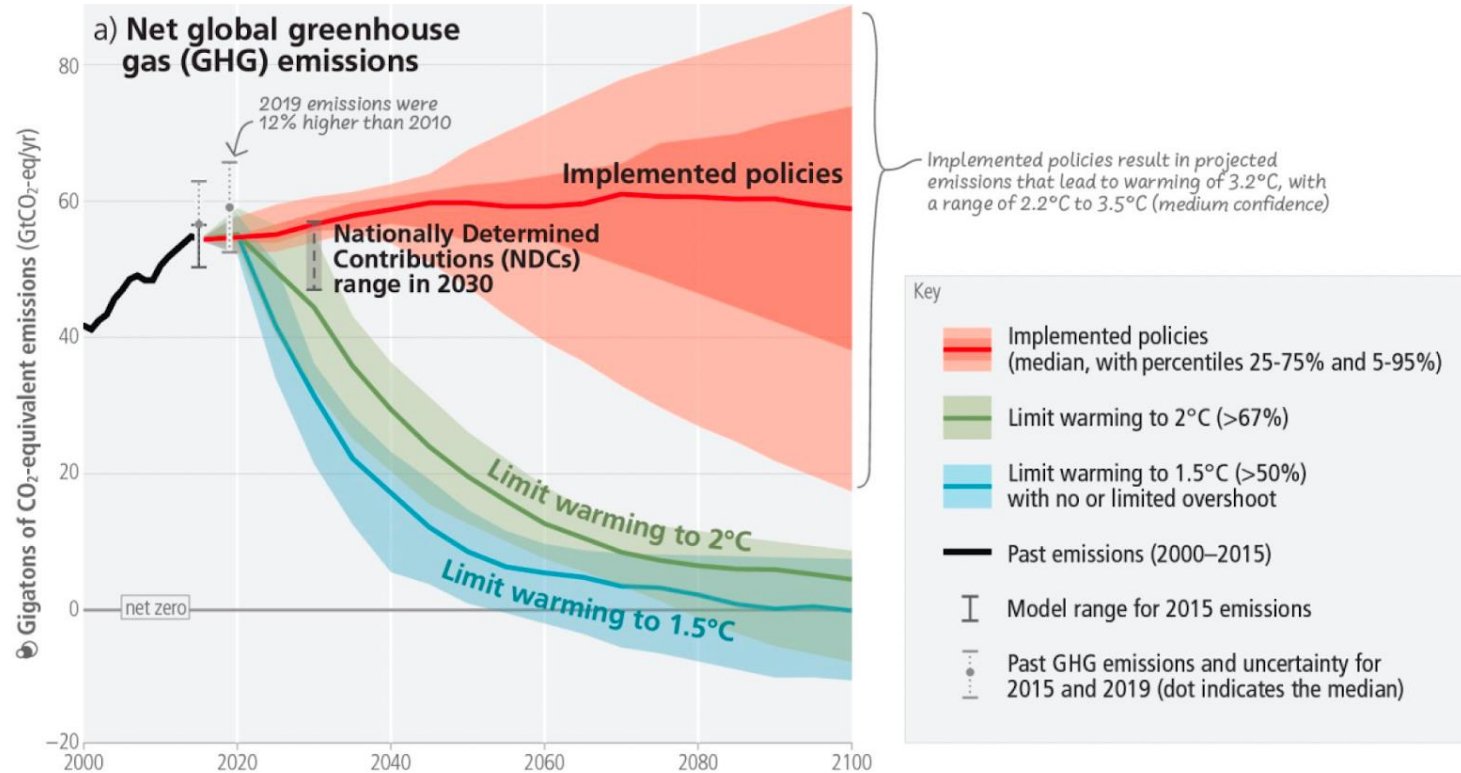


Green and Turquoise H₂

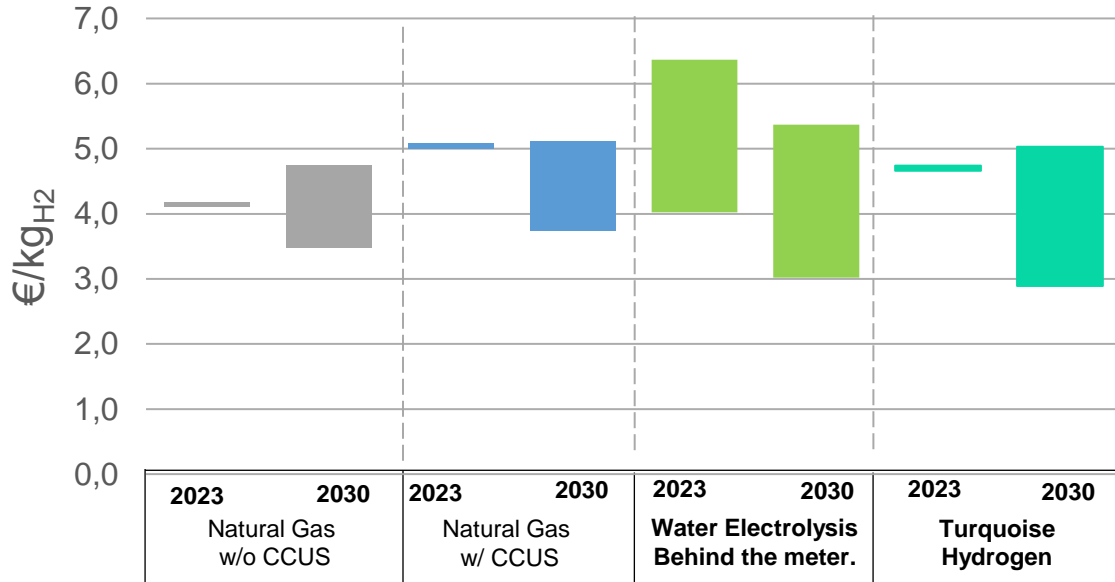
Sergio Trevisan
General Manager

Technology neutrality is a must



Different H₂ colours

LCOH at consumption point by technology



Notes: Ranges of production cost estimates reflect variations in electricity price, natural gas price (in table).
 The dashed areas reflect the CO₂ price impact.
 Turquoise hydrogen LCOH considers black carbon valorization at 0.5 €/kg

