

# Proyectos de hidrógeno: estrategias, éxitos y riesgos

Daniel Fraile, 17 Marzo 2026



## 600+ Members

We encompass the entire value chain of the hydrogen ecosystem: from production, distribution to end uses, including Industry, Non-Profits, EU regions, H2 National Associations and Global Partners.

## 40 Countries from Europe and beyond

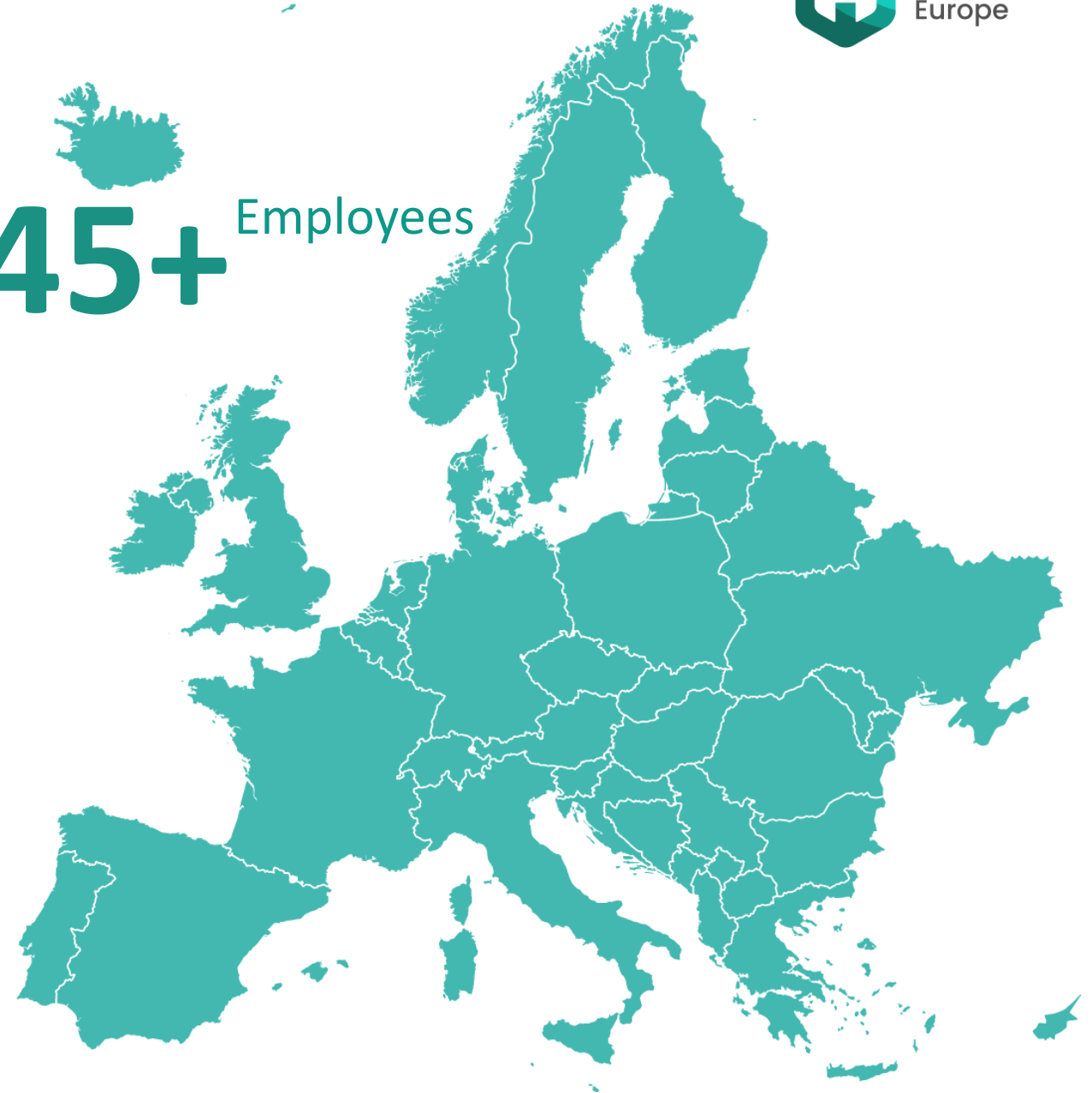


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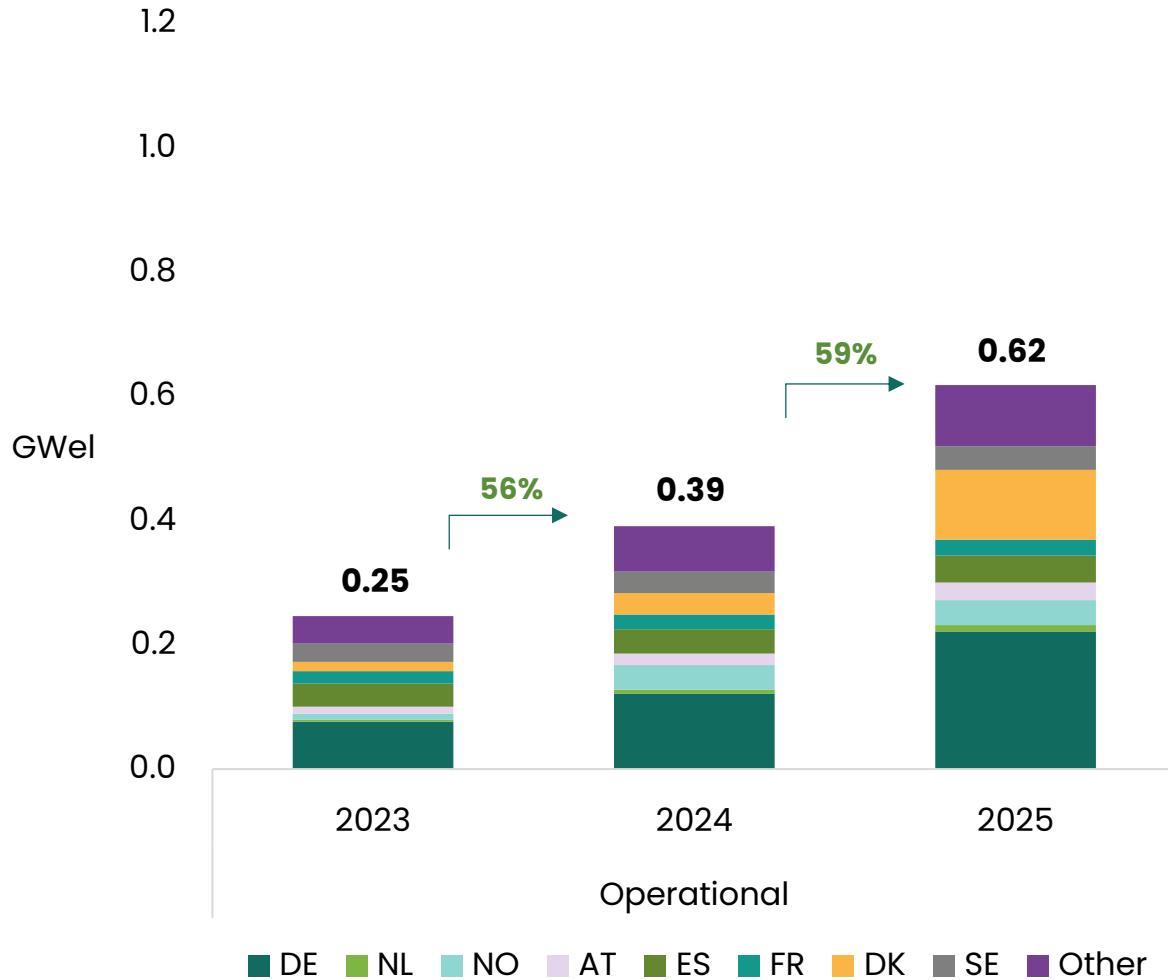
## 45+ Employees



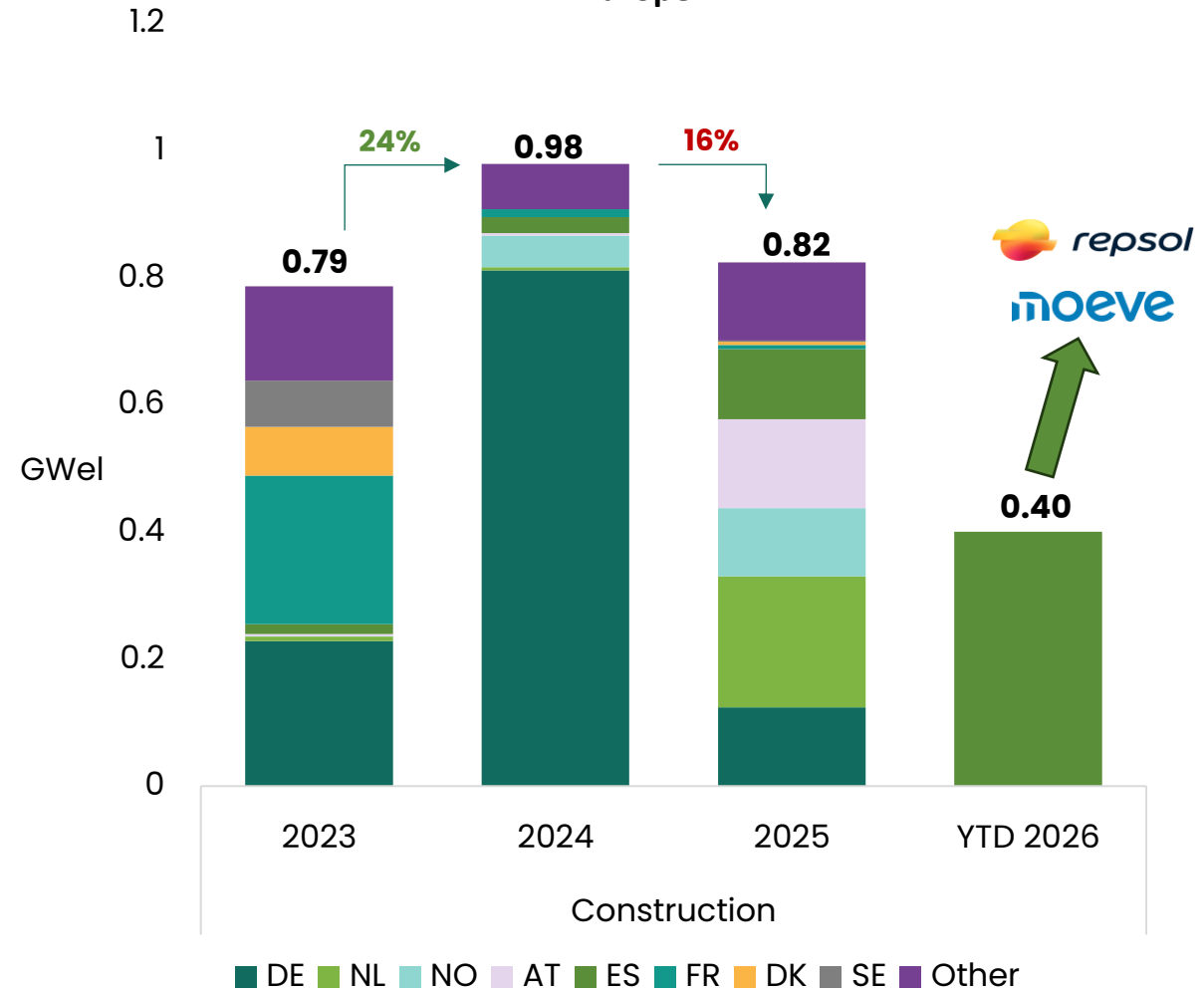
# Rapid installations growth. FIDs happening in a growing number of countries

