

5-7
MARCH
2025

RIMINI
EXPO CENTRE
ITALY

25



6th MARCH 2025 / 16:00

KEY - The Energy Transition Expo
HYPE / Hydrogen Arena Hall B3
Rimini Fiera



Associazione Italiana idrogeno H2IT

Luigi Crema

Chair of the Hydrogen Europe Research Board & Vice President H2IT

German Italian Energy Talk
6/3/2025

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Via Pantano 9 Milano

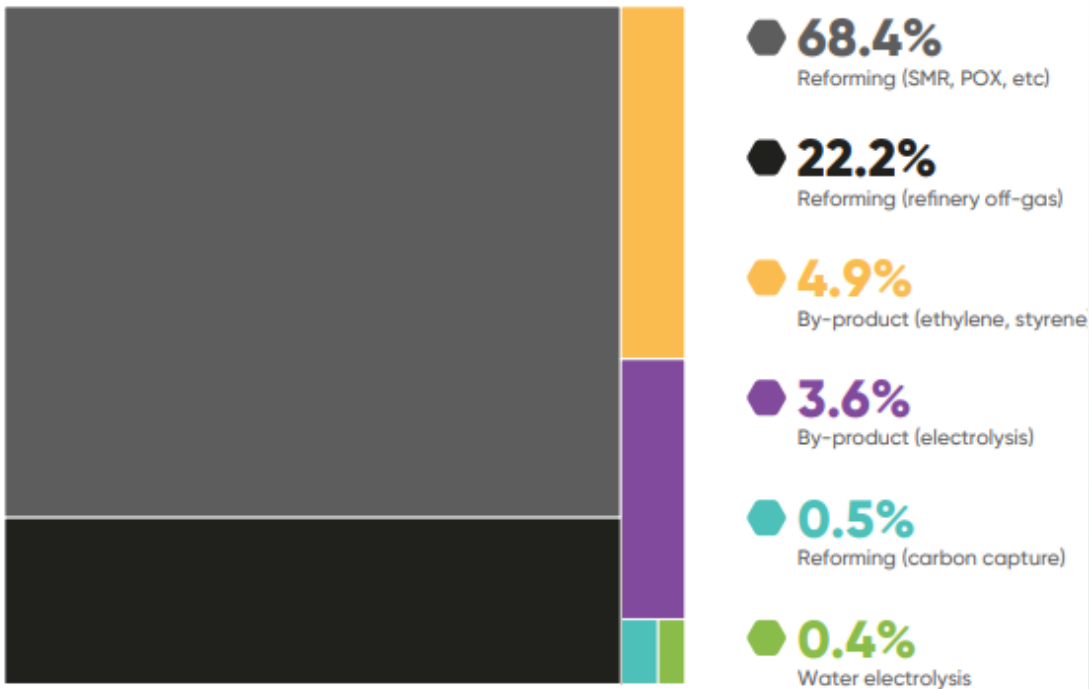
H2IT – Associazione Italiana Idrogeno

Current Market review

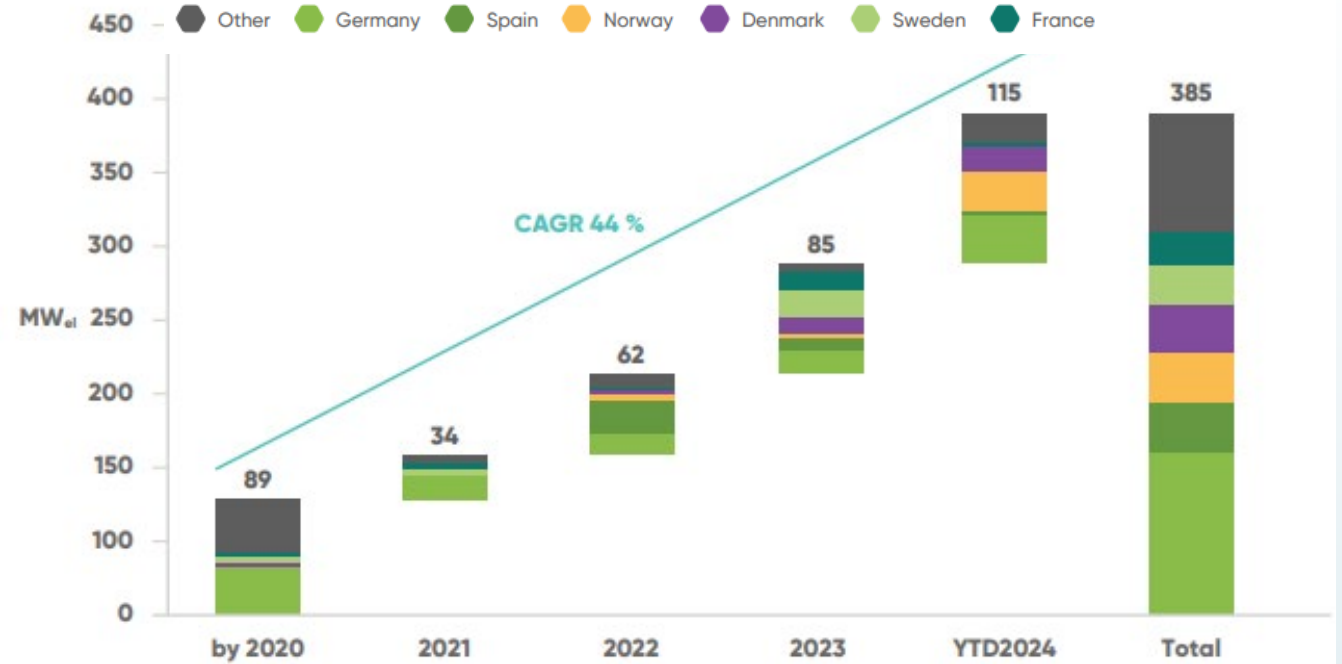


H2 Hydrogen Production Capacity

Production capacity in Europe by process type



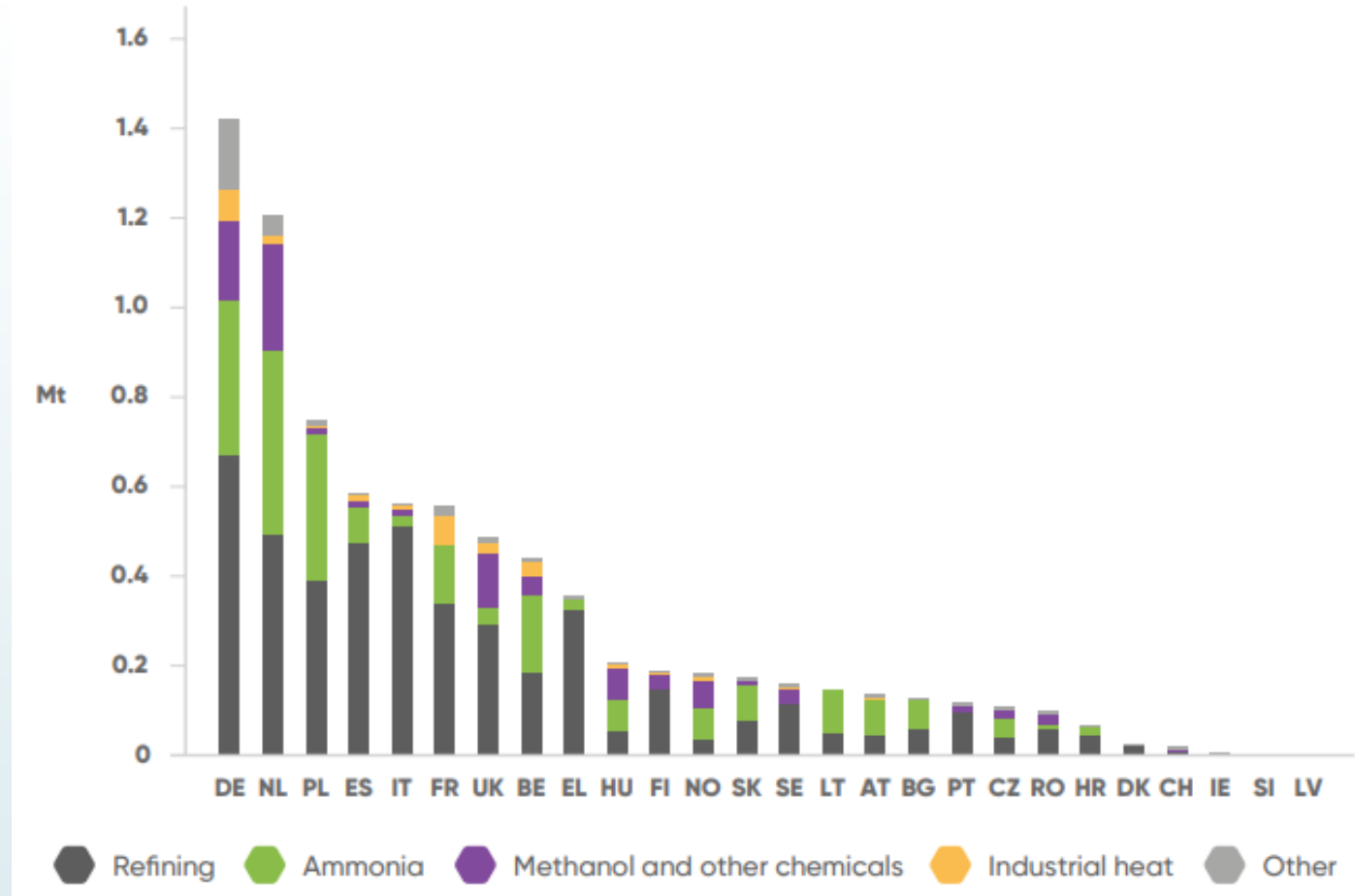
Installed and operational water electrolysis capacity in Europe, from 2020 to September 2024





