

Danube Region Transport Days 2022

Opportunities for hydrogen applications in EU transport sector through hydrogen corridors and hydrogen valleys



Hydrogen Europe in Numbers

440+ Members

We encompass the entire value chain of the hydrogen ecosystem: from production, distribution to end uses, including Industry, EU regions & H2 National Associations. [Meet Our Members](#)

110k+ Followers

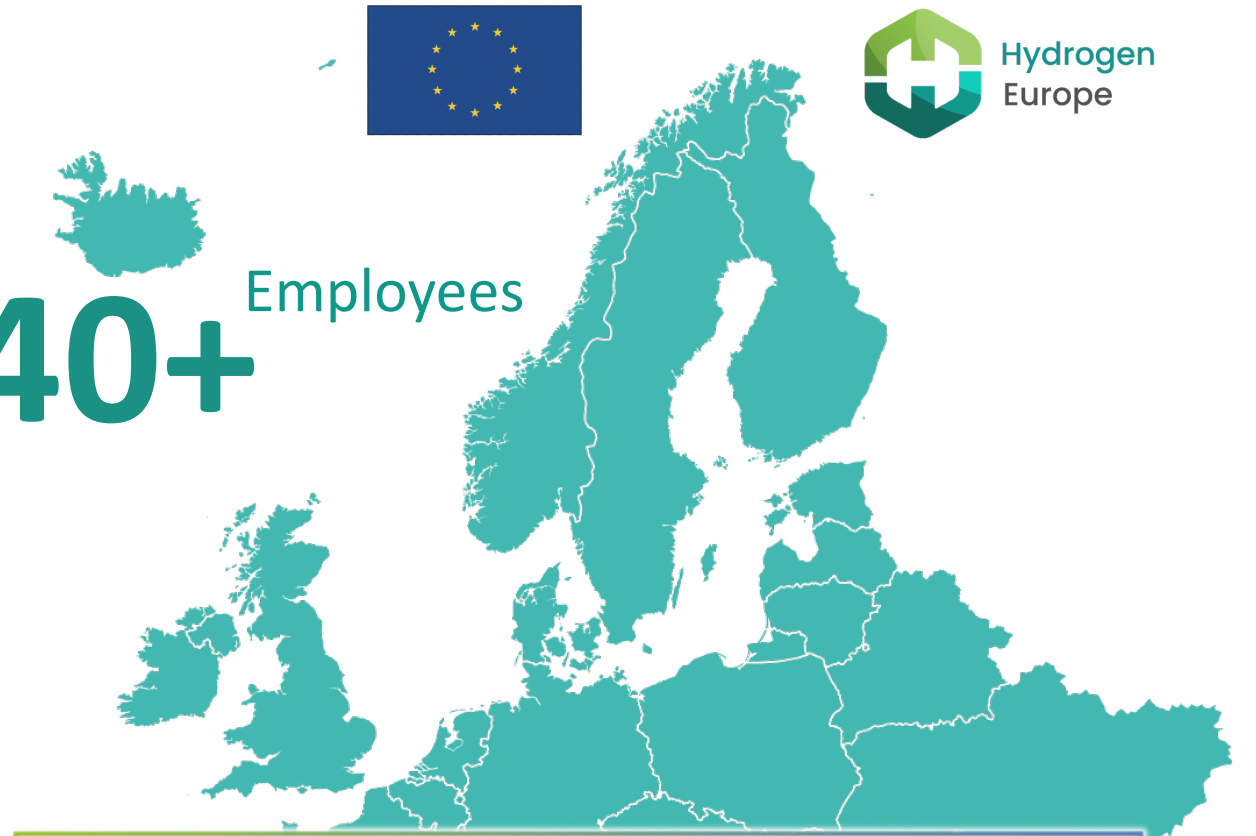
on Social Media



Follow us on:

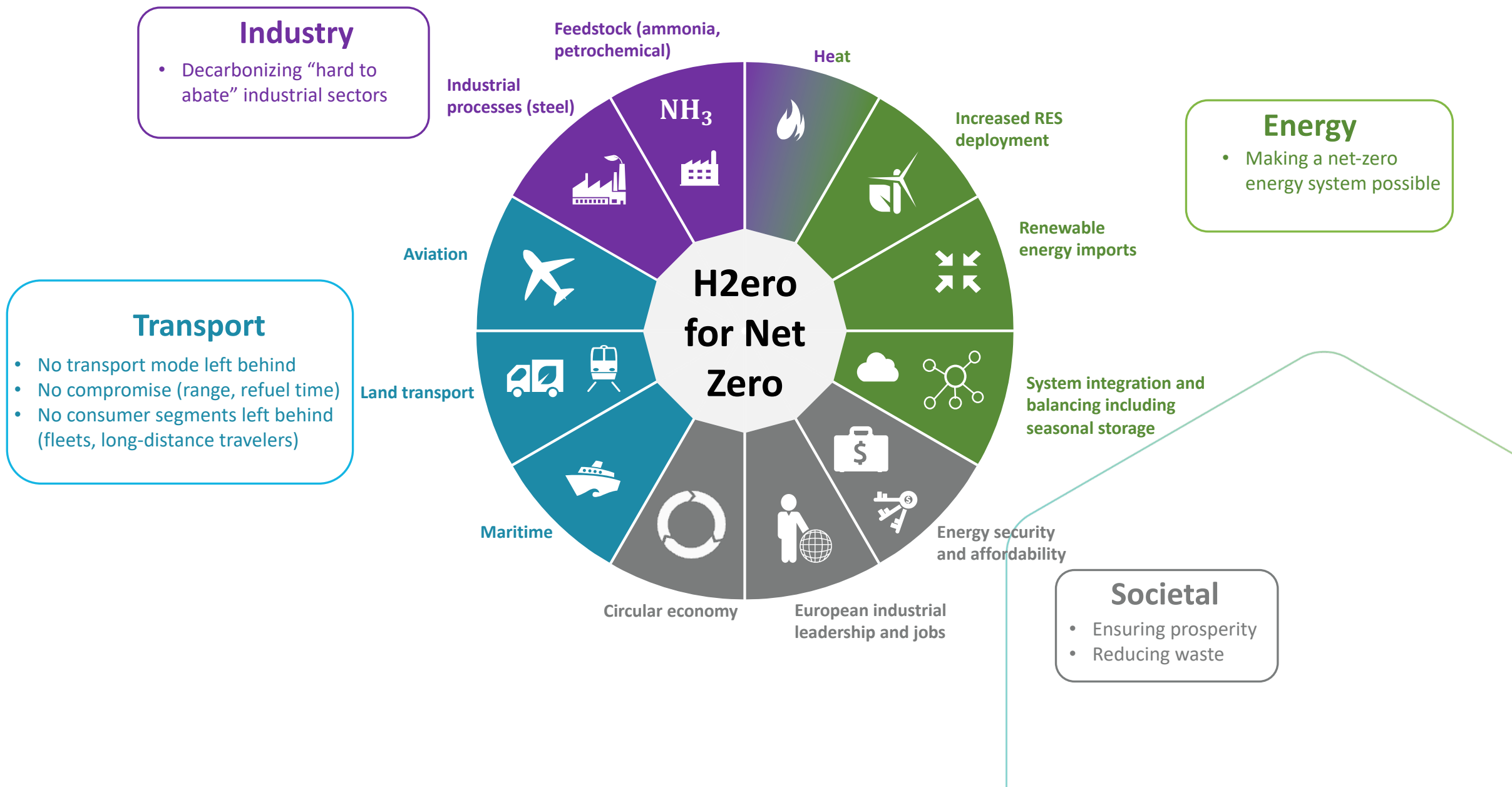


40+ Employees



The banner features the Hydrogen Europe logo on the right and the European Hydrogen Week logo on the left. The text below the logos reads: "Hydrogen Europe Flagship Event" and "25-27 October 2022 • Brussels, Belgium". The European Hydrogen Week logo includes icons for a sun, a factory, a globe, a truck, and a train.

