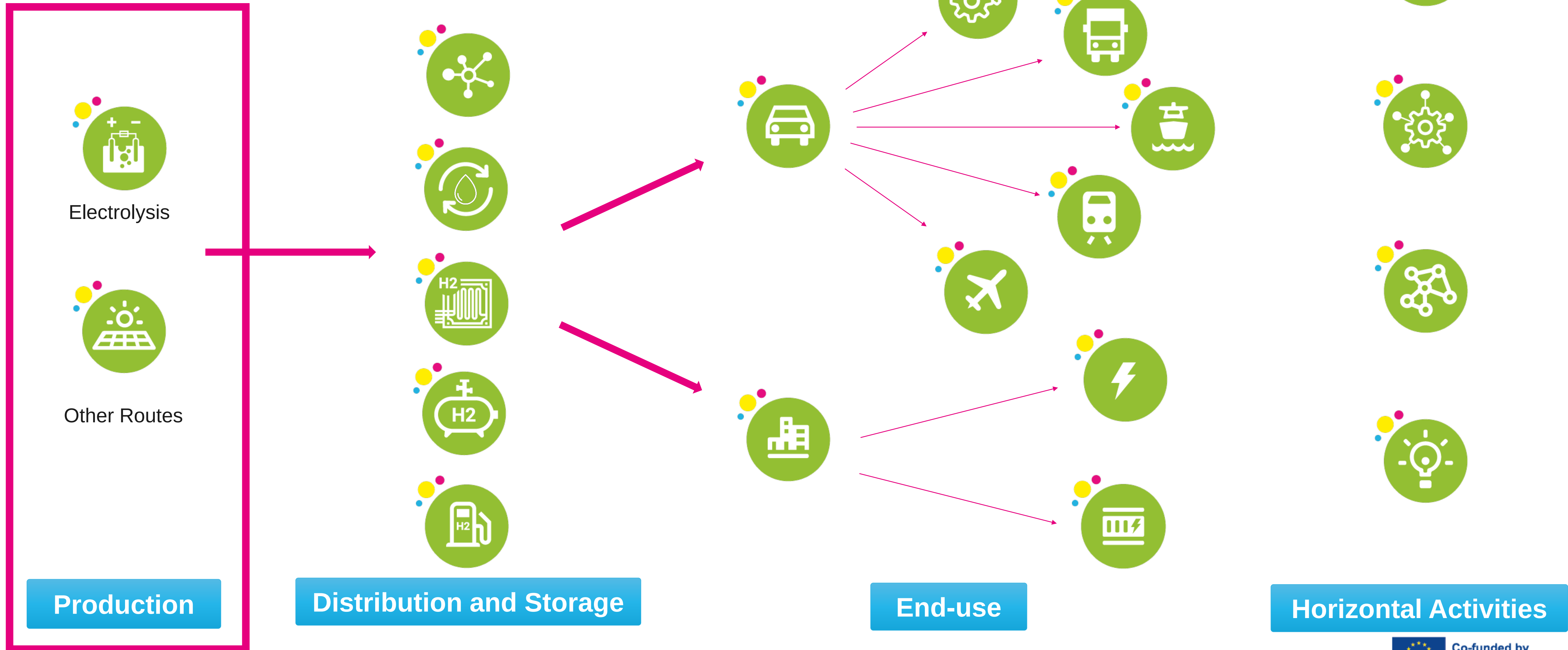
Scope

The scope of this topic is to develop and validate containment concepts intended for the bulk shipping of liquid hydrogen. The concepts developed should also be suitable for a later scale-up.

Multiple European technology providers have started to design and develop LH₂ containment solutions, e.g. based on the IMO Type B, Type C and membrane tank designs currently available for LNG shipping, as well as for other novel concepts. Due to the considerably lower temperature of LH₂ than LNG, as well as the lower heat of vaporisation and different material compatibility characteristics, totally novel insulation concepts need to be developed if LH₂ should be contained with equally or lower boil-off rate as current LNG concepts.

The scope for the proposed project should include:

- Concept selection for large scale LH₂ containment to be used in shipping;
- Approval in Principle (AIP) for the LH₂ containment concept by one of the major IACS classification societies;
- Materials and component selection and integrity testing for LH₂ exposure, e.g. strength, ductility, toughness, thermal expansion, sloshing and compatibility;
- Sub-system testing for thermo-mechanical validation;
- Detailed design, construction, and testing of a scaled-down prototype of at least 10 t LH₂ capacity;



Renewable H₂ Production Overview

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Main Focus

- Cost reduction and efficiency increase for renewable hydrogen production routes:
 - Going low in TRL for LT & HT electrolyser concepts
 - Ringfencing support to AEL
 - Revisiting PEC & PC devices



What is new

- Waste to H₂
- Valorising O₂ and heat from electrolysis

Renewable H2 Production Overview

Topic	Type of Action	Ind. Budg (M€)
HORIZON-JTI-CLEANH2-2023-01-01: Innovative electrolysis cells for hydrogen production	RIA	2 x 3
HORIZON-JTI-CLEANH2-2023-01-02: Innovative Solid Oxide electrolysis cells for intermediate temperature hydrogen production	RIA	3
HORIZON-JTI-CLEANH2-2023-01-03: Advances in alkaline electrolysis technology	RIA	2.5
HORIZON-JTI-CLEANH2-2023-01-04: Photoelectrochemical (PEC) and/or Photocatalytic (PC) production of hydrogen	RIA	2.5
HORIZON-JTI-CLEANH2-2023-01-05: Waste to Hydrogen demonstration plant	IA 	10
HORIZON-JTI-CLEANH2-2023-01-06: Valorisation of by-product O2 and/or heat from electrolysis	IA 	10
HORIZON-JTI-CLEANH2-2023-01-07: Hydrogen use by an industrial cluster via a local pipeline network	IA 	15

Renewable Hydrogen production - Topics

HORIZON-JTI-CLEANH2-2023-01-05: Waste to Hydrogen demonstration plant



Develop a pilot plant to demonstrate waste to H₂ conversion (TRL 5 → 7)



- Wastes without any recycling potential – mainly organic; range of moisture (<50%) and calorific value (2-5kWh/kg)
- Various conversion techs are possible
- 3MW reactor; 4,000h/a operation; 180,000kg/a @ location with H₂ end user
- Funding plan to be provided

HORIZON-JTI-CLEANH2-2023-01-06: Valorisation of by-product O₂ and/or heat from electrolysis



Utilise O₂ and heat in non-energy intensive industries (TRL 7 → 8)



- Innovative EL; BoP integration with industrial process
- Optimal & dynamic operation to balance H₂, O₂ and heat demand – impact on durability
- 15MW, 1 year, 4,000h operation
- Go-no go decision; detailed funding plan