In 2026, Spain alone had already reached FID for half of the total FID capacity reached in 2025

Cumulative operational water electrolysis capacity in Europe by February 2026



Water electrolysis capacity starting construction / has reached FID in Europe

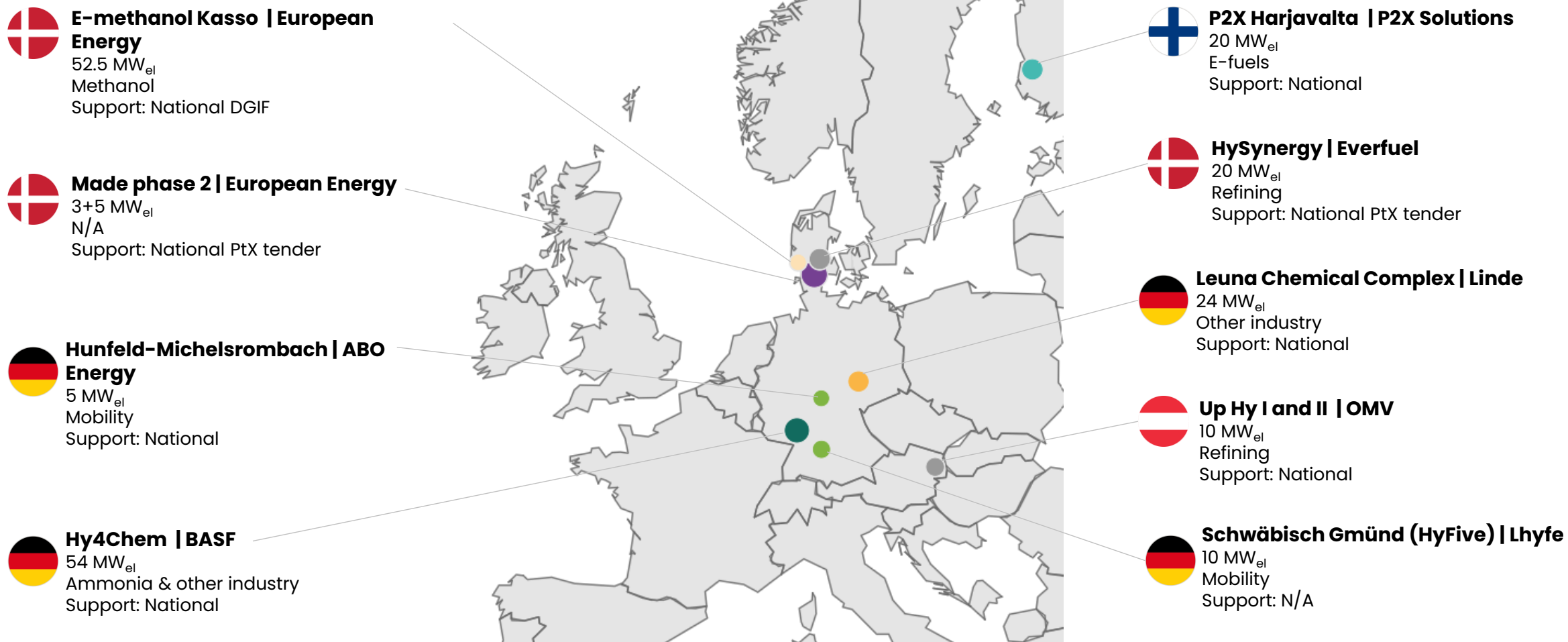


# 23 new projects came into operation in 2025, totalling new 225 MW<sub>el</sub>

There are over 600 MW<sub>el</sub> of operational water electrolysis in Europe