Hydrogen will provide a myriad of benefits in transition to NetZero



The Backbone of Hydrogen Europe: Our Working Groups



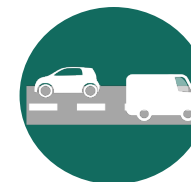
Buildings



Energy



Skills



Cars and Vans
Subgroup



Infrastructure



Production



Mobility



Aviation
Subgroup



Industry



Regional Pillar



Funding & Finance



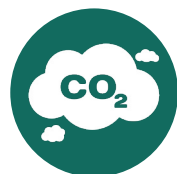
Water and Transport
Subgroup



The Per- and polyfluorinated
alkyl substances (PFAS)
Ad Hoc Group

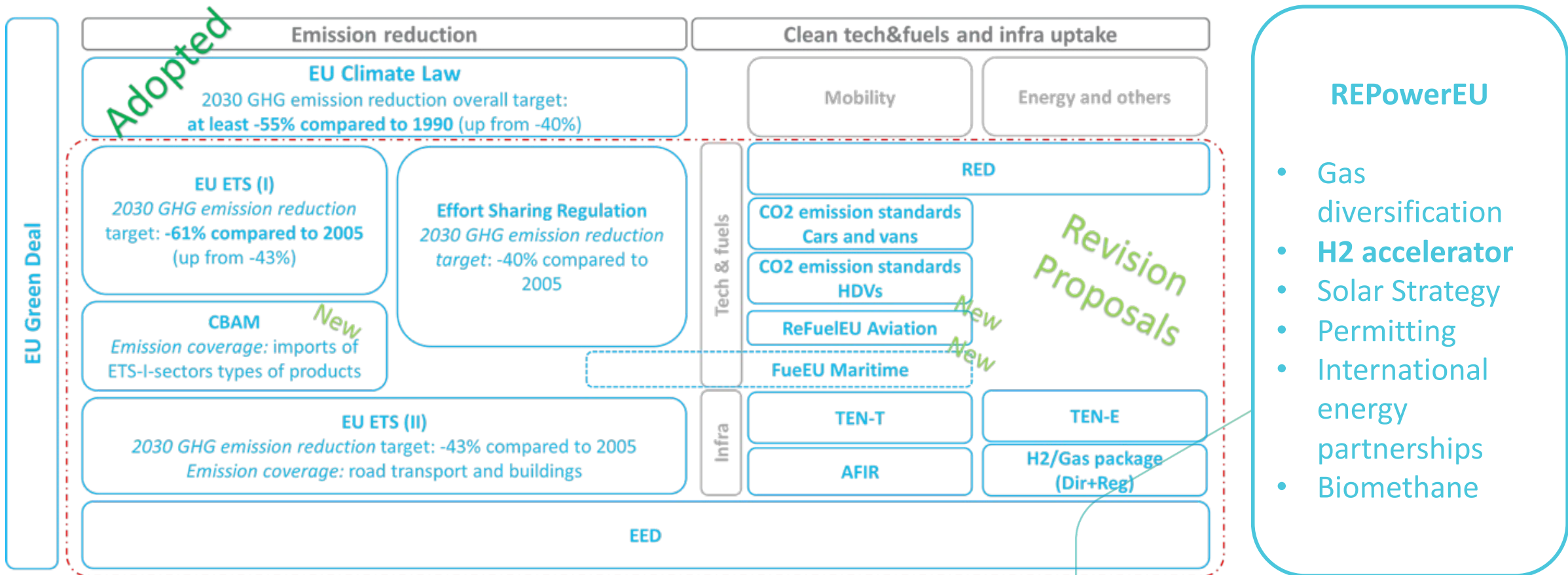


Heavy-duty & Non-
Road
Vehicles Subgroup



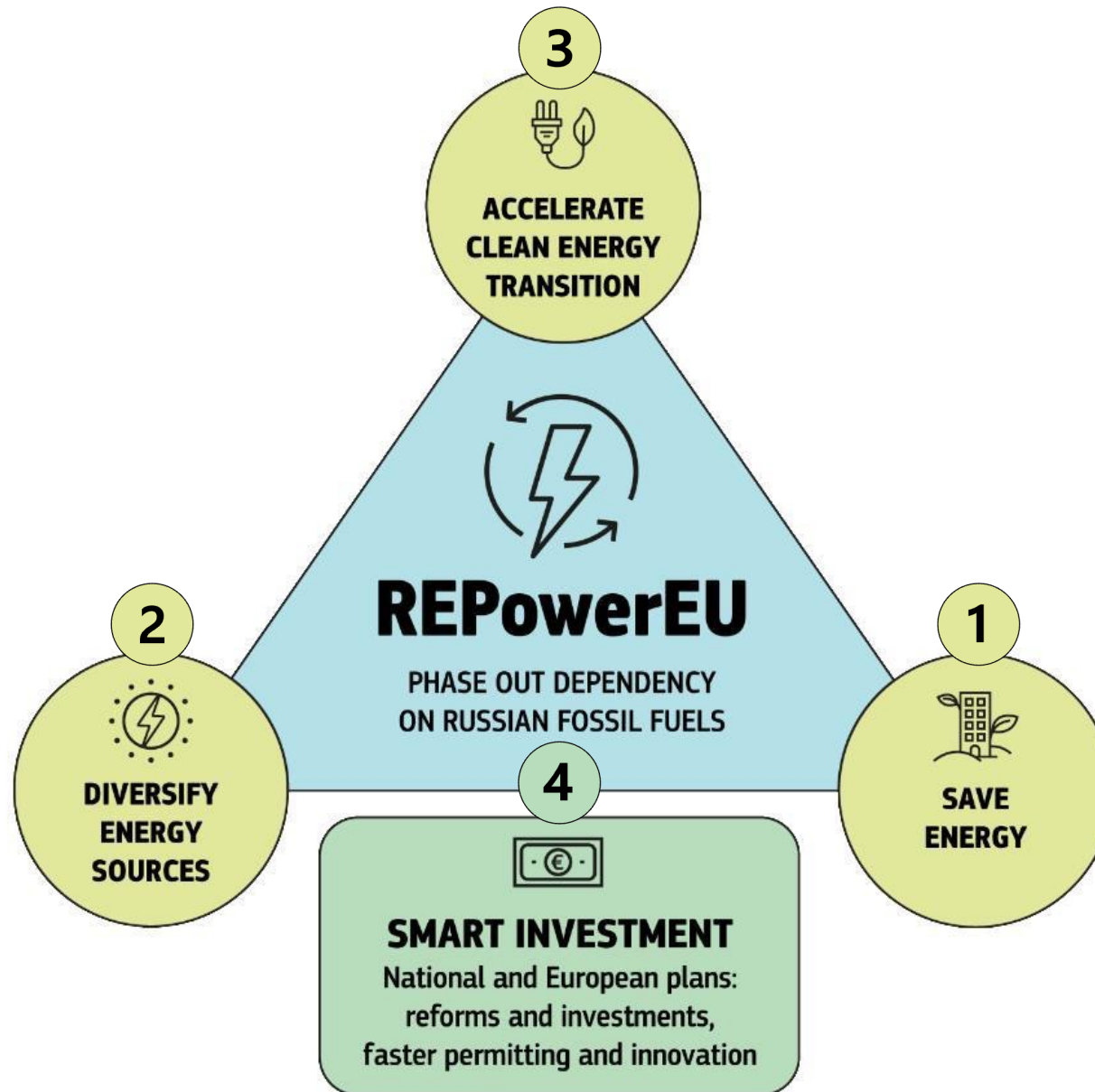
Carbon market reform
Ad Hoc Group

The EU Policy landscape



Main energy and climate legislation and proposals relevant for hydrogen published or proposed in 2020 to 2022 (Source: Hydrogen Europe)

