## HYDROGEN – Accelerating the energy transition

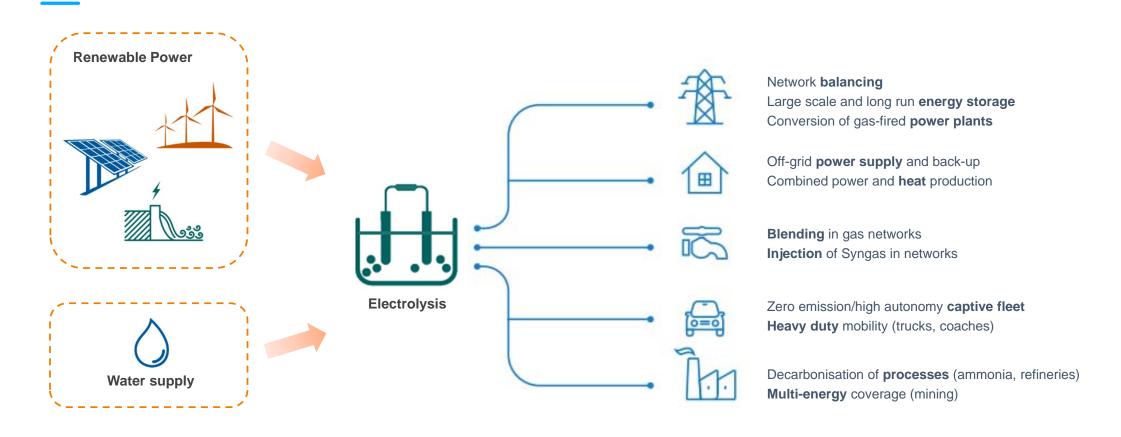




# A systemic approach towards 100% Renewable Energy Solutions with Hydrogen solutions as the missing key link

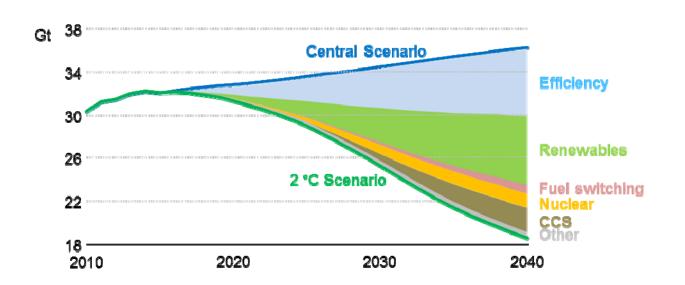


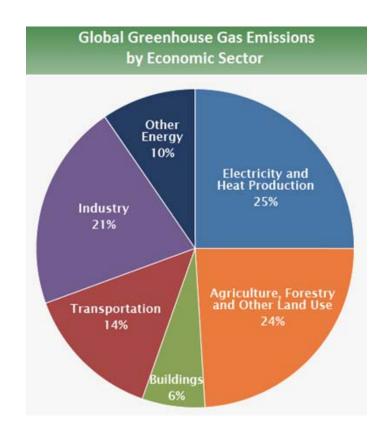
### Hydrogen: lightest of all gases and a versatile, clean and flexible energy carrier





# Hydrogen: reaching the 2°C target by allowing for renewables full deployment, cutting emissions from industrial processes (w/ heat production) and transportation