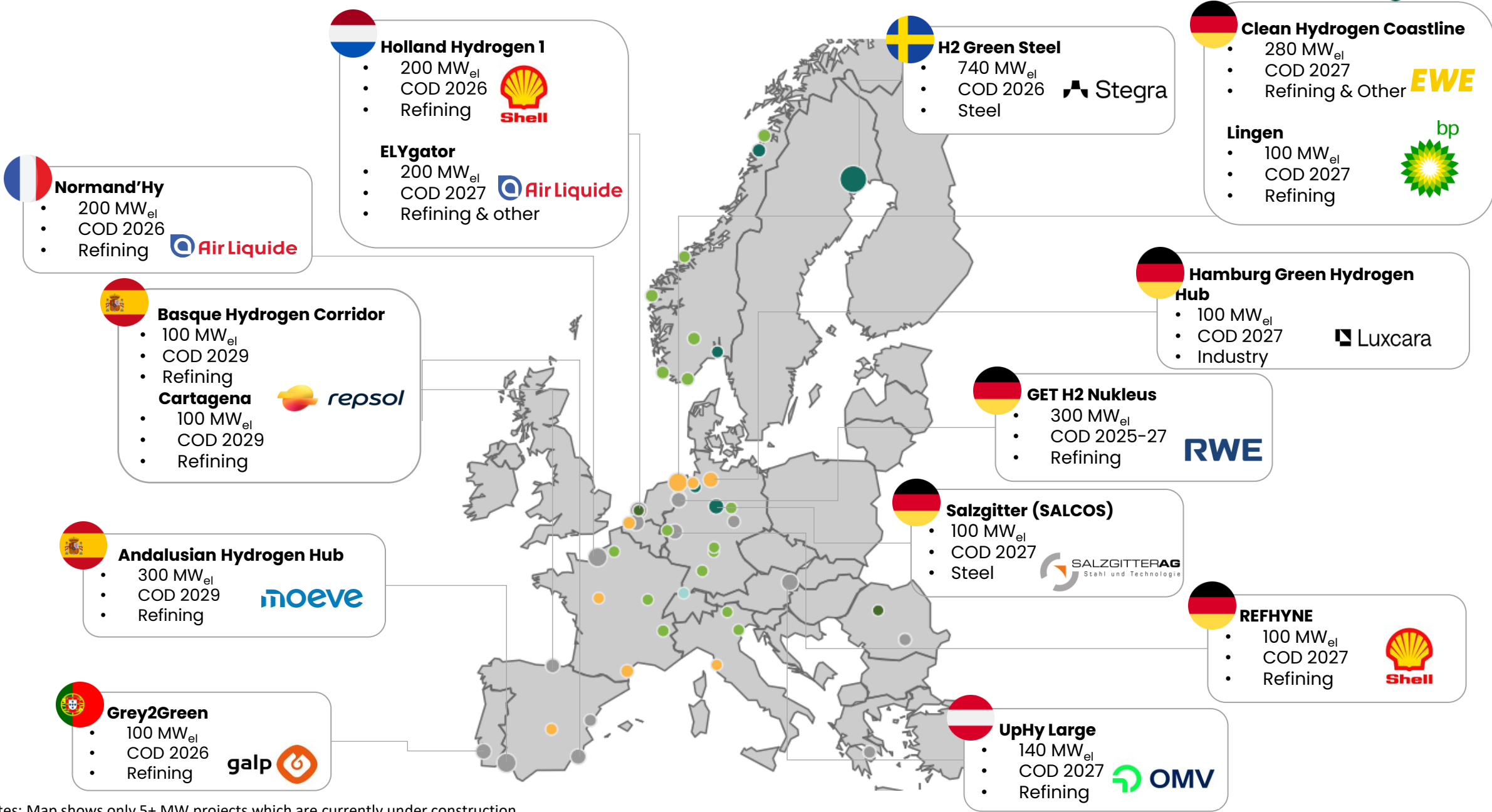
## Project bigger than 5 MW<sub>el</sub> that started operation in 2025.

● Methanol ● Ammonia ● Refining ● E-fuels ● Other industry ● Mobility ● N/A



Average project size increased from 3.5 MW<sub>el</sub> in 2024 to 9.8 MW<sub>el</sub> in 2025.

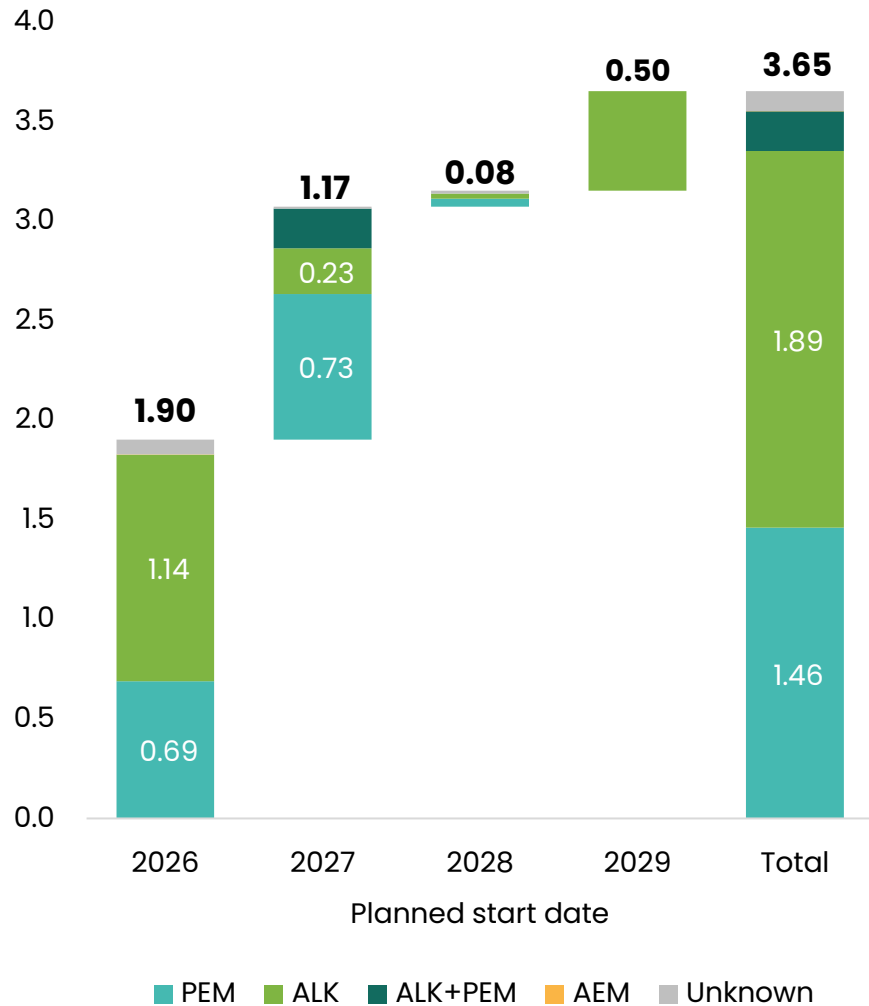
# 3.7 GW<sub>el</sub> FIDs in Europe, of which 822 MW<sub>el</sub> during 2025