H2 hydrogen consumption in Europe

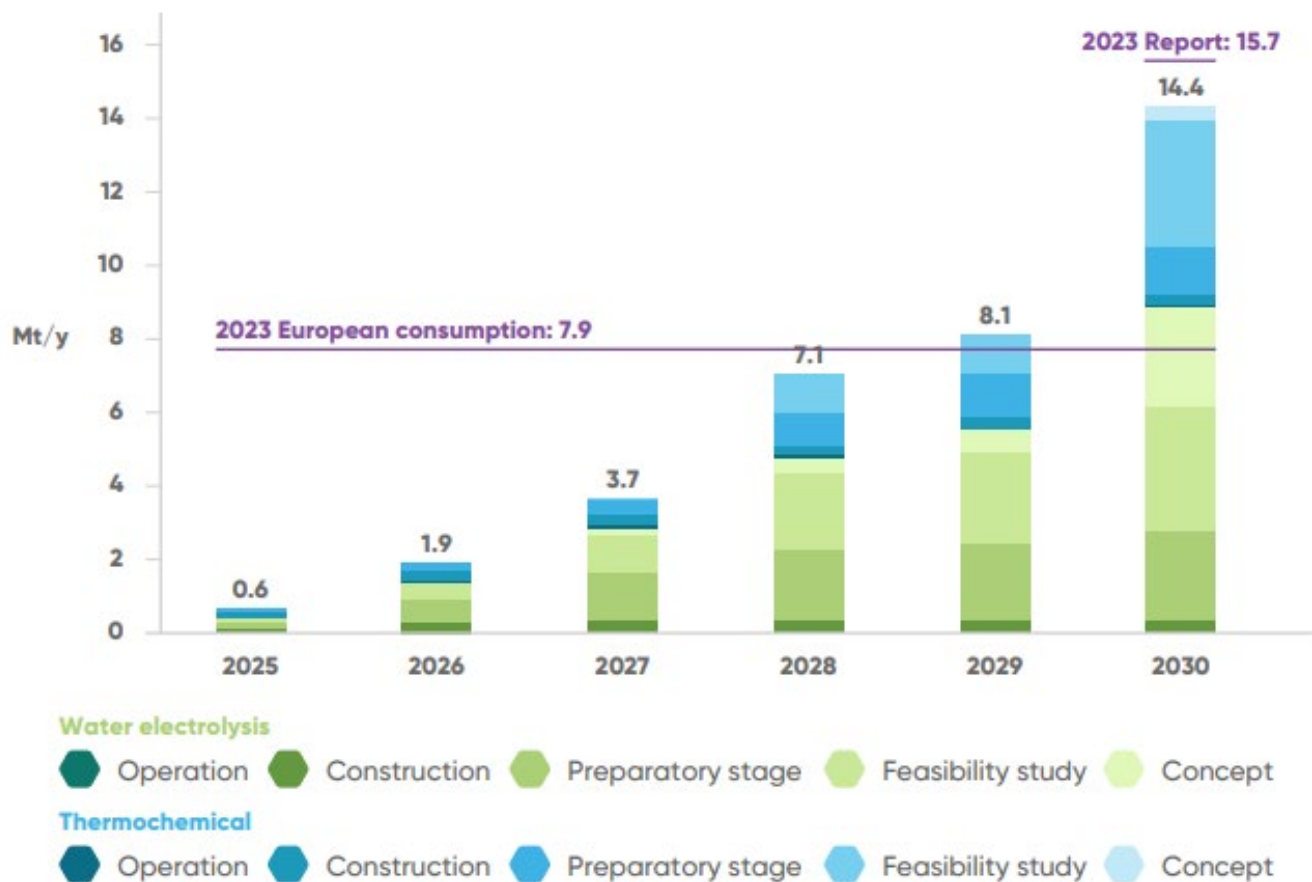
Hydrogen demand by country and sector in Europe in 2023