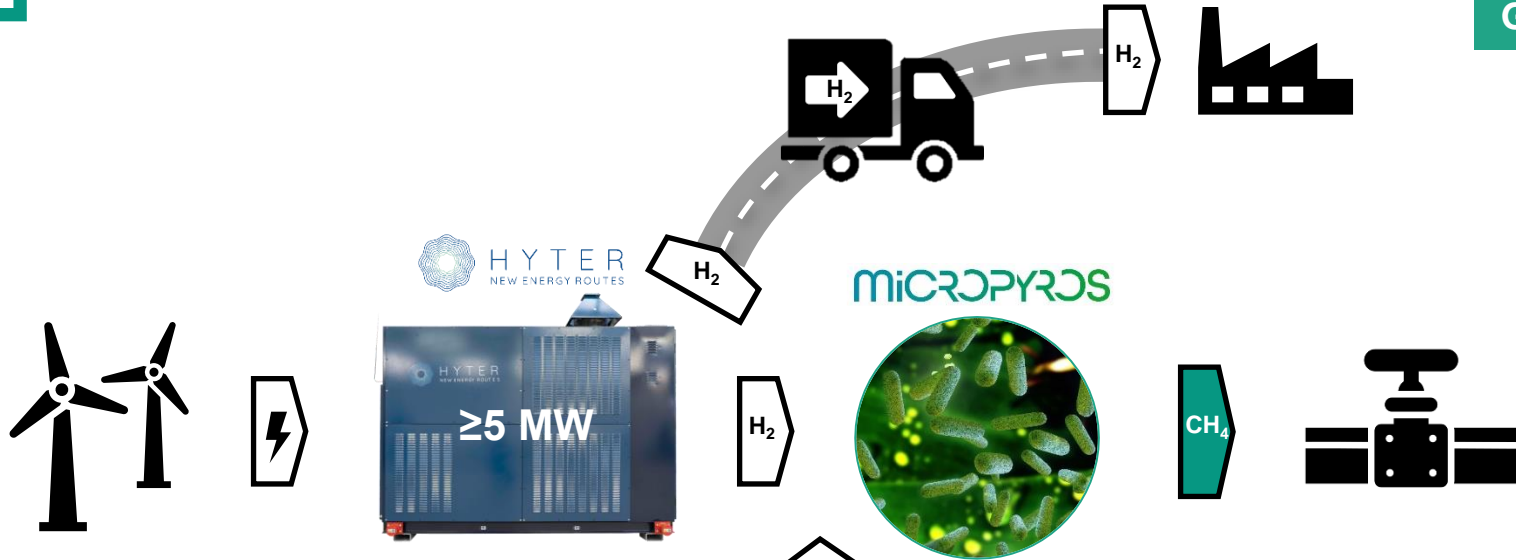
Source: Data analysis from own elaboration

	2023	2030
NG price €/MWh	70	40 - 70
Grid Electricity €/MWh	160	140 - 200
Behind the meter EI. €/MWh	30 - 80	
ETS Price €/ton _{CO2}	87	150

Turquoise H₂ by-product valorisation:
Black Carbon Price 0,5 €/kg

1. Green H₂ potential

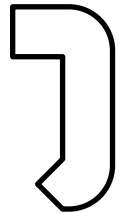
1
GREEN H₂



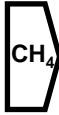
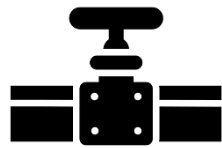
- ✓ H₂ behind the meter: lower LCOE → lower LCOH
- ✓ H₂ behind the meter: no regulation, system costs
- ✓ Contribution to RED III target: 42% RFNBO-H₂ in industry by 2030
- ✓ Green power penetration into gas grid

- ✗ H₂ transportation or storage costs (industrial application)
- ✗ TOTEX needed for integrating H₂ in the grid (methanation)

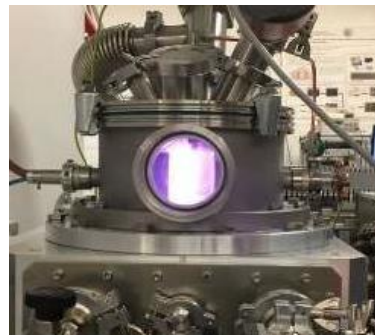
European Hydrogen Bank
up to 4.5 €/kg for RFNBO-H₂ production



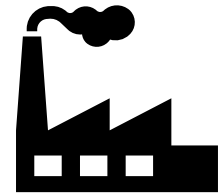
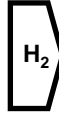
2. Discovering Turquoise H₂



Or



xnano invisible matters



Carbon markets



- ✓ H₂ on demand (not dependent on aleatory power)
- ✓ Very cheap LCOH (with carbon valorization)
- ✓ Decarbonize Natural gas to reach carbon neutrality
- ✓ Decarbonize Biomethane to reach carbon negativity

- ✗ Low TRL
- ✗ Necessity to manage high quantity of solid carbon
- ✗ Current regulations focused on RFNBO hydrogen