Renewable Hydrogen production - Topics

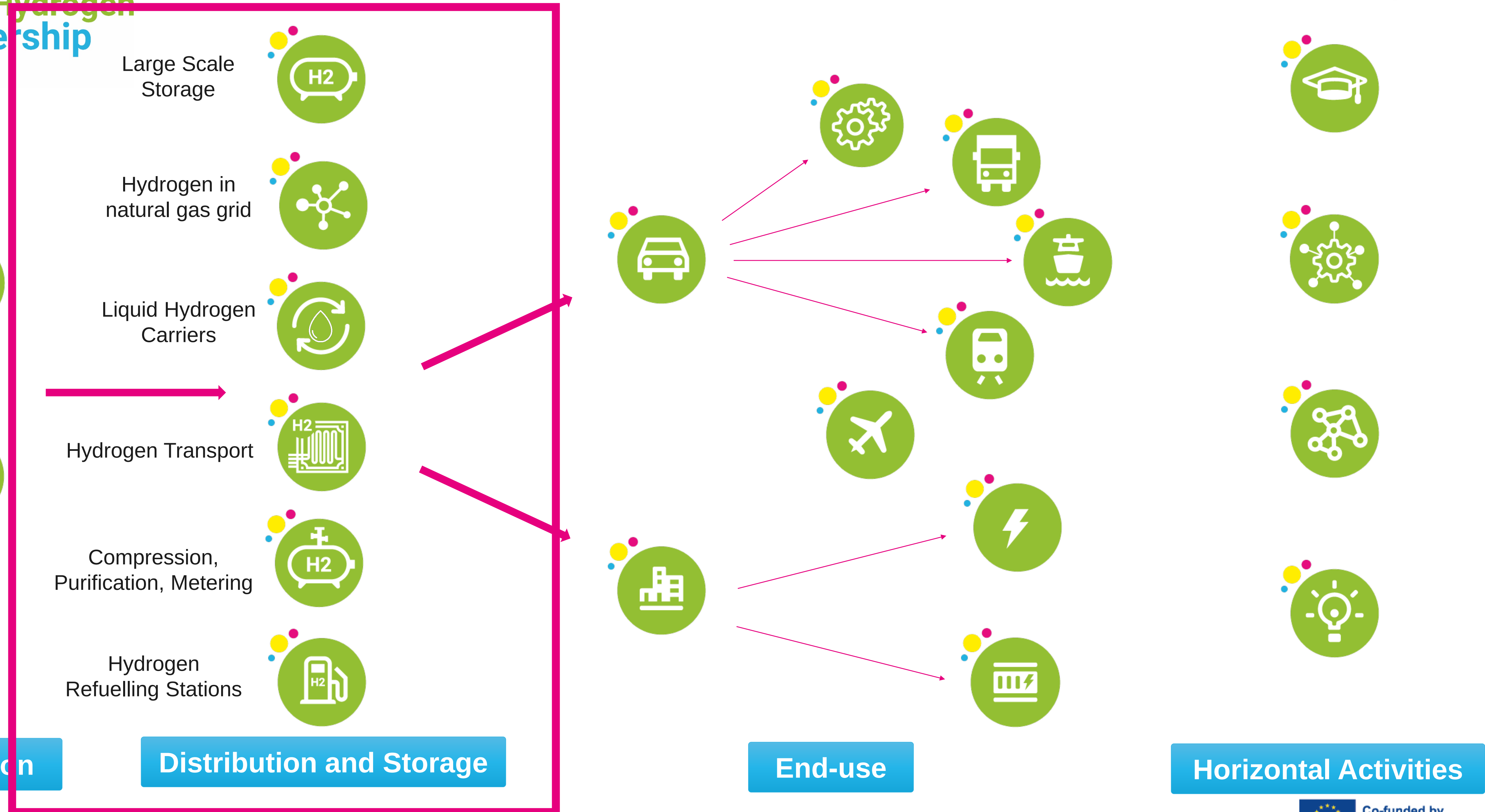
HORIZON-JTI-CLEANH2-2023-01-07: Hydrogen use by an industrial cluster via a local pipeline network



Install a large electrolyser and a new or repurposed 100% hydrogen pipeline network to fully or partially decarbonise at least two industrial processes of a single industrial zone (TRL → 8)



- Demonstrate operation of a number of processes from a small H2 pipeline
- Electrolyser > 10MW, pipeline of sufficient capacity
- Pipeline: capital investment 1 M€ /km, transmission pressure 100 bar, H2 leakage 0%
- Synergies with existing projects of the Horizon Europe Process4Planet or Clean Steel partnerships are encouraged – Funding plan



Hydrogen Storage and Distribution Overview



Main Focus

Hydrogen Storage

- Scaling up underground storage for both salt caverns and depleted gas fields
- Next generation on-shore liquid hydrogen storage.

Hydrogen Distribution

- Facilitating the re-purposing of steel pipelines to transport hydrogen - PNR
- High pressure supply chain for gaseous hydrogen transport



What is new

- Liquid Hydrogen Refuelling Stations

Hydrogen Storage and Distribution Overview

Topic	Type of Action	Ind. Budget (M€)
HORIZON-JTI-CLEANH2-2023-02-01: Large-scale demonstration of underground hydrogen storage	IA 	20
HORIZON-JTI-CLEANH2-2023-02-02: Pre-Normative Research about the compatibility of transmission gas grid steels with hydrogen and development of mitigation techniques	RIA	4
HORIZON-JTI-CLEANH2-2023-02-03: Novel insulation concepts for LH2 storage tanks	RIA	2
HORIZON-JTI-CLEANH2-2023-02-04: Demonstration of high pressure (500-700 bar) supply chain	IA	5
HORIZON-JTI-CLEANH2-2023-02-05: Demonstration of LH2 HRS for Heavy Duty applications	IA	5

Hydrogen Storage and distribution - Topics

HORIZON-JTI-CLEANH2-2023-02-01: Large-scale demonstration of underground hydrogen storage