Projects under construction

Cumulative clean hydrogen production capacity announced until 2030 based on current stage of development



903 projects including 844 electrolysis projects

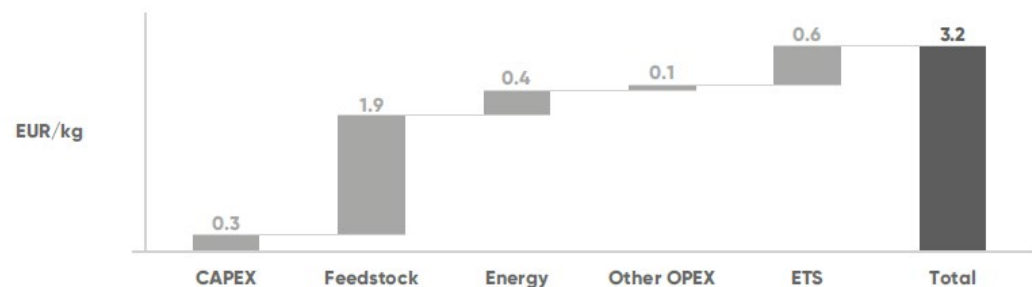
4% of the project pipeline is under construction

34% in advanced stage

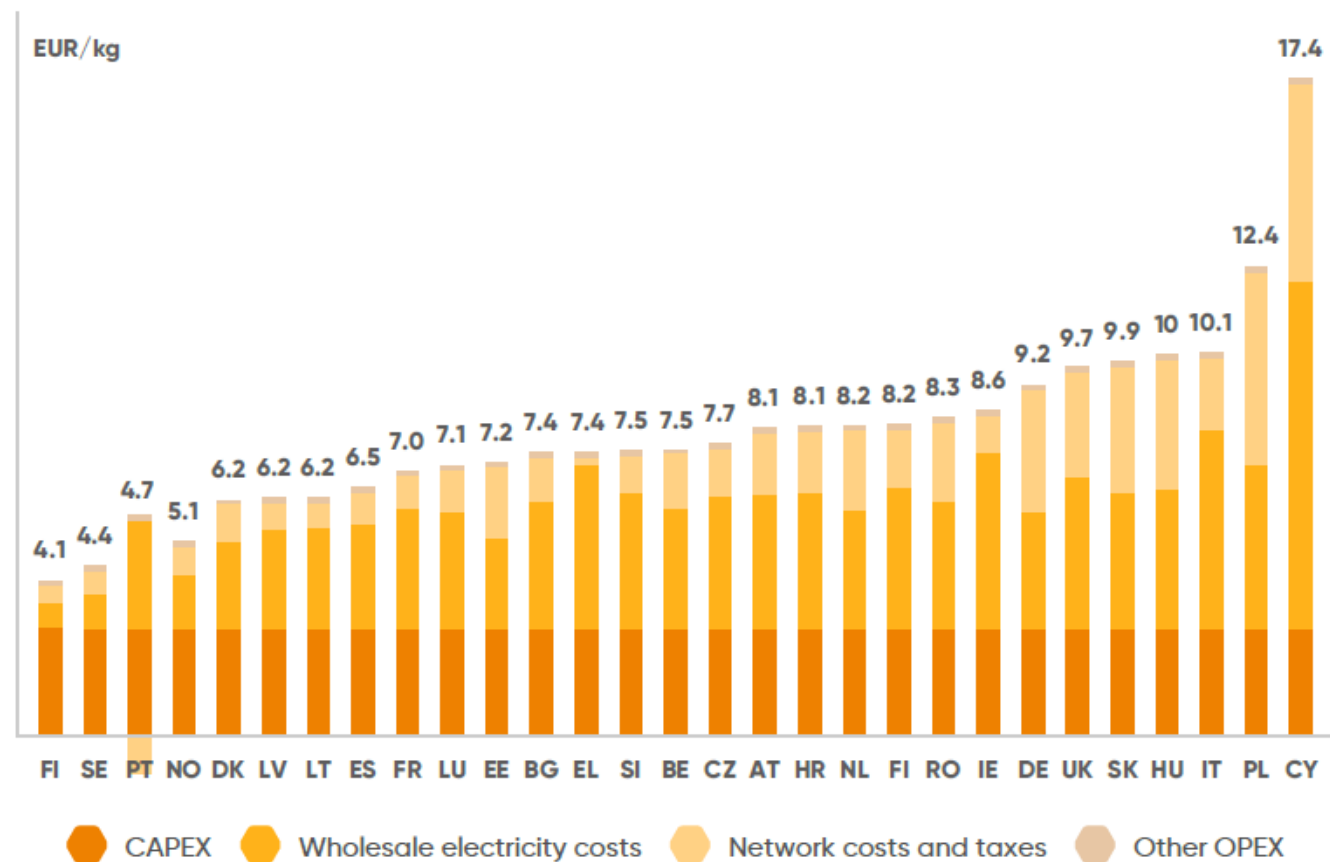


LCOH – SMR vs Electolysis

Breakdown of the levelized costs of hydrogen production via SMR in the EU-27 in 2023



Estimated levelized costs of hydrogen production via water electrolysis using grid-mix electricity in Europe in 2023 (excluding any possible transport, storage and conditioning cost)



Current Regulation



H2 Policy: European regulations



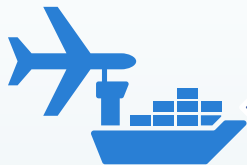
RED III
The RED III Directive further increased the specific target for renewable energy to 45%; in the final transport sectors by 2030, bringing it to 29%.

1% RFNBO TRANSPORT
42% H2 RFNBO INDUSTRY



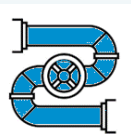
AFIR
On 27 March, the EU institutions reached an agreement on the Alternative Fuels Infrastructure Regulation (AFIR), which was formally adopted in September 2023.

1 station every 200km
700 bar



Refuel EU Aviation, Fuels EU Maritime Quotas for SAF and CO2 emission reduction

1,2 % RFNBOs



GAS PACKAGE
common rules for the internal markets for renewable gas, natural gas and hydrogen
It contains specific rules for the transport, supply and storage of natural gas and hydrogen.

Rules for TSOs and DSOs
Low carbon hydrogen delegated act



Net-Zero Industry Act



Critical Raw Materials Act



ETS & CBAM

Need for reality check



Joint statement

Reality Check for European Hydrogen Policy to Adjust the Course

- 1 Large gap between strategic and political vision and market reality¹.
- 2 Slow development of electrolyser capacity^{1, 2}.
- 3 Non-competitive renewable and low-carbon hydrogen production costs³.
- 4 Underinvestment in and underdevelopment of infrastructure for producing and transporting hydrogen.
- 5 Administrative barriers and delays in the disbursement on critical funding.
- 6 Missing long-term demand visibility and demand-side support instruments.
- 7 Lack of clarity on low-carbon hydrogen's role in decarbonising the hydrogen market in Europe.