Notes: Map shows only 5+ MW projects which are currently under construction









# From the past FID projects, around 1.9 GW<sub>el</sub> plan to start operation in 2026

Total under construction electrolytic hydrogen projects by announced start date (in GW<sub>el</sub>) as of Jan 2026.



First plants bigger than 100 MW<sub>el</sub> are planned for 2026, adding 1,340 MW<sub>el</sub> more than the double of current operational capacity!

- 
**RWE** GET H2 Nukleus 1 | 100 MW 
- 

**Holland Hydrogen** | 200 MW 
- 

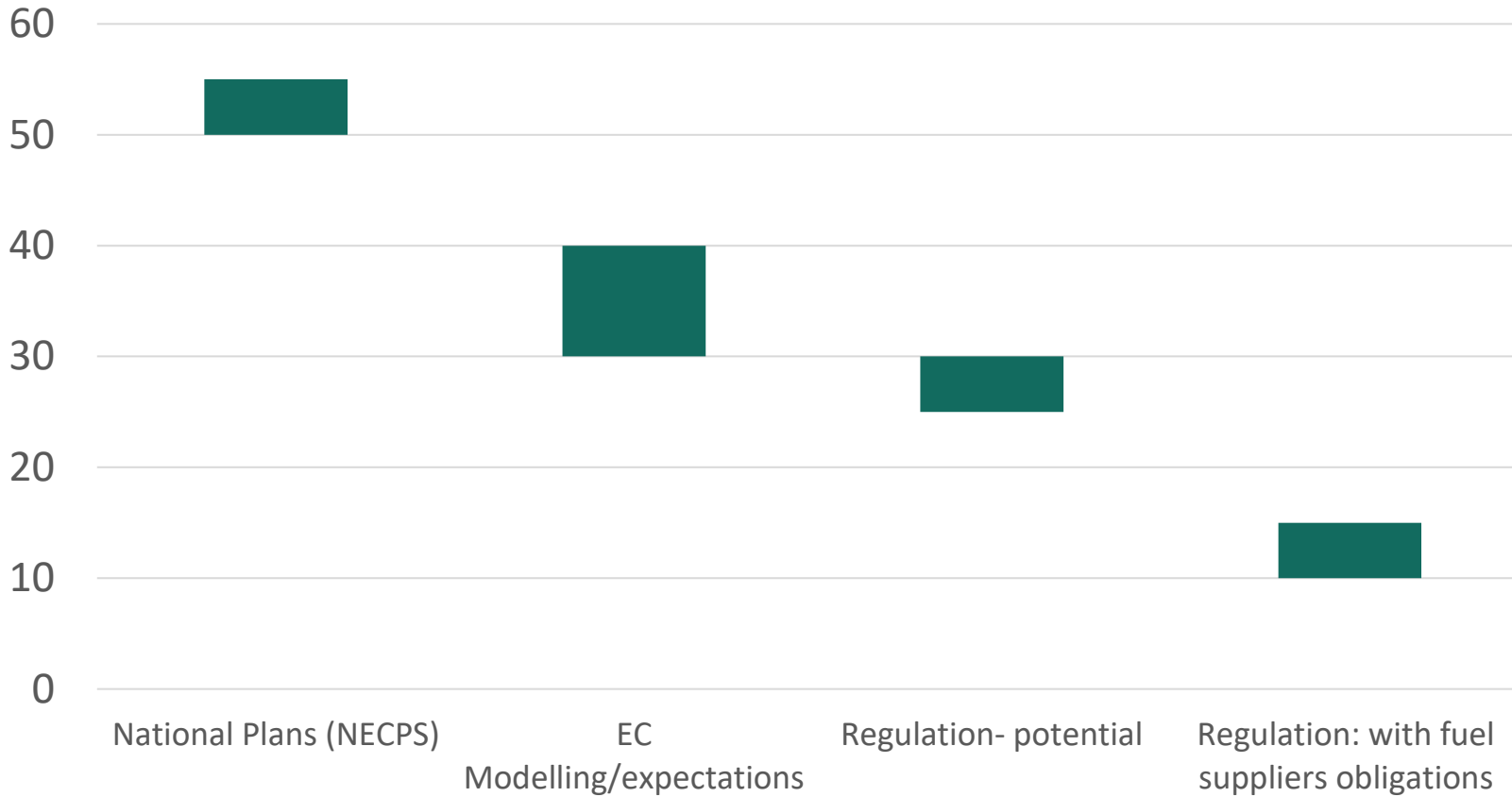
**Air Liquide** Normand'Hy | 200 MW 
- 

**Stegra** H2 Green Steel | 740 MW 
- 

**galp** Sines Grey2Green I | 100 MW 
- 