REPowerEU: 4 Main Pillars



Infrastructure planning for hydrogen

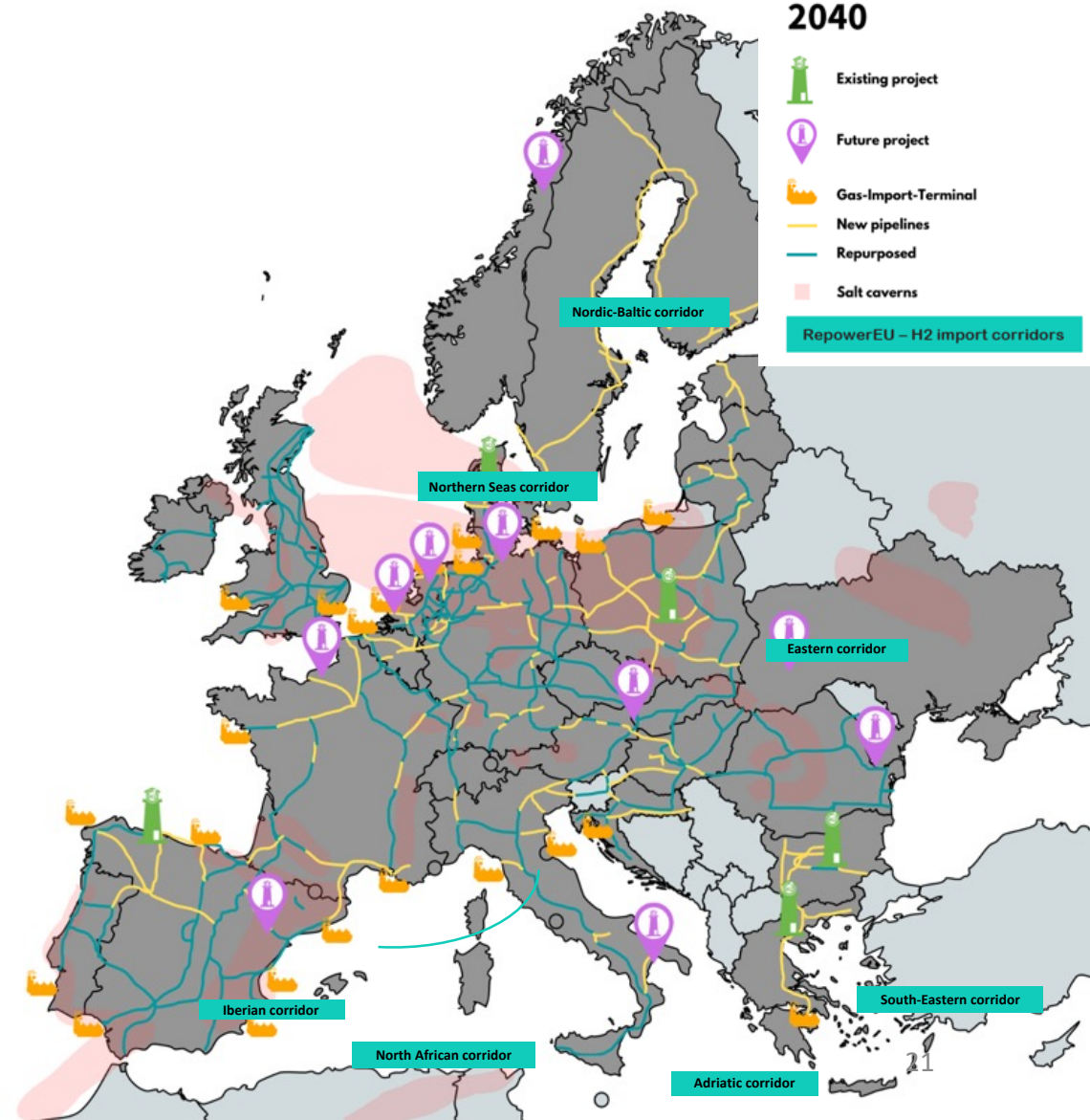
20 million tonnes of hydrogen by 2030

Local production

- 100 GW of Electrolyser capacity needed by 2030 to meet the 10m tonnes of European produced H2

Imports

- Pipelines
 - 2-4 crossing the Mediterranean (each 10-20 GW, 4-7 Mton of hydrogen);
 - 2-3 connecting North Sea (each 10-20 GW, 3-5 Mton of hydrogen).
- Import by (mainly) ammonia shipment
 - 2-3 Mton hydrogen = 11-17 Mton ammonia



Complementary to TEN-E framework, the EC will support the development of three hydrogen import corridors in the Mediterranean, North Sea and Ukraine.

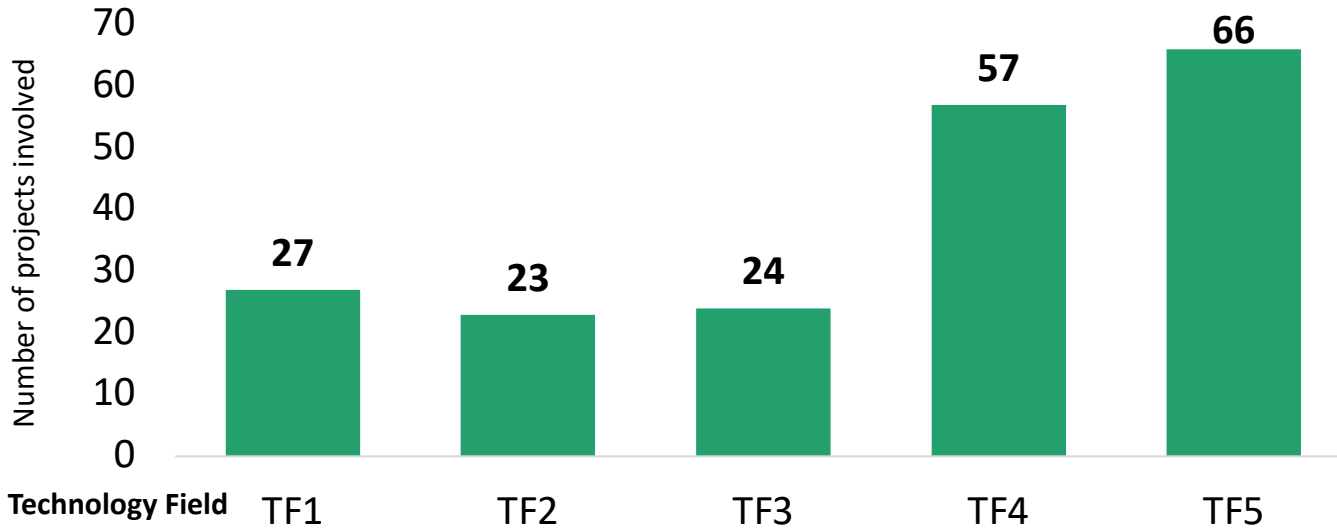


Overview

- December 2020, 22 EU countries & Norway signed manifesto to:
 - Launch “important projects of common European interest”
 - Set up a **clean hydrogen value chain**
- IPCEIs are **large projects addressing market failure** and must:
 - significantly contribute to strategic EU objectives
 - involve several EU countries
 - involve private financing by the beneficiaries
 - generate positive spillover effects across the EU
- IPCEIs feature projects on **R&D and FID**
- IPCEIs allow MS to **fund projects** while **respecting state aid law**
- Companies & MS follow a notification process
 - Need to prove to EC that projects would not be realised under market forces
 - No disproportionate distortion of competition as all EU members can benefit



