



Interreg

Alpine Space



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H2MA

The evolution of **CLEAN HYDROGEN**



Perspectives from
production to use
in mobility and
industry

29th of October 2025
Venezia Heritage Tower
(Marghera, Venice)



*Connecting Regional Ecosystems:
From Hydrogen Valleys to
a European Hydrogen Economy*

Darko Levičar

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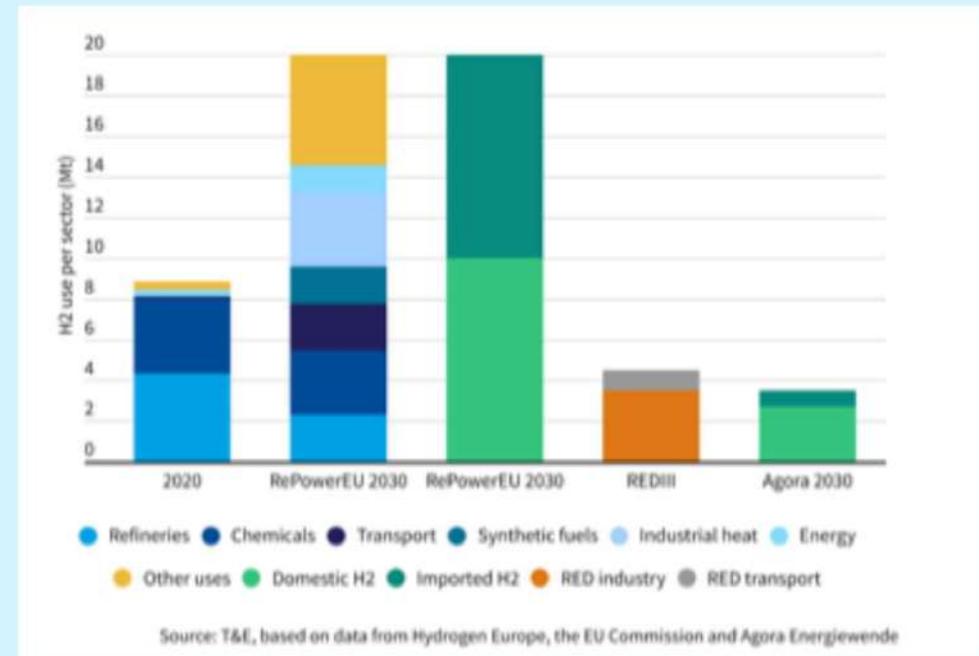
The European H2 plan 2030

Europe's moment: Repair and Prepare for the Next Generation (COM/2020/229)

Clean hydrogen was highlighted as one of the key clean technologies and value chains to unlock investments.

What is the plan for hydrogen by 2030

- European H2 Strategy
 - >40GW (>6GW by 2024)
 - 10Mt of renewable H2 (1Mt by 2024)
- RePowerEU
 - 20Mt of renewable H2 (10 production + 10 imports)
- Fit For 55 (RED III)
 - 42% of H2 in industry
 - 1% of H2 fuels in transport sector
 - Double-counting mechanism and multipliers!
- 2025 global production capacity *
 - 1Mt of clean H2 (300kt renewable and 700kt low carbon)
 - 40% increase from 2021

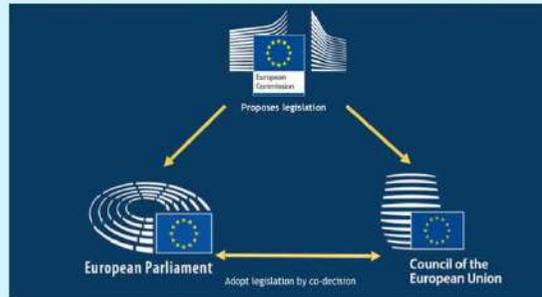


* Data taken from Global Hydrogen Compass 2025 – Hydrogen Council (September 2025)

Supportive environment to establish European H2 economy

EU catalyst legislation

- RED 3
- ENZIA
- TEN-E and TEN-T
- FuelEU Maritime
- ReFuelEU Aviation
- AFIR
- ETS and ETS₂
- Renewable & LC H₂ DA
- H₂ and decarbonised gas markets
- CO₂ standards C&V, HDV
- Clean Vehicles Directive
- Mobility package - Eurovignete
- S&SMS
- ETD



EU Funding instruments

- Recovery and Resilience Fund
- Social and Climate Fund
- Innovation funds
- CHP
- Hydrogen Bank
- IPCEI
- State Aid
- Cohesion Funds
- Connecting Europe Facility
- Just Transition
- Invest Europe
- Horizon Europe
- EIB
- ERDF