**Boost
competitiveness**



Clean Industrial Deal – The role of Hydrogen



Energy-intensive industries

to safeguard competitiveness
from high energy costs and
unfair global competition



Clean-tech sector

to allow it to expand in the EU
as it is a key enabler of competitiveness
and decarbonisation



Affordable Energy



Lead Markets



Financing



Circularity and access to
Materials



Global Markets and
International Partnerships



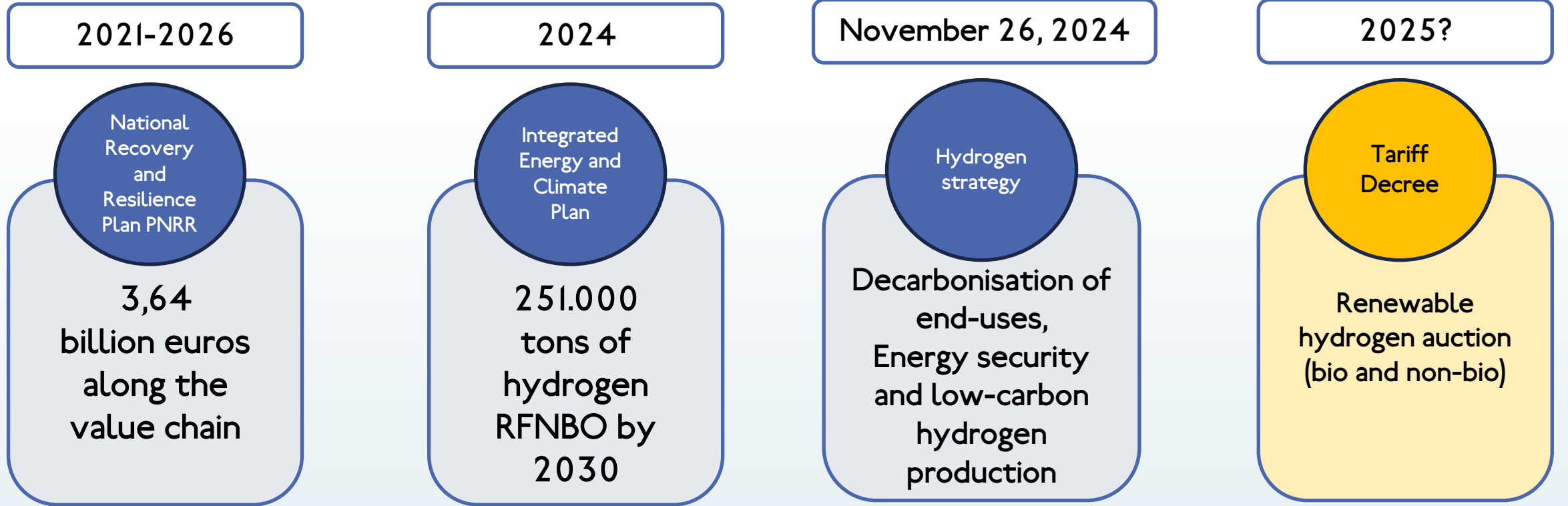
Skills Enhancement

- **Renewable and low-carbon hydrogen** is one of the key points for achieving emission reduction targets.
- The CID wants to create the conditions for demand through the creation of **lead markets for clean technologies and products**.
- In particular, the Commission will adopt the **delegated act on low-carbon hydrogen** in the first quarter of 2025, to clarify the rules for the production of low-carbon hydrogen in a pragmatic way, providing certainty for investors.
- To reduce risks and accelerate the uptake of hydrogen production in Europe, the Commission **will launch a third call under the Hydrogen Bank** in the third quarter of 2025 with a budget of up to €1 billion and encourage Member States to use the auction platform as a service, for example by facilitating the use of unspent EU funds.

And Italy?