There are **127 projects** in total in both the **Technology and Industry Chapeaus**



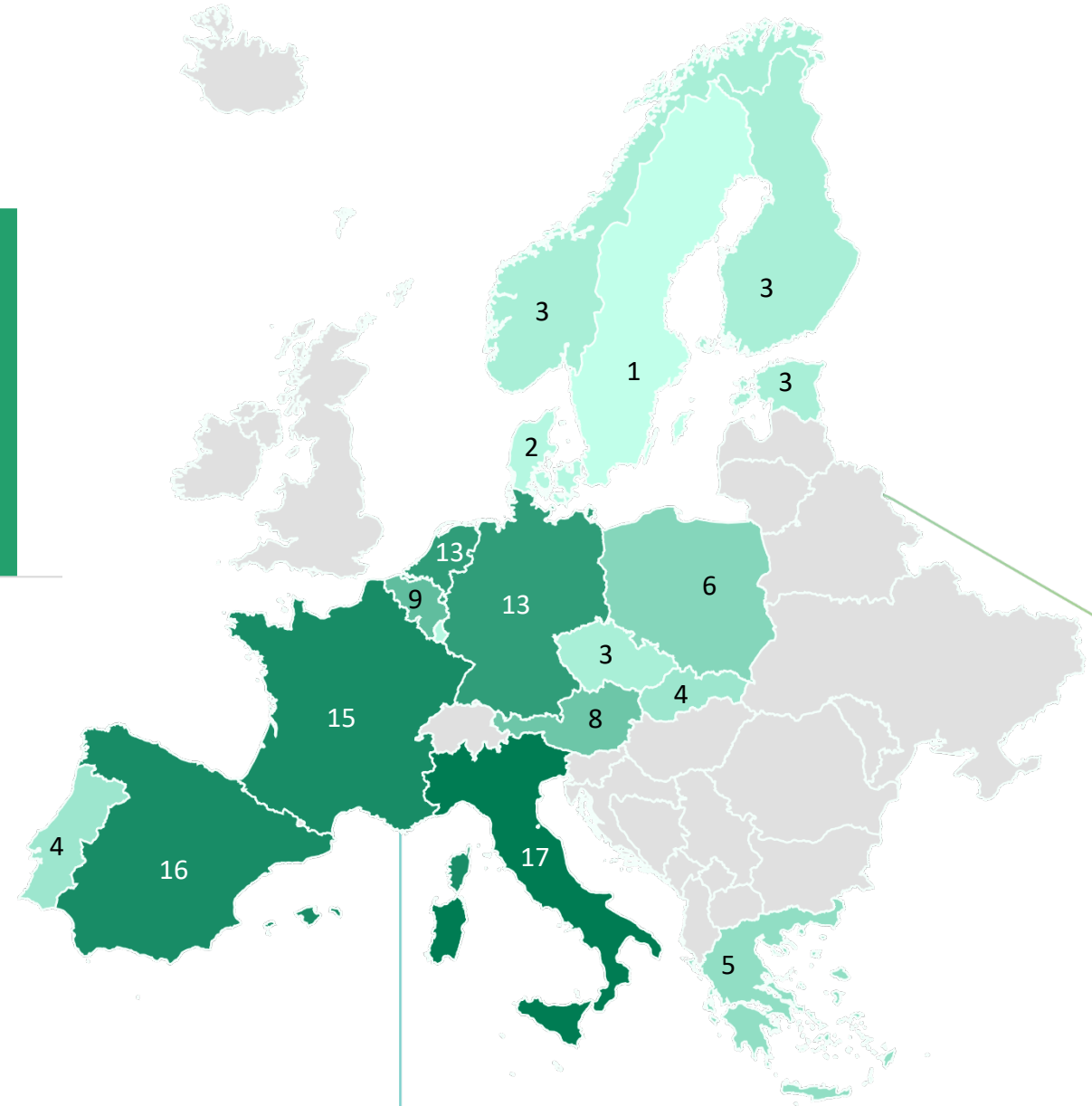
TF 1 - Development and production of H2 generation technology

TF 2 - Development and production of fuel cells

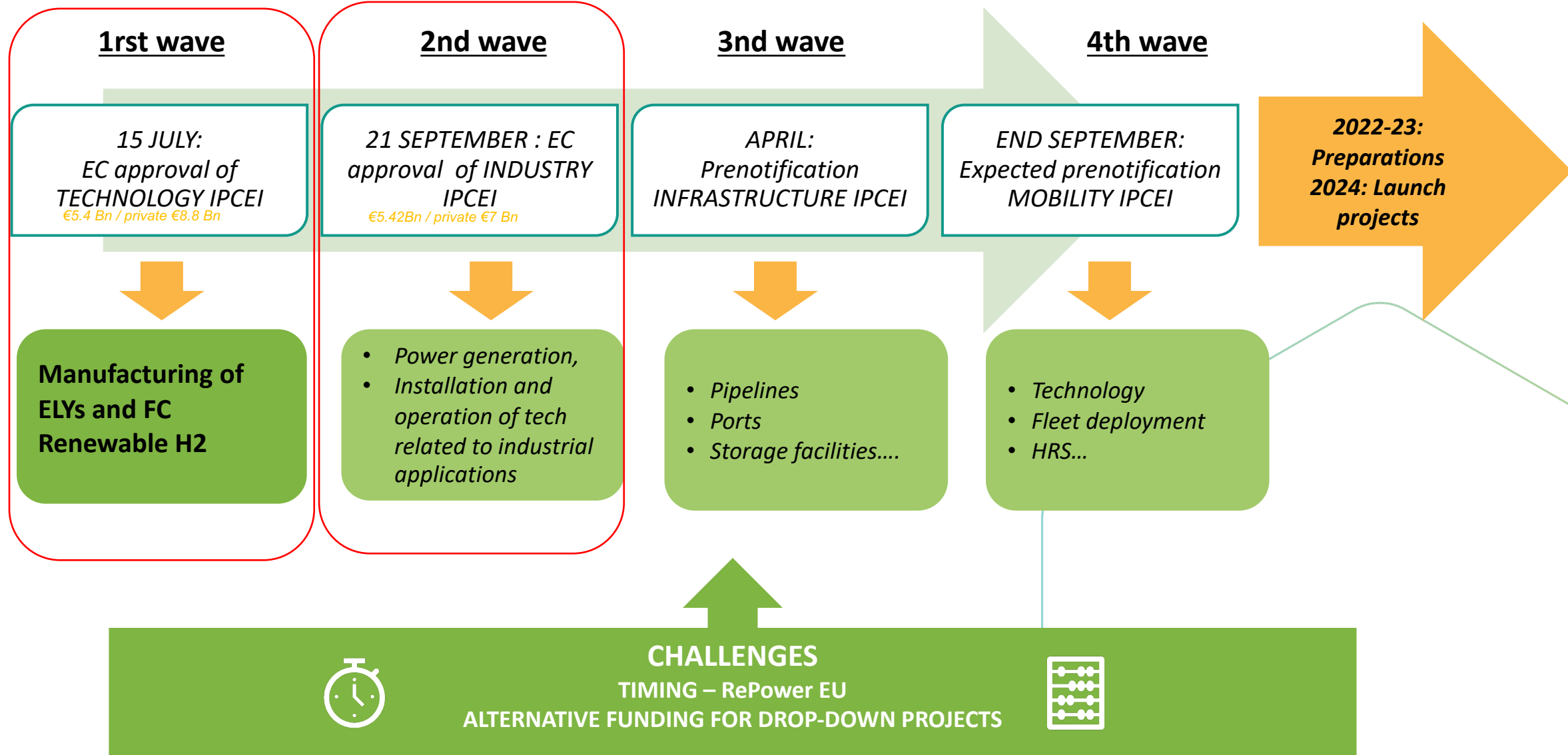
TF 3 - Generation capacity, storage, transportation, distribution