Hydrogen underground storage in salt caverns or depleted gas fields



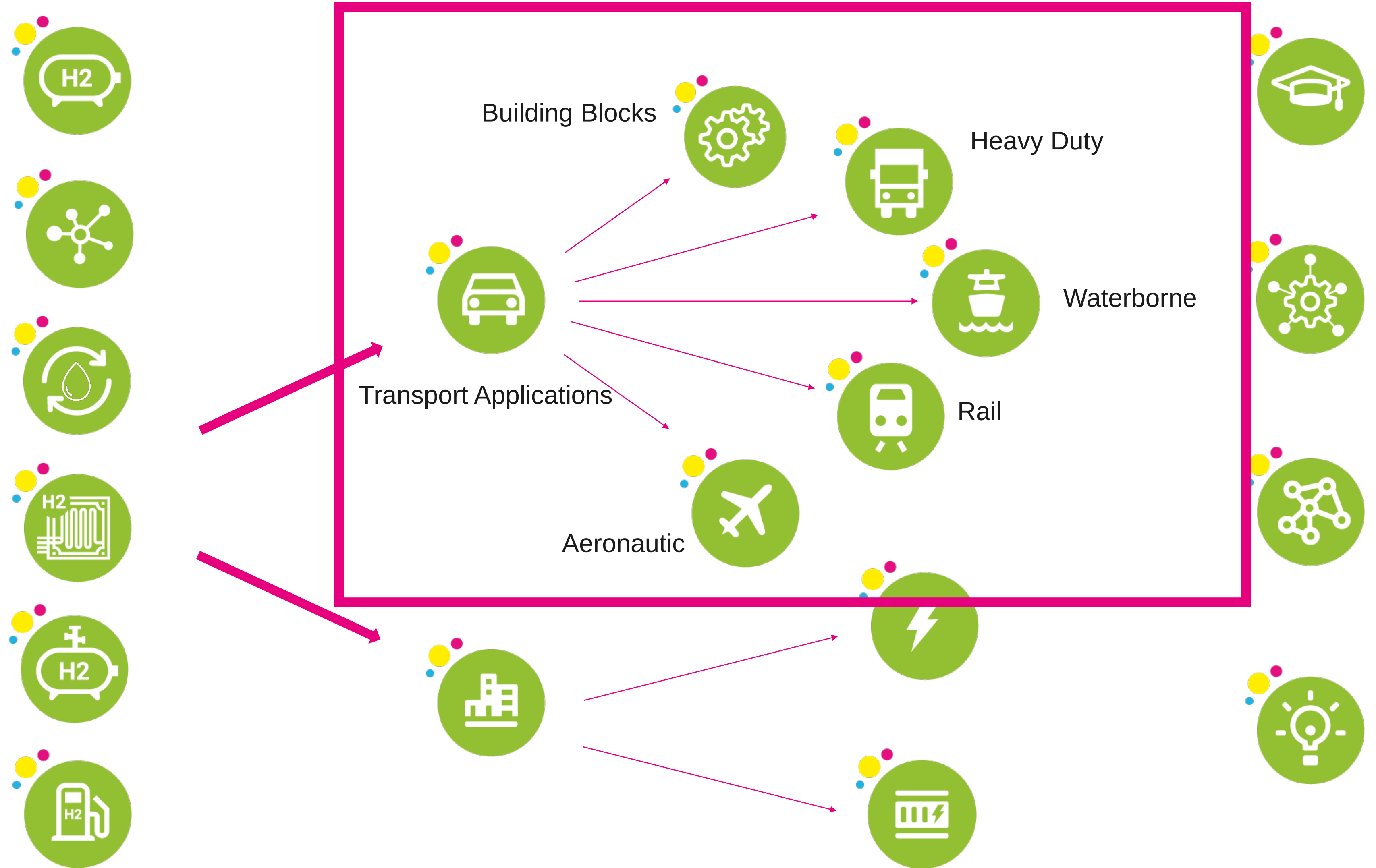
- Demonstration in an underground storage facility that has potential of at least 1,000 tonnes H₂
- For caverns: At least 100 injection & withdrawal cycles at various pressures/volumes.
- For gas field: At least 1 injection & withdrawal cycle
- Evaluate the performance integrity, environmental impact and safety of the hydrogen storage.
- Qualify the purity of the recovered hydrogen and ensure T&D from/to storage site

Production

Distribution and Storage

End-use

Horizontal Activities



Hydrogen End Uses: Transport Applications Overview

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Main Focus

- Aviation, maritime and non-road applications
- Adaptation of fuel cells and stacks to the specific needs of non-road applications
- Increased power, lifetime and modularity

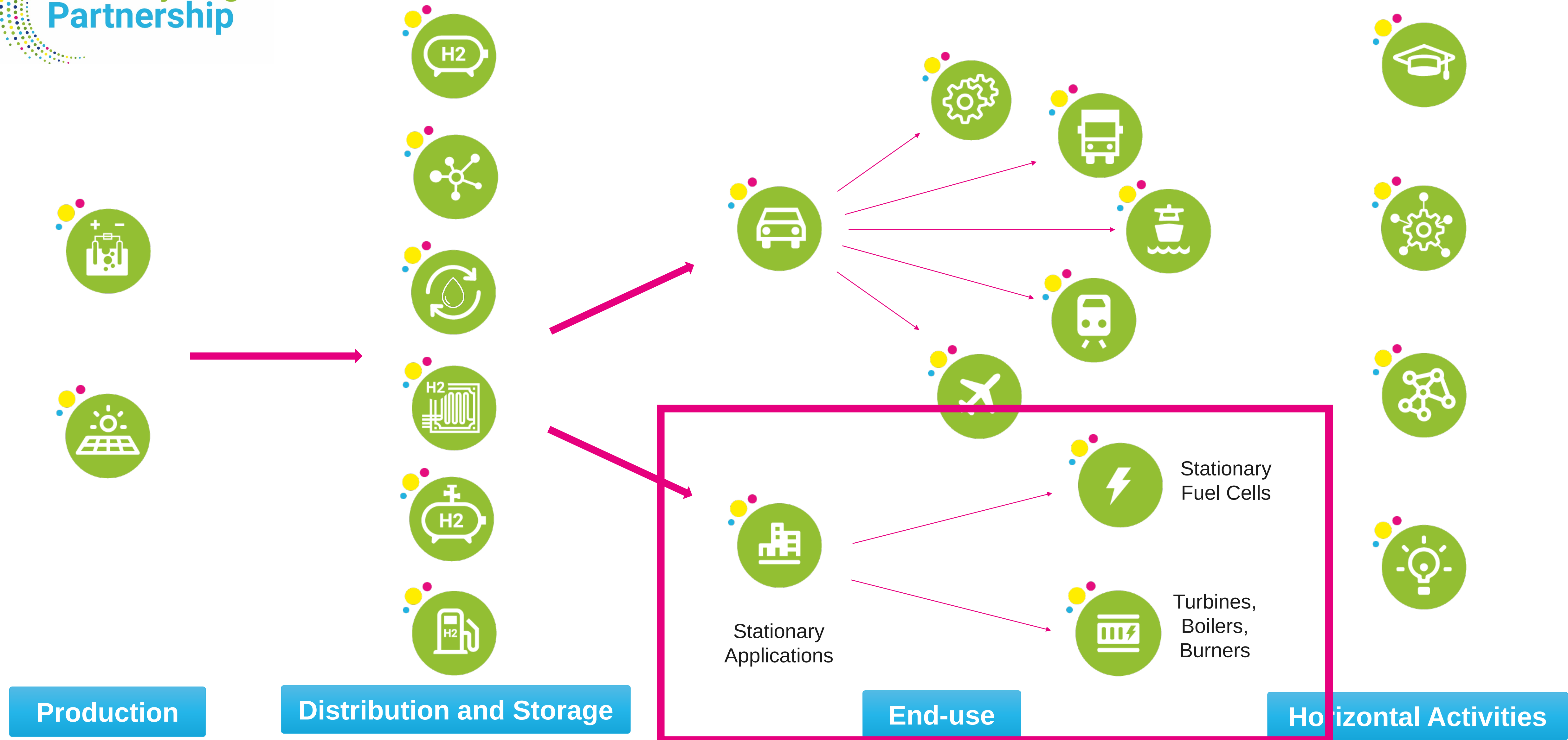


What is new

- Development of dedicated fuel cells systems for non-road mobile machinery
- Large power at stack level for maritime applications
- Clean Aviation JU cooperation/synergies