Italian Hydrogen Strategic Framework



Updating of safety and authorization regulations

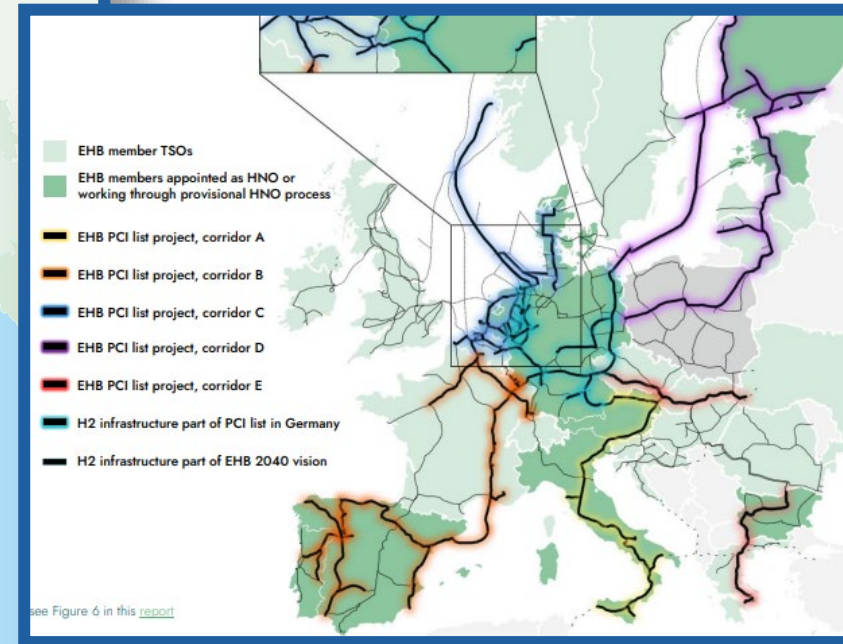


South H2 Corridor

January 21, 2025

A joint declaration for the development of the SouthH2 Corridor has been signed between