TF 4 - H2 generation and transport Infrastructure

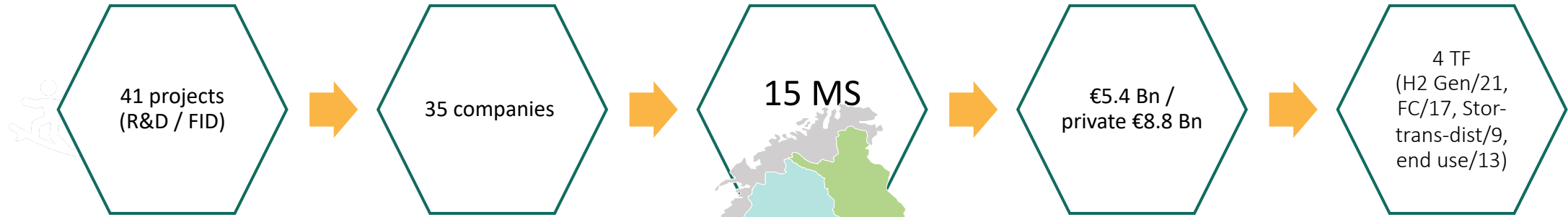
TF 5 - End use, including deployment



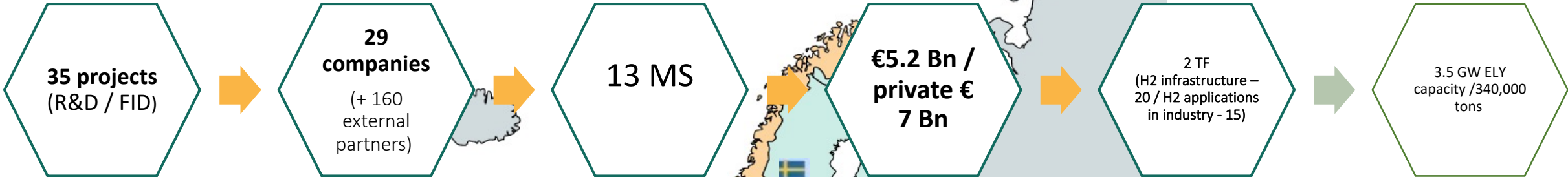
H2 IPCEIs' ongoing process



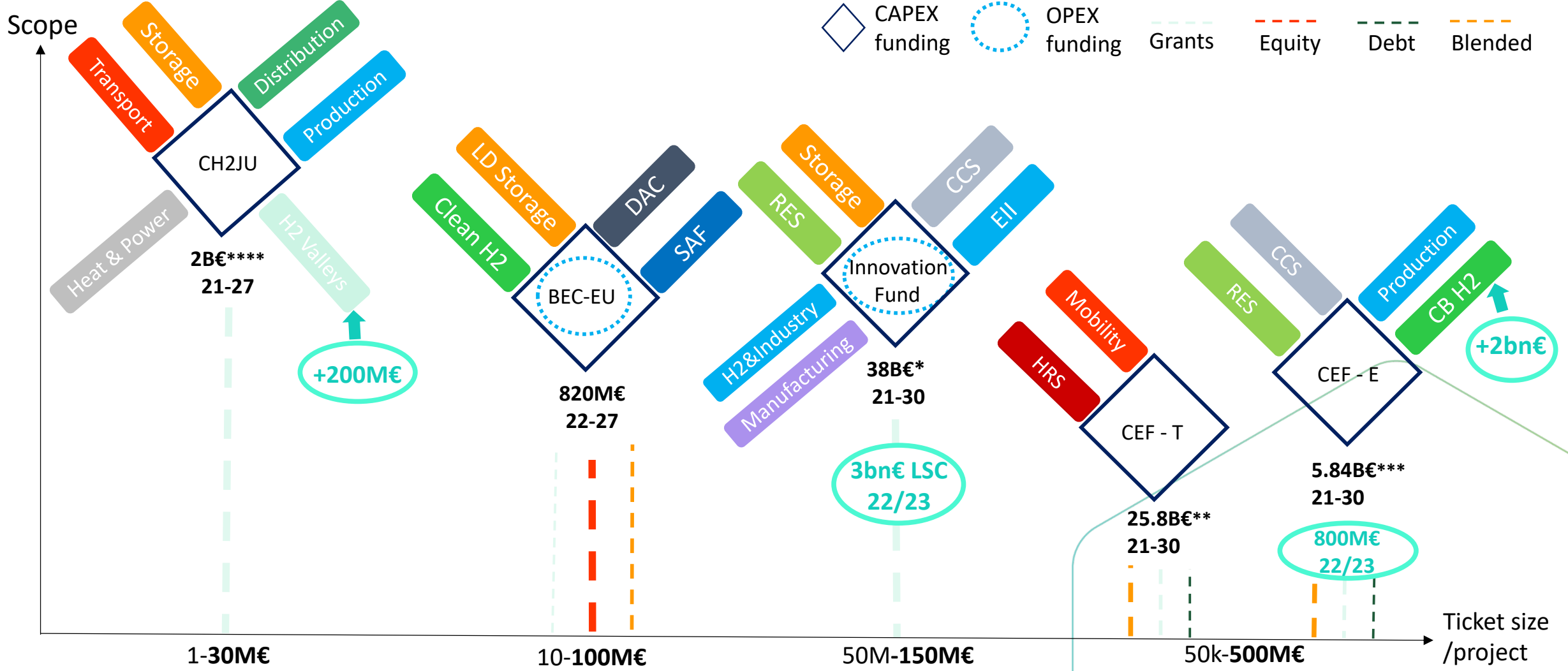
IPCEI Hy2Tech: A key step forward



IPCEI Hy2Use: for large scale production & industrial projects



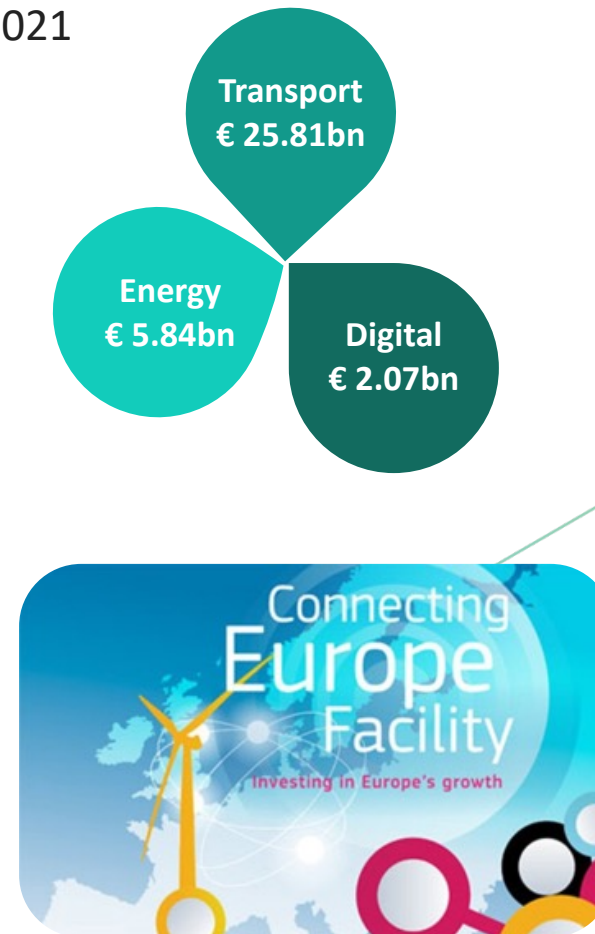
RepowerEU & EU Highest Impact Funds



* at current carbon prices ** 1.5B€/ year for AFIF *** 20% of which for cross border renewable projects