Transport Applications Overview

Topic	Type of Action	Ind. Budget (M€)
HORIZON-JTI-CLEANH2-2023-03-01: Real environment demonstration of Non-Road Mobile Machinery (NRMM)	IA	2 x 5
HORIZON-JTI-CLEANH2-2023-03-02: Development of a large fuel cell stack for maritime applications	RIA	7.5
HORIZON-JTI-CLEANH2-2023-03-03: Ultra-low NOx combustion system for aviation	RIA	8



Hydrogen end uses: Clean heat & power Overview



Main Focus

- Next generation fuel cells for stationary applications able to run under 100% H₂ and other H₂-rich fuels - Reducing CAPEX and TCO
- Combustion of H₂ in retrofitted Gas Turbines



What is new

- Fundamental research on combustion of unconventional H₂ blends
- Demonstration activities on the retrofitting of burners and furnaces so that they are able to run up to 100% H₂

Clean Heat & Power - Overview

Topic		Type of Action	Ind. Budget (M€)
Fuel Cells	HORIZON-JTI-CLEANH2-2023-04-01: Development and validation of high power and impurity tolerant fuel cell systems ready to run on industrial quality dry hydrogen	RIA	4
Gas turbines, boilers and burners	HORIZON-JTI-CLEANH2-2023-04-02: Research on fundamental combustion physics, flame velocity and structure, pathways of emissions formation for hydrogen and variable blends of hydrogen, including ammonia	RIA	3
	HORIZON-JTI-CLEANH2-2023-04-03: Retrofitting of existing industrial sector natural gas turbomachinery cogeneration systems for hydrogen combustion	IA	6
	HORIZON-JTI-CLEANH2-2023-04-04: Hydrogen for heat production for hard-to-abate industries (e.g. retrofitted burners, furnaces)	IA	6

Production

Distribution and Storage

End-use

Horizontal Activities



Cross-cutting Issues Overview

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Main Focus

- Raising the environmental sustainability of FCH systems by developing rules on how to measure the life cycle environmental performance of several FCH products categories
- Underpinning the build of a highly skilled workforce in FCH technologies and applications
- Assessing the potential effects of a hydrogen economy on the climate



What is new

- Development of Product Environmental Footprint Category Rules for several FCH Products
- Establishment of a large alliance of universities, educational institutions, and schools
- Assessment of the number, sources, release rates, etc. of hydrogen releases expected from the hydrogen value chain

Cross-cutting Issues Overview

Topic	Type of Action	Ind. Budget (M€)
HORIZON-JTI-CLEANH2-2023-05-01: Product environmental footprint pilot for a set of FCH product categories	CSA	1.5
HORIZON-JTI-CLEANH2-2023-05-02: European hydrogen academy	CSA	3
HORIZON-JTI-CLEANH2-2023-05-03: Pre-Normative Research on the determination of hydrogen releases from the hydrogen value chain	RIA	3

Hydrogen Valleys - Overview

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Main Focus

- Demonstrate large and small-scale hydrogen valleys that can be sustained and grow with time and replicated elsewhere
- Hydrogen as an enabler for sector coupling and integration of renewable energy
- Covers the complete value chain of hydrogen
- Contribute to EU competitiveness by supporting a European value chain



What is new

- Increased focus on innovation at system level
- Topics less prescriptive on the volumes of hydrogen allocated to each sector and application

Hydrogen Valleys - Overview

Topic	Type of Action	Ind. Budget (M€)
HORIZON-JTI-CLEANH2-2023-06-01: Hydrogen Valleys (large-scale)	IA 	20
HORIZON-JTI-CLEANH2-2023-06-02: Hydrogen Valleys (small-scale)	IA 	2 x 9

Hydrogen Valleys- Topics

HORIZON-JTI-CLEANH2-2023-06-01: Hydrogen Valleys (large-scale)



Develop and demonstrate a large-scale Hydrogen Valley with innovative approaches at system level



- Production of $\geq 4,000$ tonnes of renewable H₂ per year using new hydrogen production capacity (GOs)
- ≥ 2 hydrogen applications from ≥ 2 sectors (energy, industry, transport)
- Costs of renewable energy plants (e.g. PV or wind plant) or related costs for operation of the Hydrogen Valley (e.g. electricity for electrolyser) are not eligible for funding

HORIZON-JTI-CLEANH2-2023-06-02: Hydrogen Valleys (small)



Develop and demonstrate a large-scale Hydrogen Valley with innovative approaches at system level



- Production of ≥ 500 tonnes of renewable H₂ per year using new hydrogen production capacity (GOs)
- Supply more than one end sector or application (mobility, industry energy)
- Costs of renewable energy plants (e.g. PV or wind plant) or related costs for operation of the Hydrogen Valley (e.g. electricity for electrolyser) are not eligible for funding

Hydrogen Valleys- Topics

Common elements applicable to Hydrogen Valley Topics

- Present the **Hydrogen Valley beyond the investments/actions** to be **supported directly** by the topic
- Contain clear **calendar with key phases of the implementation** of the action, ≥ 2 years of operations
- Demonstrate the **replicability and scalability** of the concept -> facilitate deployments of Hydrogen Valleys in other locations in Europe
- Develop a **long-term vision** on how the Hydrogen Valley developed is expected to grow
- Demonstrate **collaboration & synergies with other Hydrogen Valleys** (e.g supported by the JU)
- Provide a **funding plan** to ensure implementation of the project in synergies with other sources of funding + a **commitment from partners to provide own funding** (when relevant)
- **Evidence of the commitment** and role of public authorities (Member States, Regions and Cities) and of any other necessary stakeholders to implement the Hydrogen Valley
- **Professional communication activities** to reach to local citizens and increase public engagement of hydrogen ecosystems

Strategic Research Challenges Overview



Main Focus

- Generate continuous innovation and long-term knowledge on early-stage research:
 - Multidisciplinary investigations, gathering the expertise across the EU research community
 - Covering most relevant research challenges identified in the SRIA
 - Development of multi-functional materials for hydrogen storage tanks
 - Understanding degradation mechanism and improve the stability of electrolyzers



What is new

- Addressing sustainability and circularity
- Public annual progress reports

Strategic Research Challenges

Topics overview

Topic	Type of Action	Ind. Budget (M€)
HORIZON-JTI-CLEANH2-2023-07-01: Advanced materials for hydrogen storage tanks	RIA	10
HORIZON-JTI-CLEANH2-2023-07-02: Increasing the lifetime of electrolyser stacks	RIA	10

Summary of call conditions elements to pay attention to:

35

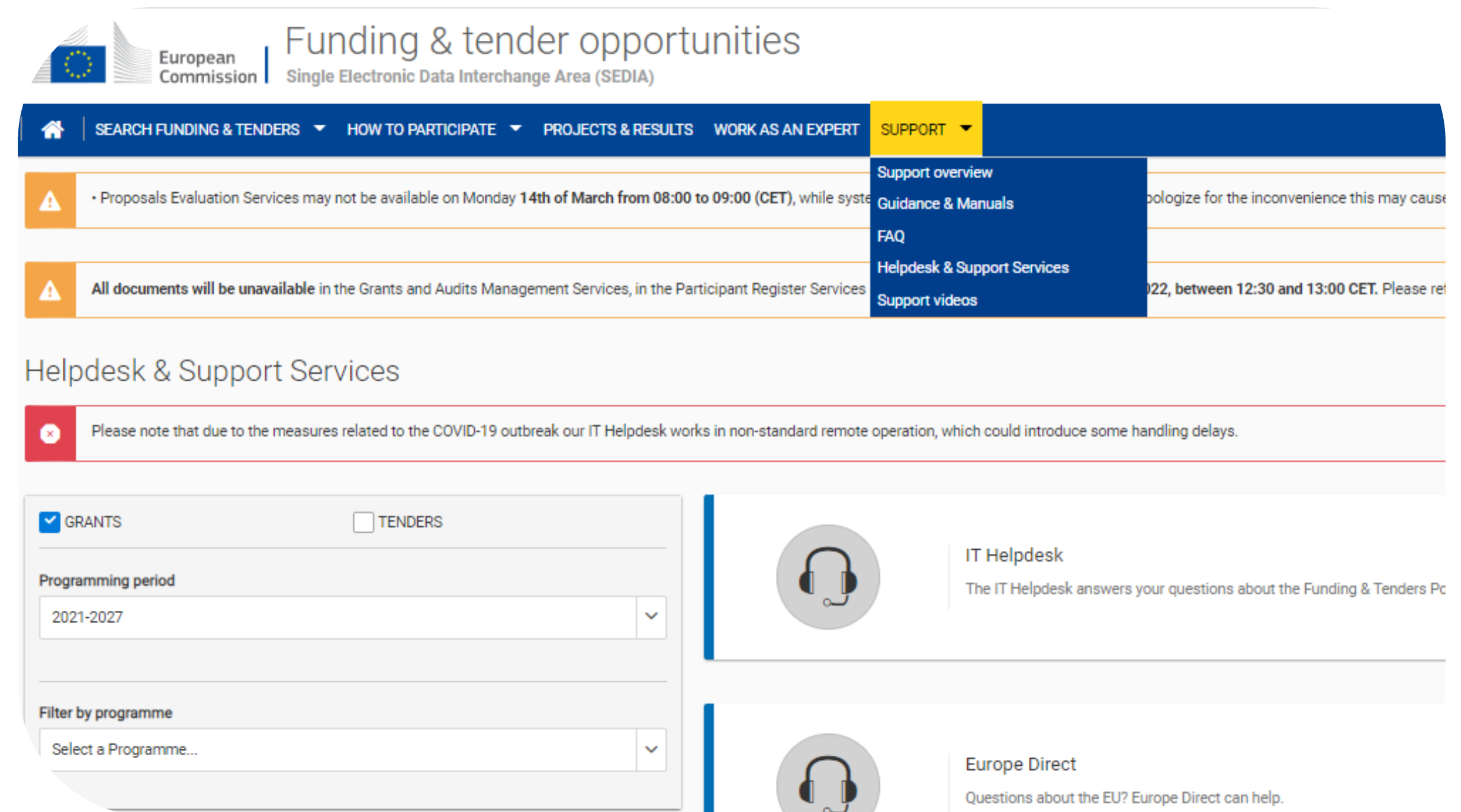


Resources and Support

Funding and Tenders Opportunities Portal

Get Support

- [Online Manual](#) is your guide on the procedures from proposal submission to managing your grant
- [Funding & Tender Portal FAQ](#) find the answers to most frequently asked questions on submission of proposals, evaluation and grant management
- [Research Enquiry Service](#) enquiries about the validation process of the legal entities
- PROJECTS@clean-hydrogen.europa.eu



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



Comment préparer une bonne proposition ?