Italy, Germany, Austria and the countries of North Africa Tunisia and Algeria

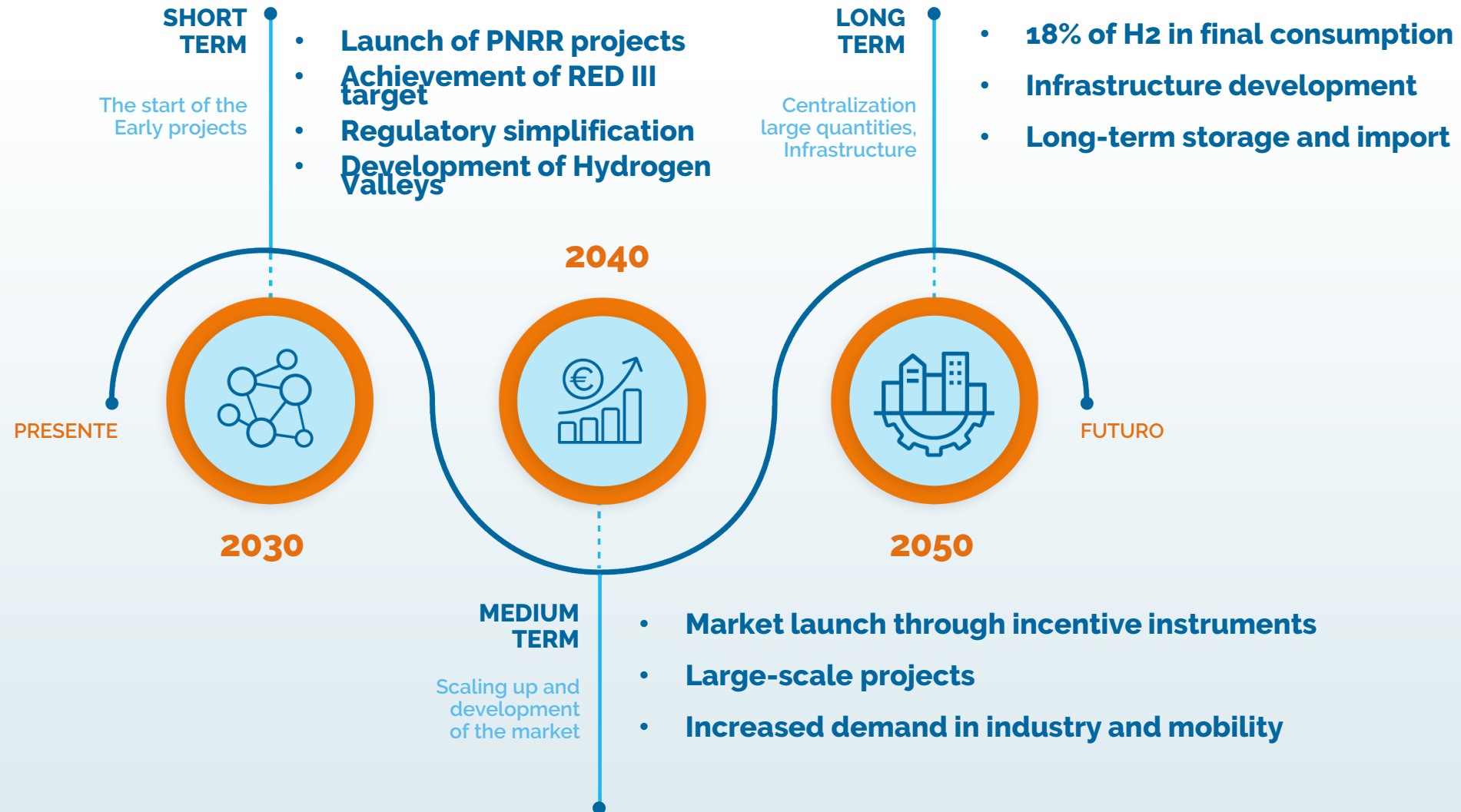


The national hydrogen strategy

National strategy hydrogen

- 1. DECARBONIZATION OF END USES**
- 2. ENERGY SYSTEM INTEGRATION**
- 3. CREATION OF A STRONG AND COMPETITIVE SUPPLY CHAIN**
- 4. INCREASING ENERGY SECURITY**
- 5. ENERGY HUB**
- 6. CERTIFICATION SYSTEM**
- 7. RESEARCH AND INNOVATION**

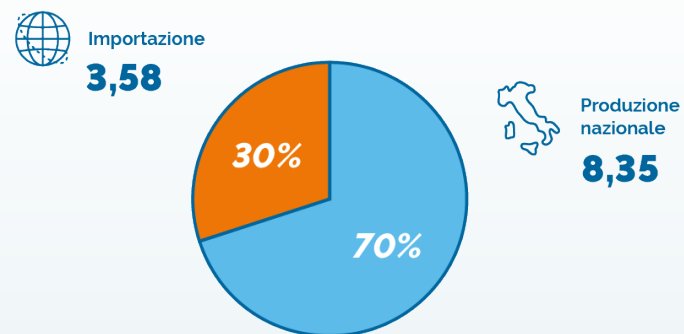