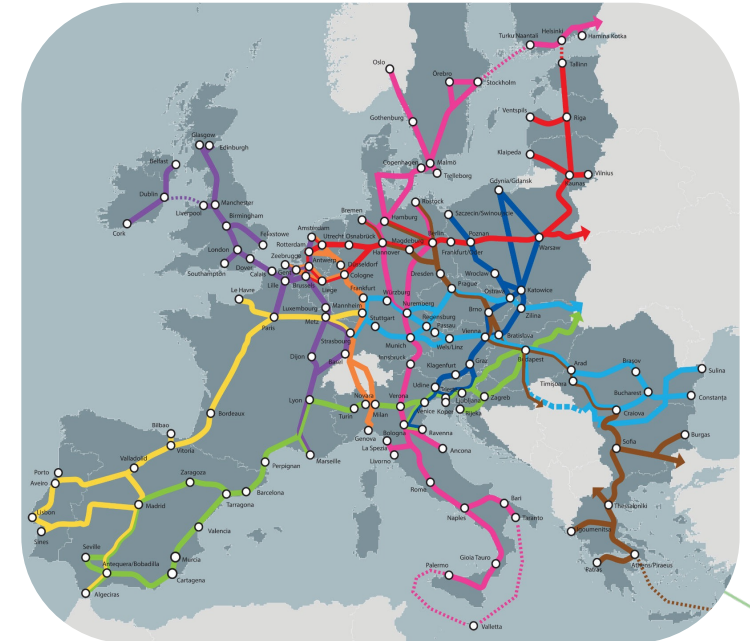
Overview

- Current legislative status: [Regulation \(EU\) 2021/1153](#) adopted in July 2021
- Managed by CINEA
- Rules for 2021-2027 with an overall budget of: € 33.71bn
- Higher max. funding rates:
 - general 60% / 30%,
 - cohesion 85% / 70%
- Support type:
 - Grants, Guarantees, Project bonds



Overview

- Funding instruments for EU transport **infra** policy
 - **Mobility infrastructure** investments
 - Refuelling stations
 - Retrofitting/ upgrade of infra
 - Traffic management
 - Supports roll out H2 RS infra for all modes of transport
- TEN-T policy foresees:
 - Completion of **Core Network** by 2030, **9 multimodal corridors**
 - Completion of **Comprehensive Network** by 2050, all EU Regions
- Focuses on:
 - Cross border projects
 - Projects removing bottlenecks or bridging missing links
- Implementation
 - Through **implementing partners**: EIB
 - Projects need **approval from member states**



2 Enveloppes
Cohesion
General

Multiple Deadline
19/01/2022
07/06/2022
10/11/2022

CEF T – AFIF awardees (June 2022 deadline)

	Project Name	Coordinator	Funding	Description
BE	BelgHyco	Colruyt Group	10.727.190,00 €	3 HRS along Core ports of Antwerp and Halle and comprehensive network
DE	GREATER4H	MJEV	12.441.000,00 €	12 HRS in DE, DK and SWED along the Scandinavian-Mediterranean Core Network Corridor
FR	Dijon Mobility H2	Dijon Metropole Smart Energy	6.999.900,00 €	2 HRS in Dijon, to refuel public vehicles +2 ELYs with compressors and storage facilities
FR	H2 Infra for Sustainable Transport Roads	Air liquide France industrie	9.564.186,00 €	4 HRS of 2t per day in France
FR	Hype Network Paris 2024	Hype Assets	14.688.000,00 €	10 HRS located along the TEN-road network in the urban node of Paris
FR	Mob'HyZEE Hydrogen Ecosystems	Hynamics	10.209.201,00 €	4 HRS for public transport for H2 buses and private HDVs.
IT	SerraHydrogenValle	Milano Serravalle - Milano Tangenziali	13.746.486,00 €	5 HRS in North-West Italy
NE	H2Accelerate Inaugural Station	Shell Nederland	17.432.640,00 €	8 HRS in NE and FR including truck loading facilities at the H2 plant
NE	HRS and electrolyser in The Netherlands 2	Van Kessel Olie BV	3.526.908,00 €	4 HRS 2 on the comprehensive and 2 on the core network for LDVs and HDVs
PL	Clean cities – hydrogen mobility in Poland	Orlen SA	12.795.630,00 €	5 HRS along the North Sea-Baltic and Baltic-Adriatic corridors and in Pila

Alternative Fuel Infrastructure Facility – Horizontal criteria

Activities covered

If required for the viability of the deployment zero-emission recharging and refuelling infrastructure, the following activities are eligible:

- Related **energy storage** facilities;
- **Deployment of electrolyzers based on RES** for electricity supply
- Sustainable use of **water resources** for the production of green hydrogen.

Activities not covered

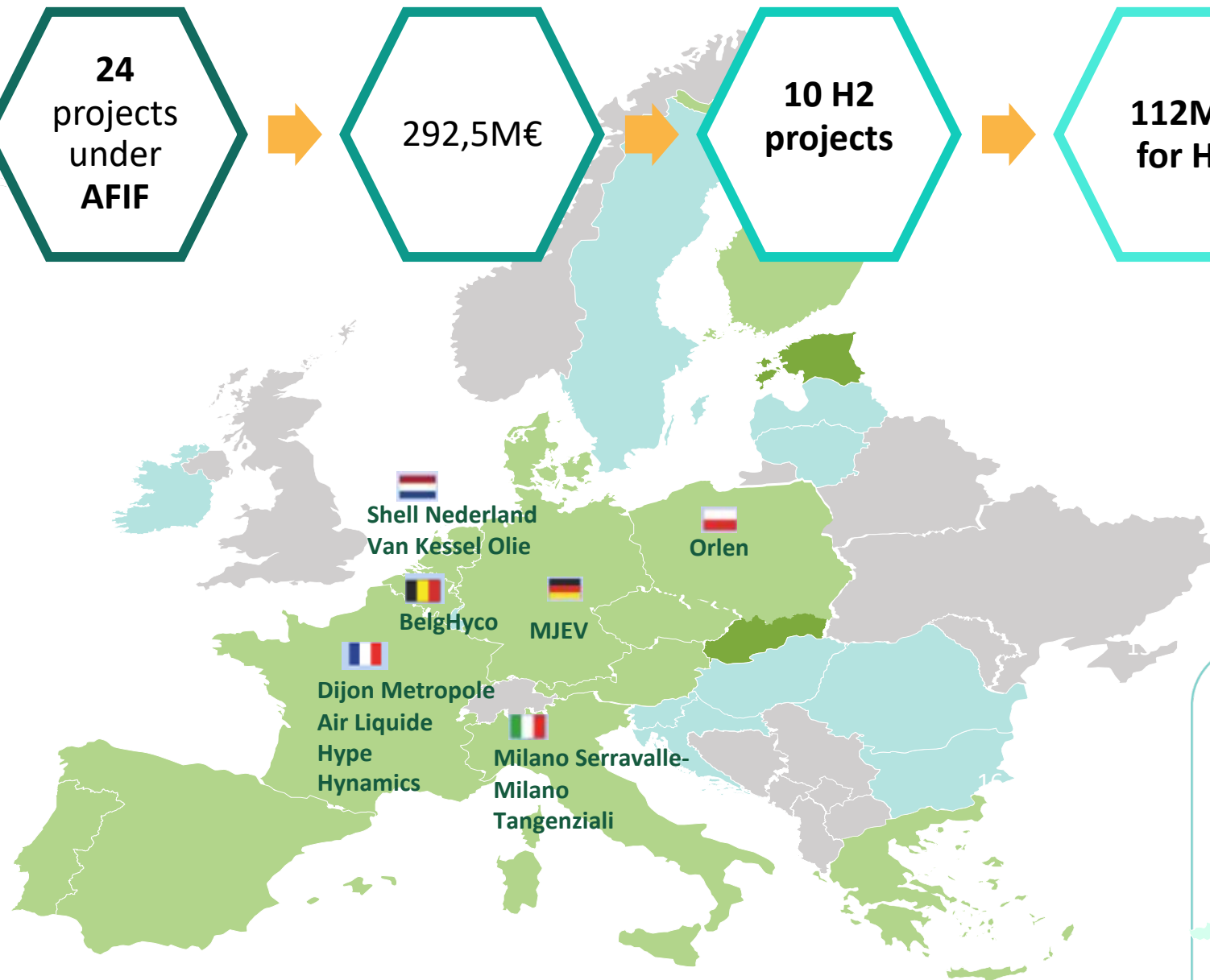
- Land acquisition, renting of facilities, permits, indirect costs, staffing and admin costs
- **OPEX**
- **Upgrade of existing electric recharging infrastructure;**
- **Hydrogen production** facilities based on **SMR**
- **Hydrogen production** facilities used for **other purpose than transport.**
- **Vehicles or vessels** except in the case of inland waterway and short sea shipping as mentioned below