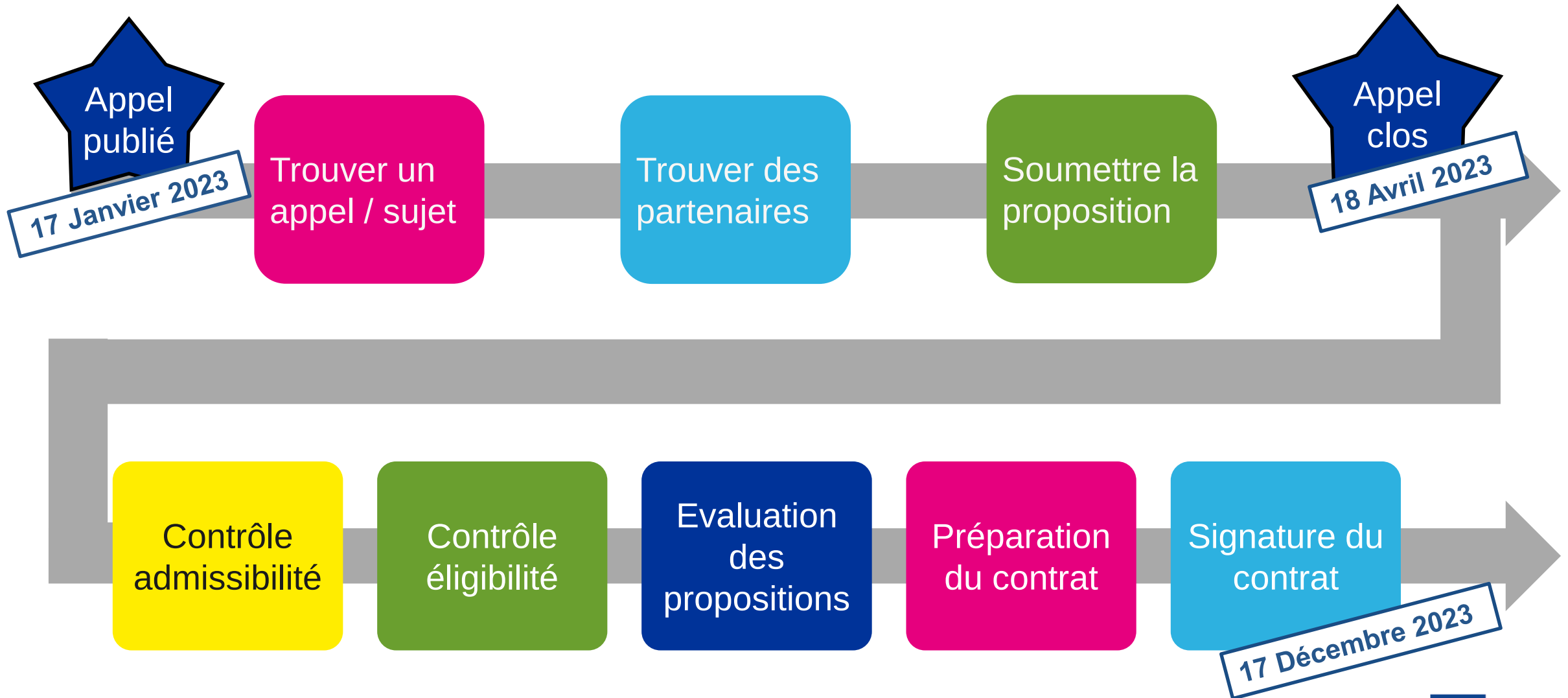
7 Février 2023

Lionel BOILLOT



Etapes de la publication à la signature du contrat

2

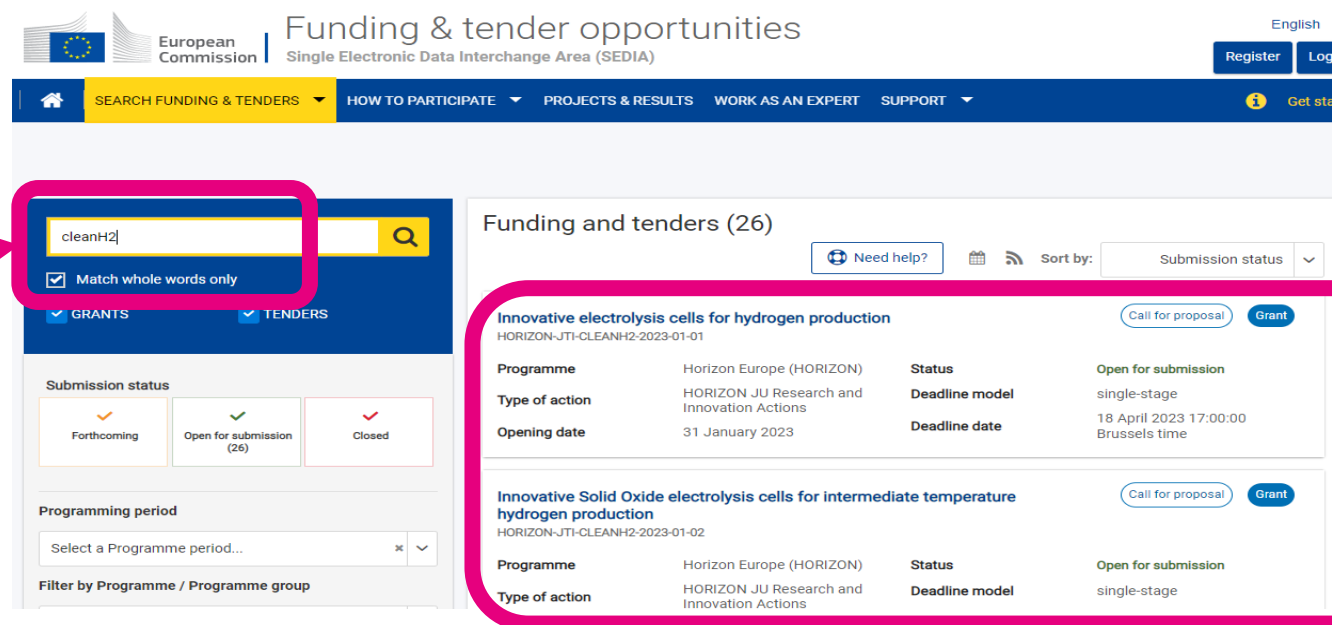


Où trouver l'appel à projet?



- Un document clé: [Work Programme 2023](#)
- Sur le site du [Clean Hydrogen JU](#) ou Portail “[funding & tender opportunities](#)”:

CleanH2 →



Liste des 26 sujets →

Programme	Type of action	Opening date	Status	Deadline model	Deadline date
Innovative electrolysis cells for hydrogen production HORIZON-JTI-CLEANH2-2023-01-01	Horizon Europe (HORIZON) HORIZON JU Research and Innovation Actions	31 January 2023	Open for submission	single-stage	18 April 2023 17:00:00 Brussels time
Innovative Solid Oxide electrolysis cells for intermediate temperature hydrogen production HORIZON-JTI-CLEANH2-2023-01-02	Horizon Europe (HORIZON) HORIZON JU Research and Innovation Actions		Open for submission	single-stage	

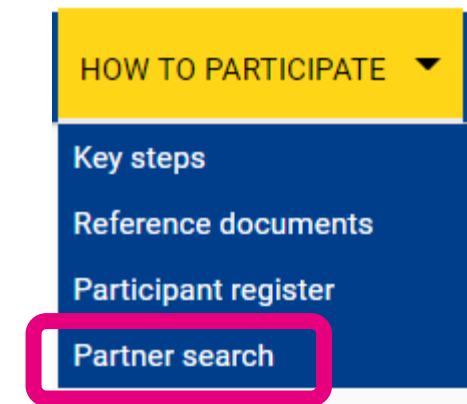
EUROPEAN PARTNERSHIP

Co-funded by the European Union

Comment trouver des partenaires?



- Fonctionnalité dédiée sur le portail: [Partner Search](#)
- Sur le topic ciblé pour manifester son intérêt – fonction “partner search”
- Via les secretariats de Hydrogène Europe (HE) / HE Recherche
- Actions de réseautage en France
- Recherche des projets précédents sur le site Clean Hydrogen JU ou CORDIS





Partenaires internationaux peuvent participer (sauf les entités sujettes aux mesures restrictives UE - EU Sanctions map et entités russes, bielorusses, et territoires annexés en Ukraine).



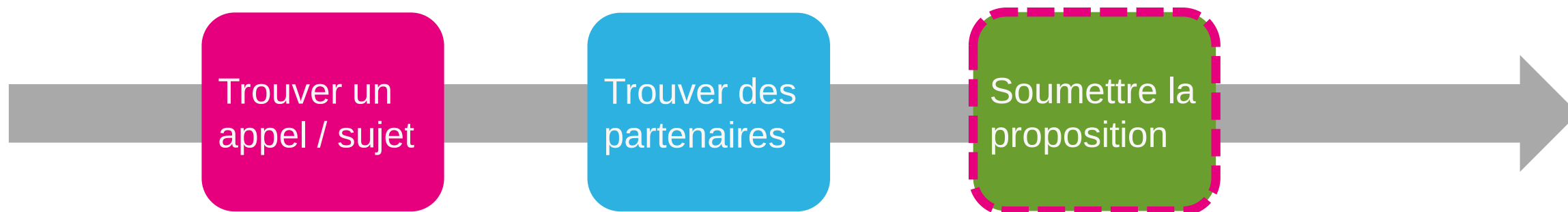
MAIS, pour être éligible au financement, les partenaires doivent être établis dans un des pays éligibles:

- Etats membres de l'UE
- Pays associés à Horizon Europe – les accords d'association sont en préparation
- Pays à moyen-faible revenus: Afghanistan, Algérie, ... , Zambie, Zimbabwe
- **Exceptionnellement**, un autre pays, **si**:
 - Le Clean Hydrogen JU considère que la **participation** du partenaire est **essentielle** pour réaliser les tâches du projet