Global H2 project pipeline and market outlook

H2 pipeline of projects

- 110b\$ of invested capital in 500+ H2 projects globally
- 1700+ projects announced since 2020
- Capability of 9-14Mt clean H2 production by 2030
- 50+ projects publicly cancelled

H2 markets

- Binding off-take 3,6Mt
 - 70% existing off-take (refineries, ammonia)
 - 30% of new markets (steel, transport, power)
- Potential to policy enable additional 10Mt demand globally

Binding offtake by end use sector, %

New end uses
(e.g., power, steel, road mobility, maritime)



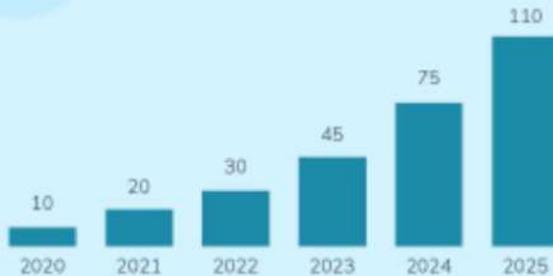
Existing end uses
(e.g., ammonia, refining)

Potential 2030 demand in key regions, mtpa

2+ mtpa
Anticipated additional demand in China, India, Canada and other regions

8 mtpa
Policy-enabled demand in EU, US, East Asia

Global cumulative committed (FID+) investment in clean hydrogen projects by 2030, \$ billion



Data taken from Global Hydrogen Compass 2025 – Hydrogen Council (September 2025)

H2 Valleys and Regional H2 markets

”The development of a European hydrogen ecosystem will be inherently local before it can become European.”
 – EC in reply to a ECA special report (11/2024)

Mission Innovation plan is 100 H2 valleys globally by 2030
 CHP - 50H2 valleys in Europe (at least 1 in every MS) by 2030
 Hydrogen Valleys S3 Partnership

EU H2 Valleys

- 70 valleys from 20 EU MS
 - total investment of 121,4m€
- 29 valleys from 19 non-EU states
 - total investment of 80,4m€

Alpine Region H2 Valleys projects *

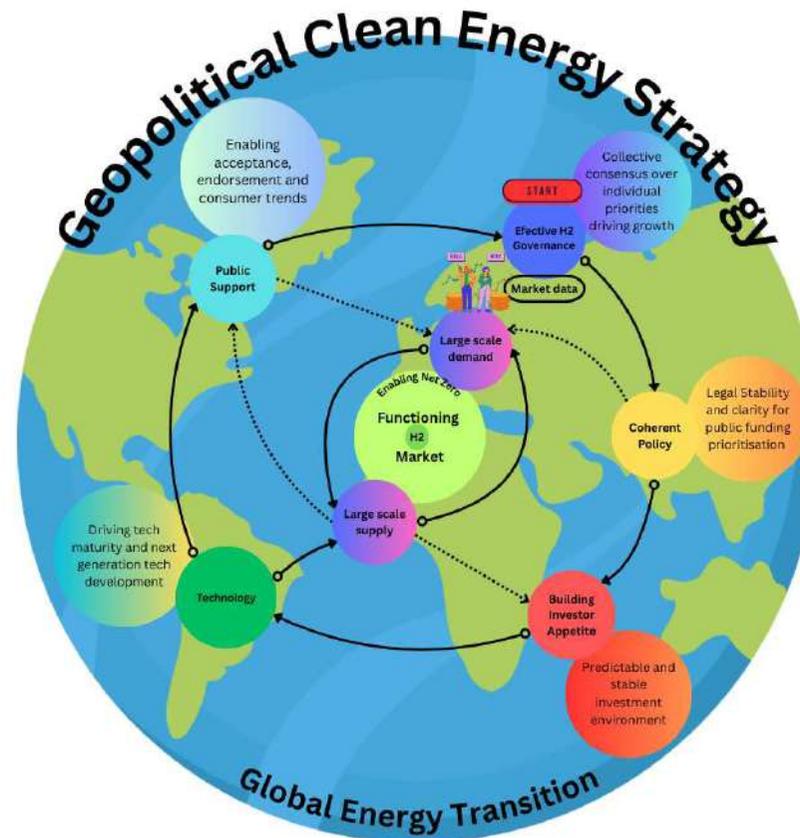
- 12 active H2 valleys in Alpine Region + 2 CH

Nr. H2V	Planned Investment (M€)	Planned production (t/y)
3 ITALY	456	892
4 GERMANY	221	1661
2 AUSTRIA	281	2
1 SLOVENIA	344	5
2 FRANCE	236	8
2 SWISS	/	610



* Data (is not coherent and complete) taken from H2V.eu web page

Vision of a successful H2 Economy Equilibrium





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There is no planet B

 **Energ**hy

Thank you for your
attention

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