**RWE** GET H2 Nukleus 2 | + 100 MW 

end 2026/  
beg 2027

Plus other +30 projects between 5-35 MW<sub>el</sub>, adding over 400 MW<sub>el</sub>, are planned to start in 2026, but some might experience delays.

# Even if smaller than anticipated, delivering 15GW for 2030 is a big challenge ahead

Plans vs reality (GW by 2030)



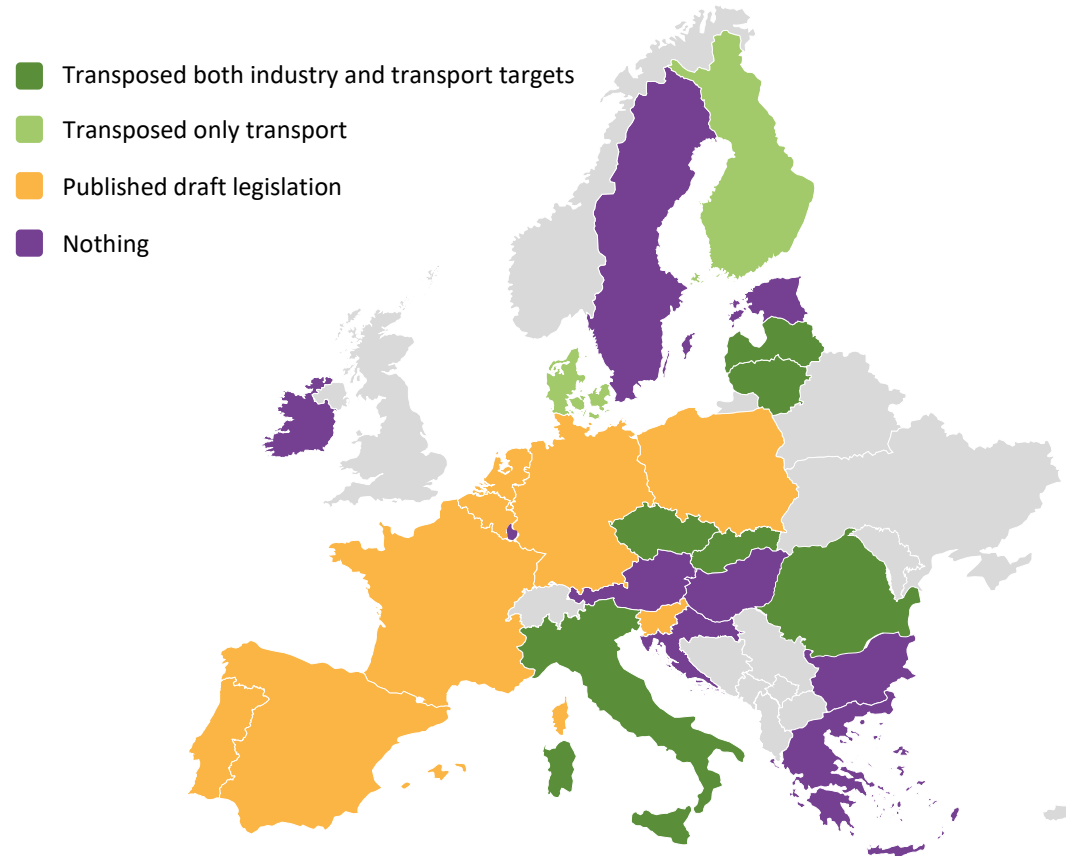
Having 10-15GW by 2030 implies:

*a X10 increase rate on annual commissioning (From 200MW/y to around 2000MW/y)*

# Regulatory and funding framework

# Regulation could drive a potential demand of 2.8 Mt of RFNBO by 2030, but depends on national transposition, penalties, and enforcement