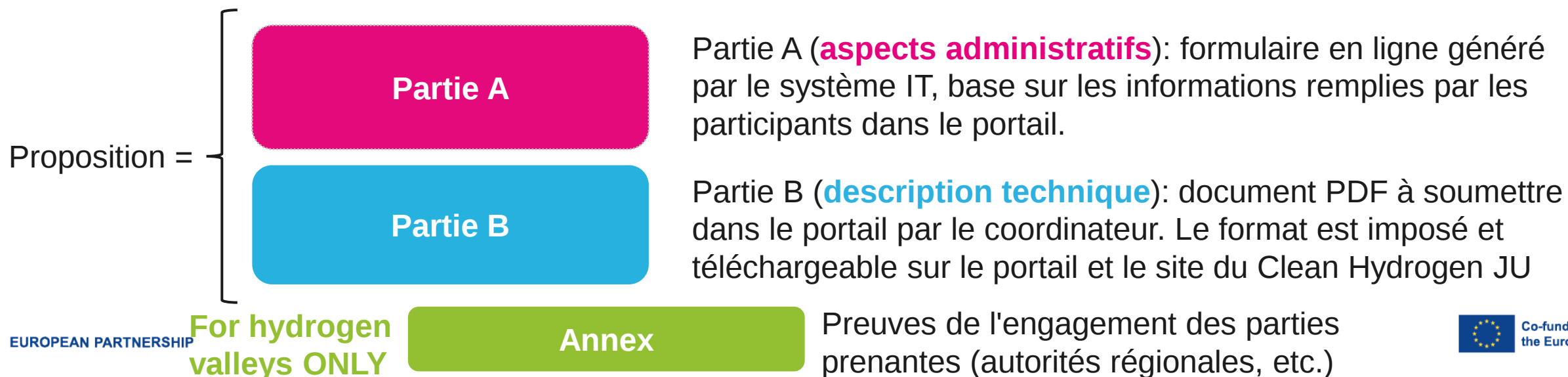


Si le partenaire n'est pas éligible au financement, alors il doit couvrir sa participation avec ses fonds propres. Le partenaire doit **expliquer dans la proposition, comment ces fonds seront sécurisés.**

Comment soumettre la proposition?



- Via le Portail “funding & tender opportunities” – depuis le 1er Février 2023





Une proposition est **ADMISSIBLE** lorsqu'elle est :

- **Soumise** dans l'outil informatique dédié via Funding & Tender Portal **à temps**
- **Lisible**, accessible et imprimable + respecte le contenu et la structure du modèle de proposition
- **Complète**:
 - Avec tous les formulaires admin et annexes en pdf
 - Preuve de la capacité opérationnelle
 - Plan préliminaire de l'exploitation et la diffusion des résultats
 - « Package » avec Partie A (formulaires administratifs) et Partie B (description technique)

Limite de pages pour
la partie B!
CSA = 30 pages
RIA = 45 pages
IA = 70 pages



Une proposition est **ELIGIBLE** lorsqu'elle :

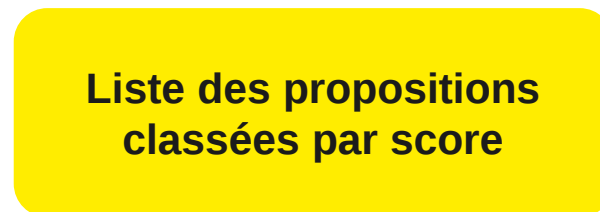
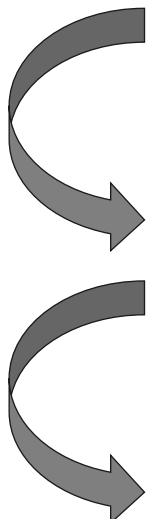
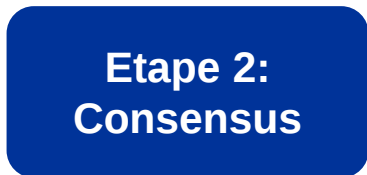
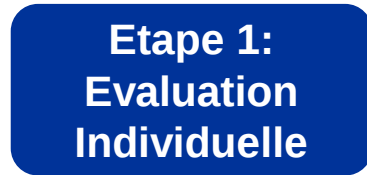
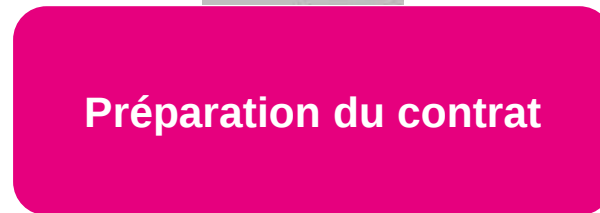
- Répond à un sujet (topic) de l'appel 2023 du Clean Hydrogen JU et a trait uniquement aux applications civiles
- Se conforme aux conditions additionnelles d'éligibilité de l'appel 2023 du Clean Hydrogen JU
- Satisfait aux exigences de partenariat

RIA and IA	- At least one independent legal entity established in a Member State - And at least two other independent legal entities, each established in different Member States or Associated Countries.
CSA	- At least one legal entity established in a Member State or Associated Country

Evaluations et preparation du contrat



Au moins 3 experts



8 mois max. entre clotûre de l'appel et signature du contrat



Date limite



18 Avril 2023



**Signature du
contrat**

17 Décembre 2023

La qualité de la proposition est fondamentale !

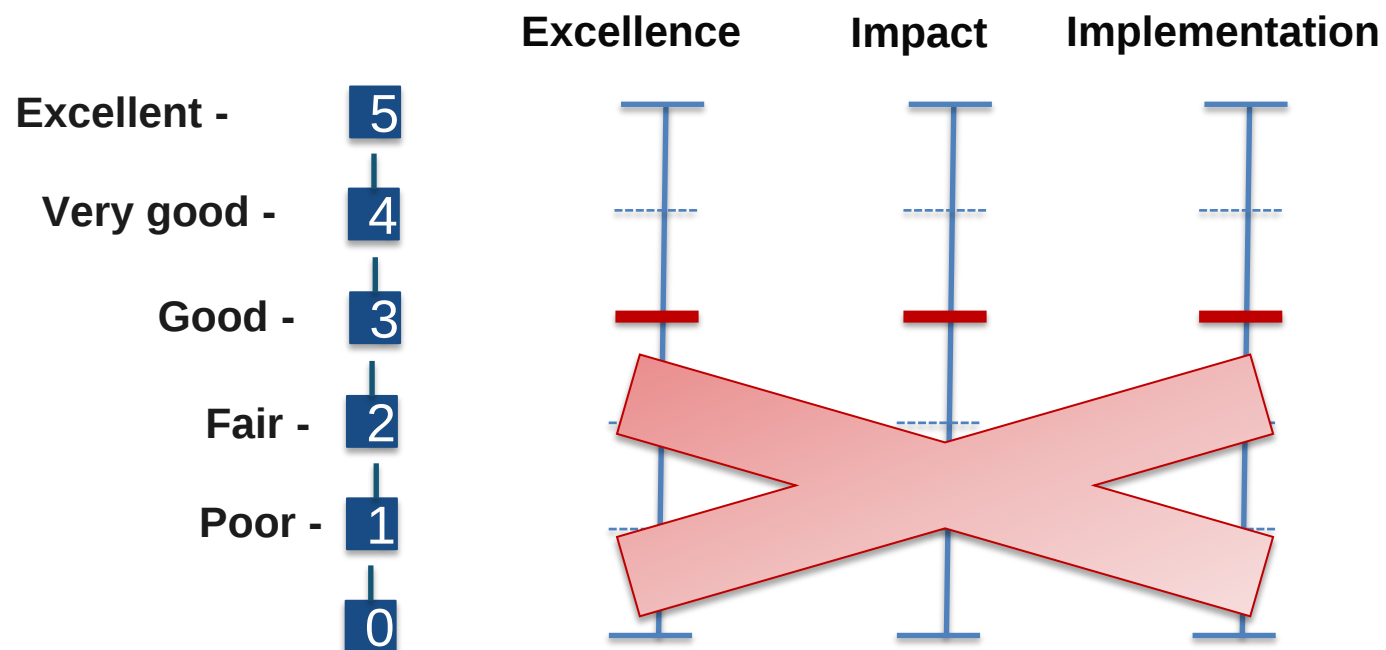
- Interactions Clean H2 JU et partenariat (coordinateur)
- Transformation de la proposition en projet
- Pas de négociation possible
- Corrections des erreurs cléricales et prise en compte des commentaires des évaluateurs