The stages of the strategy



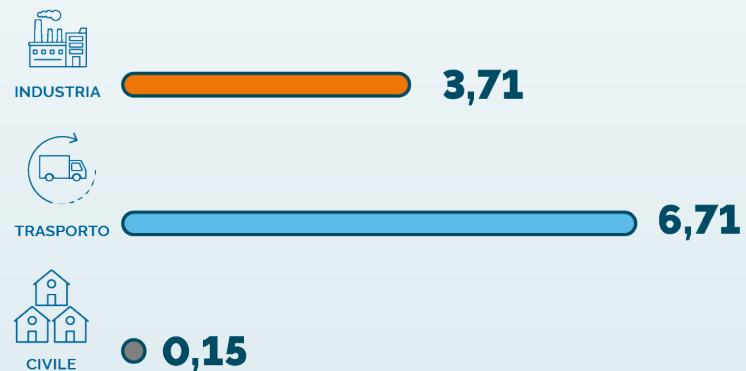
High diffusion scenario (30% imports) by 2050:

CONSUMI DI IDROGENO E COMBUSTIBILI DERIVATI (MTEP)

Consumi lordi



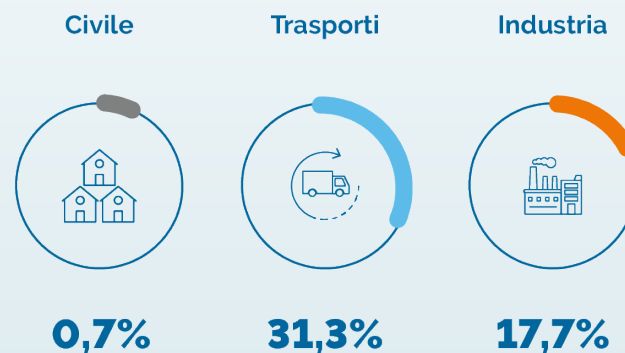
Consumi finali



UNA PRIMA STIMA DEGLI INVESTIMENTI



CONFRONTO TRA CONSUMI DI IDROGENO ATTESI E CONSUMI COMPLESSIVI NEI SETTORI FINALI



Grazie per l'attenzione



H2IT

ASSOCIAZIONE ITALIANA IDROGENO