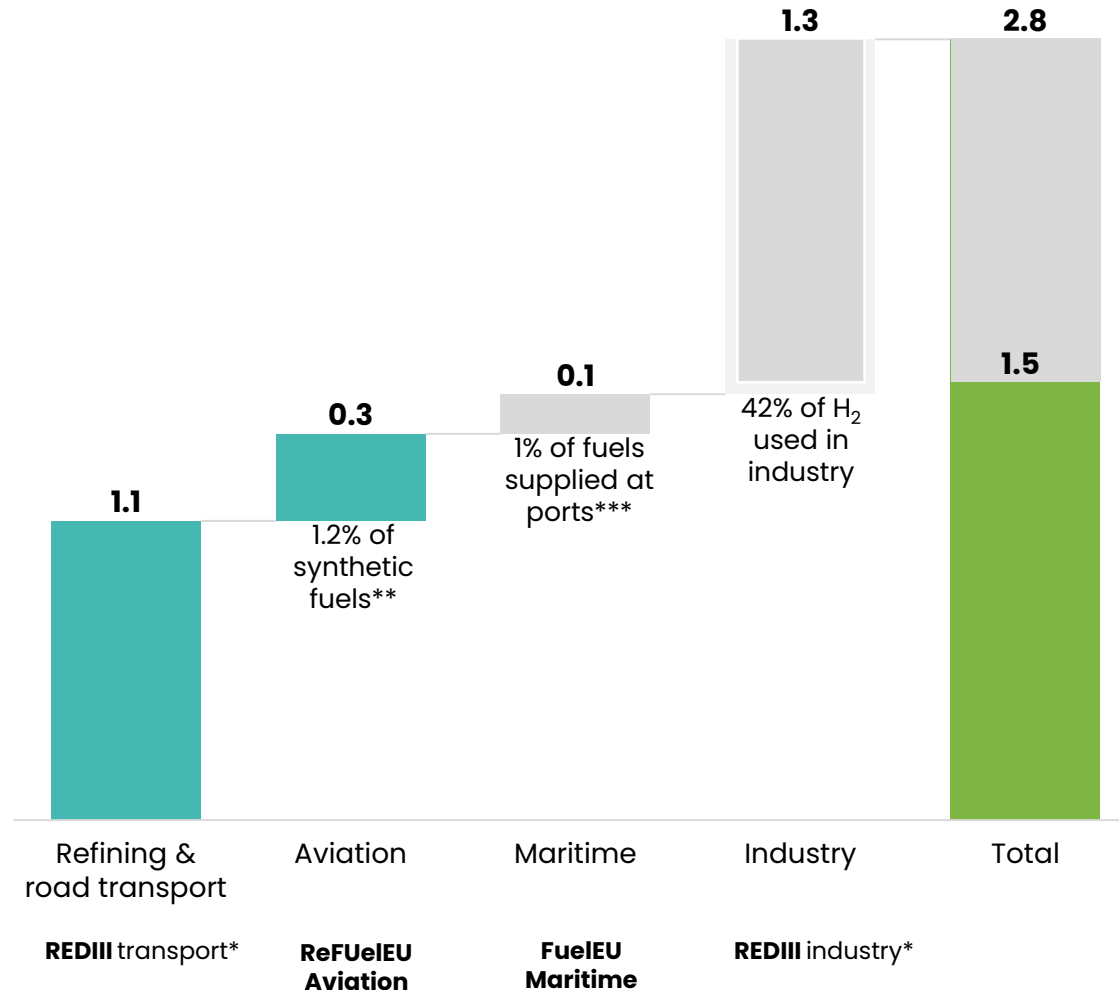
Status of the transposition of the RED III regarding H<sub>2</sub> objectives, by February 2026



Only 6 out of 27 EU members have transposed it fully or partially by February 2026

# Regulation could drive a potential demand of 2.8 Mt of RFNBO by 2030, but depends on national transposition, penalties, and enforcement

Estimated regulatory demand for RFNBO hydrogen in the EU by 2030 (Mt/year)



Notes: \* Use of RFNBOs in refining and other transport estimated based on adopted or proposed REDIII transposition for countries that have done so and assuming 1% RFNBO share in road transport in countries that haven't. \*\* ReFuelEU Aviation requires aviation fuel suppliers to supply at least 1.2% as synthetic aviation fuels, based on renewable and low carbon electrolytic hydrogen. \*\*\* The FuelEU Maritime 1% RFNBO share target is non-binding, however as REDIII required MS to take action to reach at least 1.2% share, it is assumed that the FuelEU Maritime objective will be reached. \*\*\*\* The 42% RFNBO share in industry covers both existing hydrogen use in industries such as ammonia or methanol, but also new emerging industrial application for hydrogen i.e., primary steel-making.

# Key design aspects defining the effectiveness of RED III implementation



## Target level and ramp-up

- *Creates market certainty for early movers*
- *Ensures projects entry into operation before 31.12.2029*



## Long term horizon for the targets

- *Creates long term certainty for investors.*



## The penalty for non-compliance

- *The level of the penalty is key for providing the necessary regulatory certainty needed for FID.*



## Use of multipliers

- *Should be used to incentivise use of RFNBO as compliance option for the overall target and not to artificially reduce RFNBO obligations.*



## Dedicated approach to the maritime sector

- *Essential to support the sector.*



## Approach to the refinery route

- *Limiting the use of RFNBO hydrogen in refineries could jeopardise some advanced projects.*