Règles d'évaluations

Les propositions sont évaluées selon 3 critères:

- **Excellence**
- **Impact**
- Qualité et efficacité de la **mise en oeuvre** - implementation

Grille d'évaluation complète
disponible en Annexe D –
conditions générales
d'Horizon Europe



Seuils minimums applicables:

- Critère individuel, la note doit être ≥ 3
- Note totale doit être ≥ 10

Excellence - A éviter

- Les **objectifs sont génériques et non quantifiables**
- L'approche technologique/scientifique n'est pas crédible ou manque de details
- Le **projet est trop ambitieux** et donc peu convaincant
- Analyse insuffisante de l'état de l'art et du savoir-faire issu de projets en cours ou passés
- **Clarté et pertinence du projet sont faibles**
- Niveau faible d'innovation, pas de progress au delà de l'état de l'art
- Les points de départ et d'arrivée technologique **(TRL) ne sont pas clairs**

Excellence - Recommandations

- Vérifiez que la proposition est en **lien direct avec le sujet**
- **Expliquez l'état de l'art** et comment la proposition va au-delà de celui-ci (spécialement si la proposition continue de précédents projets toujours en cours)
- Expliquez le potentiel novateur et ce que votre proposition apporte de neuf par rapport aux projets / activités existants
- Déclarez clairement quelle est la science supportant le projet
- Définissez des **KPI clairs**, quantifiez-les et montrez comment vous allez les atteindre
- Donnez les détails d'éventuelles tâches déjà réalisées par les membres du partenariat – le projet ne commence pas par une feuille blanche !
- Montrez que le risque est limité (ou mesurez le degré de risque)

Impact – A éviter

- Les impacts ne sont pas clairement détaillés
- Les impacts attendus ne sont pas crédibles, il n'existe **pas de plan convaincant pour atteindre ces impacts**
- L'impact sur le secteur industriel n'est pas clair
- Le **plan d'exploitation n'est pas fourni**/convaincant/manque l'engagement de plusieurs partenaires
- Le plan de diffusion, la gestion de la propriété intellectuelle n'est pas indiqué / pas suffisamment raisonné
- Pour la communication, l'audience cible et comment/quand/où elle sera engagée n'est pas spécifié

Impact - recommandations

Lien avec Clean Hydrogen JU

- Répondez aux impacts attendus listés dans l'appel à projets CleanH2 JU 2023
- Comment le projet permet d'atteindre les objectifs du SRIA/AWP 2023 du CleanH2 JU?

Au-delà...

- **Mesurez l'impact** de la technologie **du projet spécifiquement**, et précisez quelles seront les mesures/activités prises pour réaliser cet impact
- **Quantifiez** les impacts
- Incorporez les aspects socio-économiques (création d'emploi, investissements, etc.)
- Présentez dans le détail le plan d'exploitation des résultats, et la viabilité à long terme
- Détaillez le **modèle économique** (Innovation Action)

Plan de diffusion

- Identifiez ce que vous souhaitez communiquer, à qui, pourquoi, et comment
- Utilisez aussi les nouveaux moyens/méthodes de dissémination
- Décrivez l'open access aux données de recherche
- Incluez suffisamment de **livrables publics**
- Traitez les questions de propriété intellectuelle – IPR

Implementation / Mise en oeuvre – A éviter

- Le plan de travail est maigre et **sans structure adequate**. Les details sont manquants; l'information sur la gouvernance et la gestion du projet est absente
- Il n'y a **pas d'analyse des risques**, les risques non-technologiques ne sont pas analysés, les mesures de contingences / mitigation des risques ne sont pas convaincantes
- L'allocation des ressources est ni justifiée ni équilibrée. Le détail des postes majeurs de coûts est manquant
- Le nombre de jalons est fortement limité et n'est pas approprié
- **Partenariat déséquilibré** vers la recherche/université démontrant un faible soutien industriel
- L'expertise cruciale/clé n'est pas incluse dans le partenariat, par exemple il n'y a pas d'utilisateurs finaux

Implementation - recommandations

Le **plan de travail** doit être crédible et cohérent avec le type d'action, les défis et la méthodologie

- **Liez tâches, responsabilités, livrables et ressources**

Calendrier

- Les **jalons** (milestones) permettent un suivi du projet: mesurables et points de décision
- Vérifiez le timing des demonstrateurs (IA), les interdépendances entre tâches

Analyse des risques et plan de mitigation doivent être complets et crédibles. Pensez aussi aux risques techniques / administratifs

Budget: justifiez et détaillez les postes principaux, spécialement le recours à la sous-traitance

- Surestimation du budget / personnel = échec de la proposition
- Détaillez les postes budgétaires (équipement, voyages, etc.) $\geq 15\%$ coûts de personnel
- Annoncez clairement la dépréciation et l'utilisation des équipements / capitalisation

Implementation - recommandations

Le **partenariat** doit répondre aux exigences de Horizon Europe et de l'appel à projets CleanH2 JU 2023.

- Prenez en compte la **coopération internationale**.
- Veillez à la **dimension européenne** du projet: si le focus est trop déplacé sur un pays/une entreprise, alors une autre source de financement doit être trouvée.
- Construisez un **partenariat équilibré** (secteur et géographie) en lien avec la nature/taille/complexité du projet; et complémentaire, en évitant les partenaires fantômes/cosmétiques

Structure de gestion

- Soyez simple et efficace
- Identifiez les rôles, la composition, les interactions entre les différents comités
- Définissez la gestion de la qualité et suivi des performances

Evaluation par des experts indépendants

Base de données d'experts de la Commission Européenne

Enregistrement sur le portail "**Funding & tender opportunities**"



Sélection des experts évaluateurs

- Haut niveau de compétence et d'expérience
- Indépendance et absence de conflit d'intérêt

Equilibre en terme de :

- Diversité géographique
- Genre
- Secteur public/privé
- "Renouvellement" d'année en année



25% nouveaux experts



Large champ d'expertise



Réseautage et apprentissage
de bonnes pratiques

Chaque proposition est examinée par au moins 3 experts évaluateurs

Presence d'un **observateur indépendant**

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