Exceptions for acquisition of vehicle/vessels

- For **fitting or retrofitting** the **main propulsion system** (zero-emission);
- For passenger transport, only for inland vessels longer than 20m with more than 12 passenger capacity;
- Eligible cost is limited to the **difference between a fossil-fuel vessel and the zero-emission vessel as regards the propulsion system,**
- Deployment of **electric & Hydrogen/ FC vessels** for waterborne transport can be for use in **private fleets of ships and vessels,** excluding cruises and Exclusive Day trip tourism vessels, on the condition that the vessels are operating under MS law and serving EU passenger and cargo destinations and/or other EU services predominantly for at least 5 years from the date they are put in operation.
- Additionally to the pure hydrogen supply formats, for maritime applications, **hydrogen carrier fuels** (e.g. ammonia) are admitted.



CEF T : AFIF Rewarded projects - June 2022



Study: BEVs and FCEVs are needed to lower the cost of transition

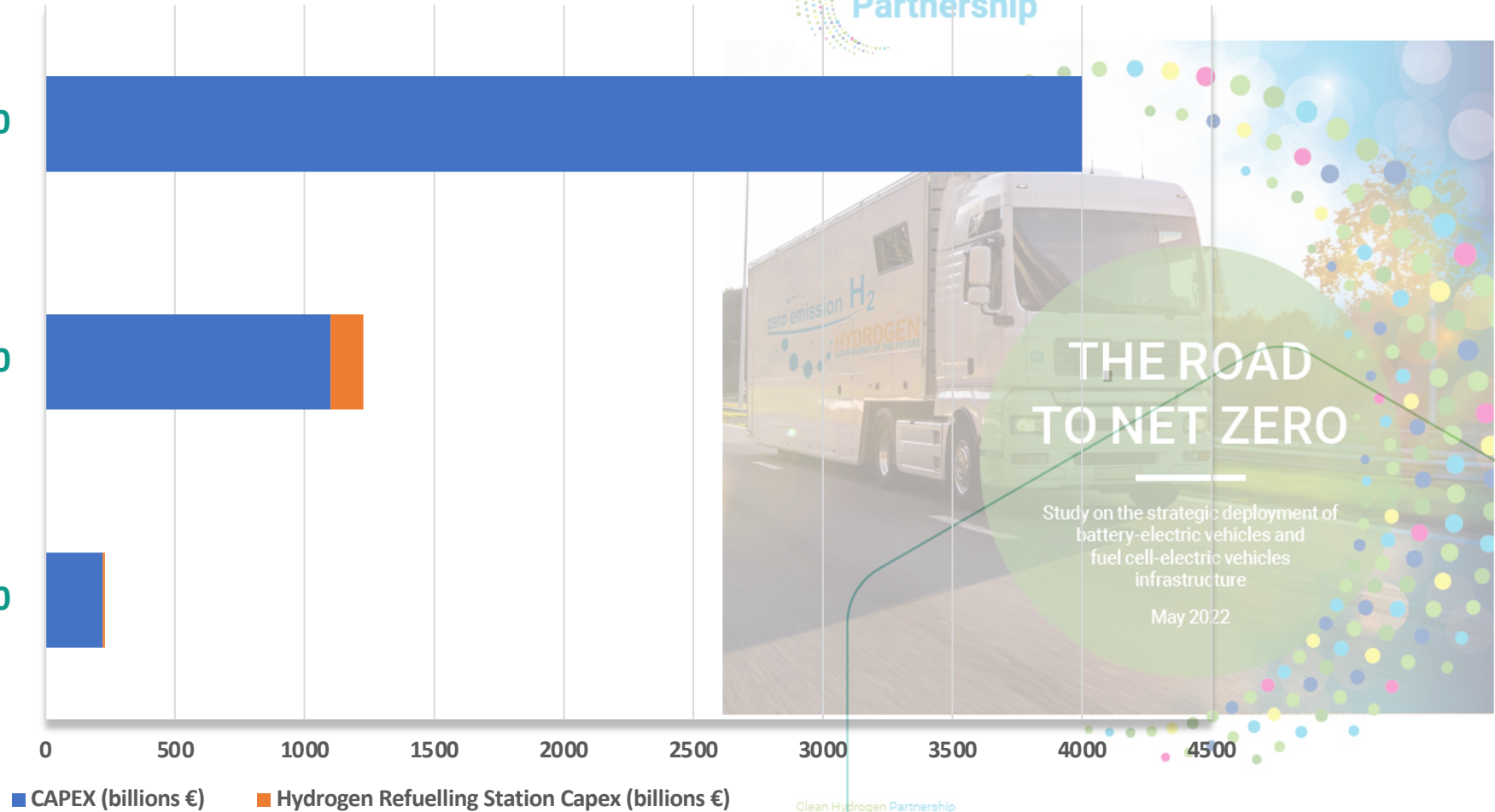
CAPEX for zero-emission infrastructure

CAPEX for zero-emission infrastructure

Battery-electric only scenario 2050

Combined Scenario 2050

Combined Scenario 2030



■ CAPEX (billions €) ■ Hydrogen Refuelling Station Capex (billions €)