# The challenge and lessons from the European Hydrogen Bank



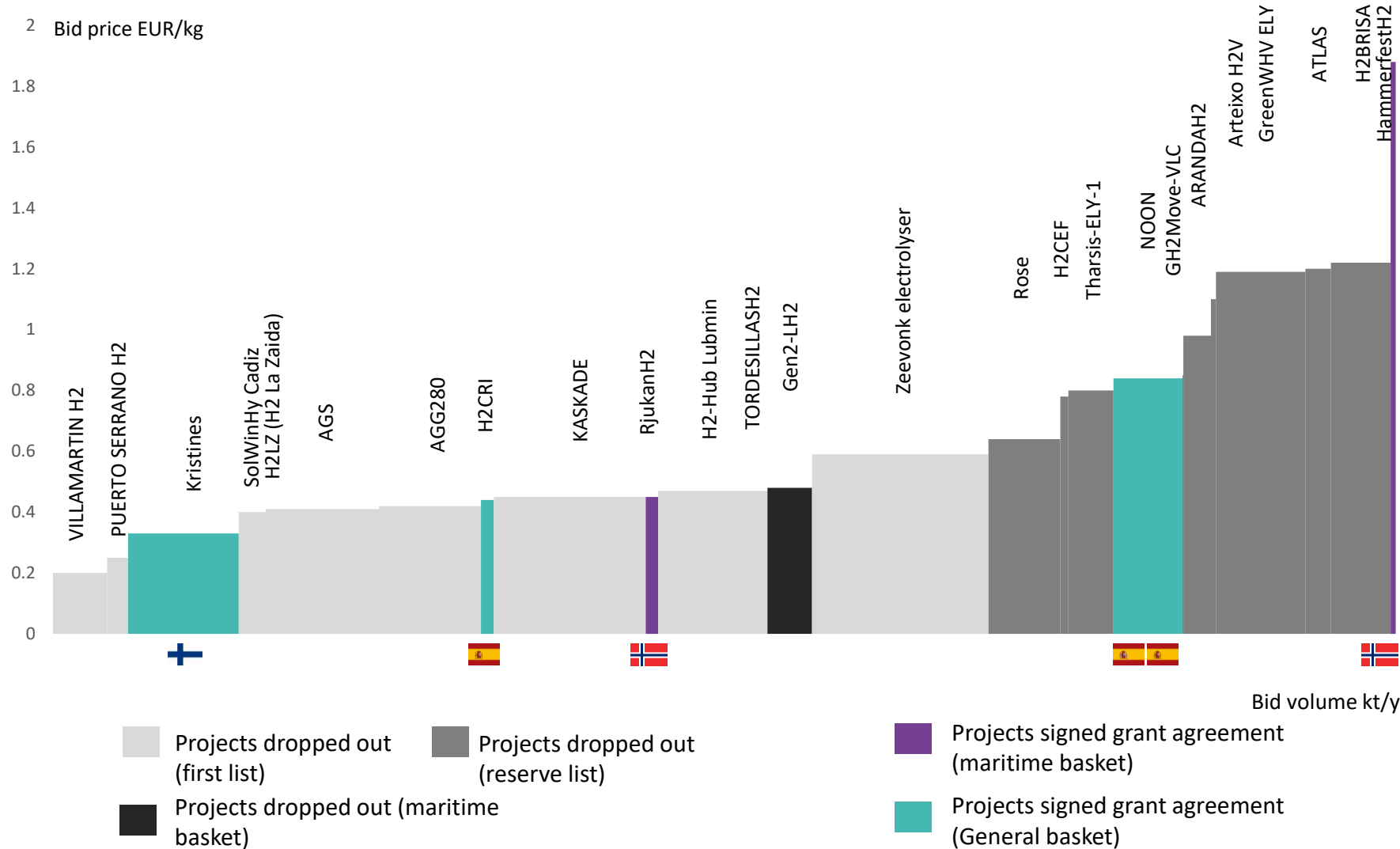
## Final results of 2<sup>nd</sup> auction of European Hydrogen Bank

### Successful elements:

- high subscription
- Retention of the best (maturity)
- unlocked additional funding from member states (Auctions-as-a-Service),

**Controversy:** many projects withdrew during grant preparation (offtake risk + strict binding conditions for projects developers).

**Recommendation:** the funding of the withdrawn projects needs to be used for a fourth auction, while improving the rules.



# 5 Bankability bottlenecks against cashflow predictability

To reach bankability, five pillars are needed:

## Pillar A

### OFFTAKE AND REVENUE PREDICTABILITY

Lender (e.g. private banks) need certainty of long-term and robust offtake contract from buyers.

## Pillar B

### ENERGY INPUT COST & CERTAINTY OF STABILITY

Energy input corresponds to ~60–70% of green hydrogen cost. Lenders need constant volume, price and limited volatility in energy input.

## Pillar C

### SUPPLIER MATURITY & LIABILITY

Lender need necessary maturity of technology supplier and long-term liability for technology, which can be proposed by the OEM, the O&M or EPC contractor.

### PILLAR D – CROSS-CUTTING: NECESSARY PARALLEL TIMELINE WITH PUBLIC INFRASTRUCTURE PROJECTS

The hydrogen sector is currently developing its infrastructure, at the same time as starting production.

The lender needs security on infrastructure development, while mitigating high upfront costs.

### PILLAR E – CROSS-CUTTING: NECESSARY LONG-TERM POLICY CERTAINTY

Strong regulatory risk with problems including the RED III implementation to ensure offtake.

## Solutions to mitigate the major risks:

- **Offtake support:** a market with obligated parties and/or clear premiums for low-carbon production, along with (C)CfDs /double-sided auctions /others to solve **Pillar A (revenue predictability)**
- **Bank guarantees** (National/ European) can solve **Pillar B, Pillar C and Pillar D** (energy costs, supplier maturity, public infrastructure timeline)
- **Regulatory certainty: Pillar E (policy certainty)** can be supported through long-term frameworks and implementation of European regulation (RED 3, AFIR)

# Thank You



Avenue Marnix 23  
1000, Brussels / Belgium

[secretariat@hydrogeneurope.eu](mailto:secretariat@hydrogeneurope.eu)  
[hydrogeneurope.eu](http://hydrogeneurope.eu)