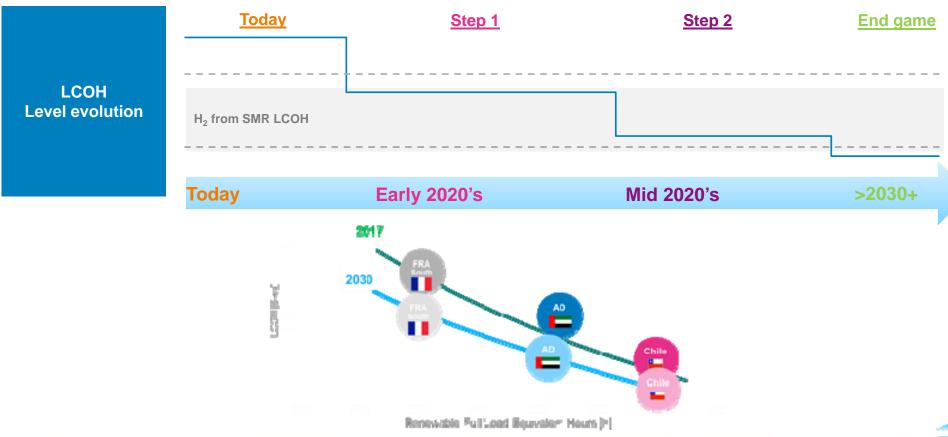


#### **ENGIE's vision on Hydrogen** Multi-usage green offer **Massive green H2** production through cheap RES Storage Hydrogenation Industry Dehydrogenation **Transport of green** Hydro energy to regions with Electrolyzer limited RES energy & Cold Heat & Cold **Energy intensive as** engie mines, ammoniac, Electricity steel, cement... Hydrogen Mobility Local multi-usage - Heat & cold business: elec, heat, Chemical carrier

cold, process, transport, storage

----- Multifluid

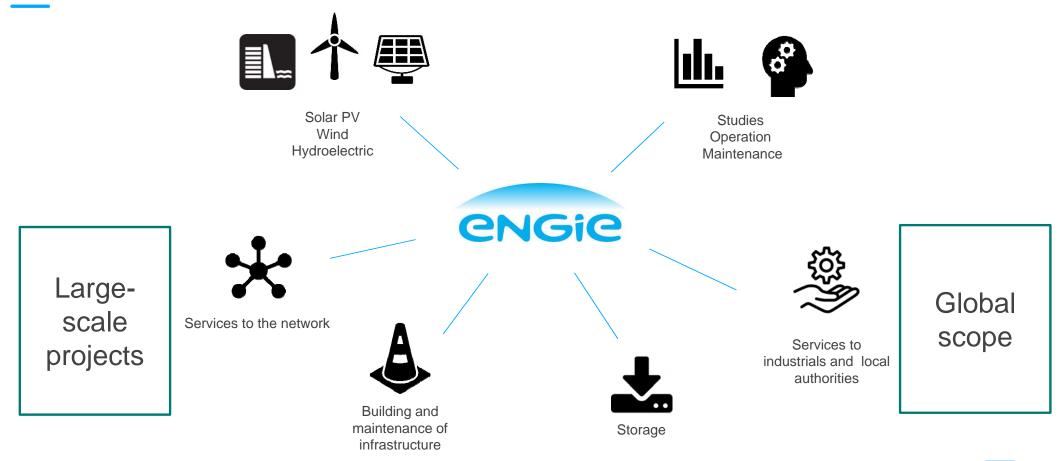
## A stepwise business and industrial roadmap towards competitiveness





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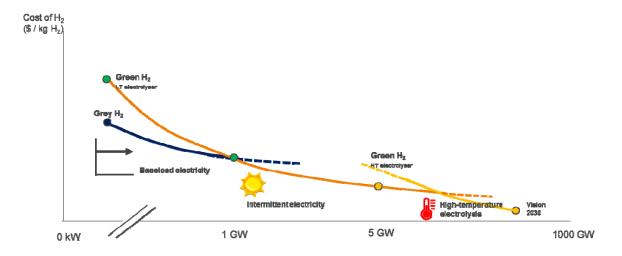
### ENGIE gathers all competences in the renewable H2 value chain





### **Remaining challenges - ACCELERATE**

- ⇒ Trigger economies of scale
- □ Contribute to the sector industrialization
- ⇒ Invest in bringing downstream technology solutions to the market, at scale
- ⇒ Increase efficiency



- ⇒ Align industrial players
- Engage institutions to create adequate regulatory frameworks
- Engage financial players in first of a kind large projects