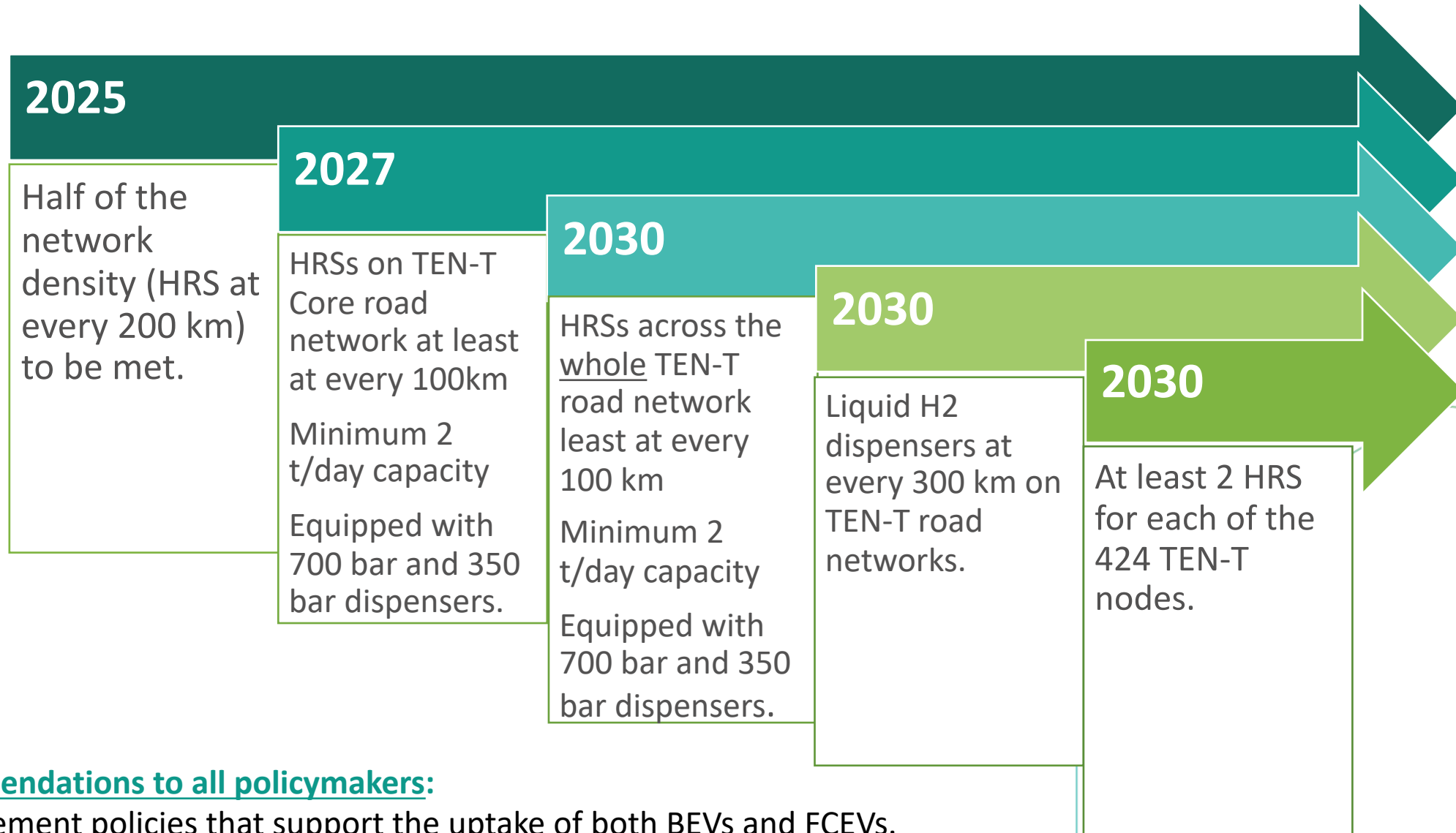
Clean Hydrogen Partnership
Avenue de la Toison d'Or 56-60
BE 1060 Brussels
www.clean-hydrogen.europa.eu

EUROPEAN PARTNERSHIP

Co-funded by the European Union

Minimal targets for Hydrogen refueling stations deployment in EU

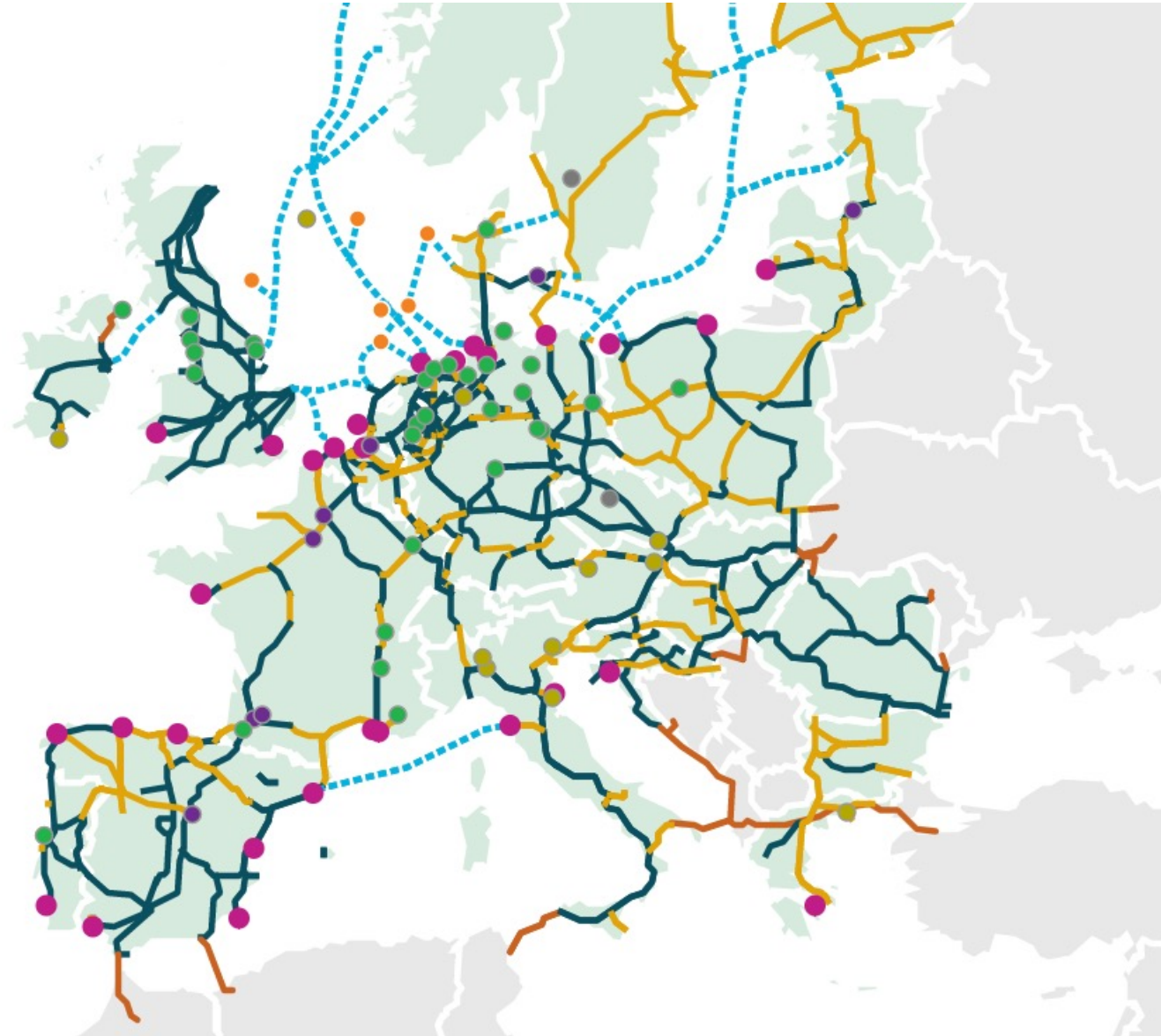
106 Industry stakeholders signed a call to institutions



Recommendations to all policymakers:

1. Implement policies that support the uptake of both BEVs and FCEVs.
2. Support minimum uptake of charging/refuelling infrastructure to supplement organic growth before 2030.

The next big milestone is the European Hydrogen Economy



How can partners in the Danube Region contribute to make this happen?



Thank You



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