



# Offshore wind fueling energy transition

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# Agenda

- Demand
- Stakeholders
- Offshore wind





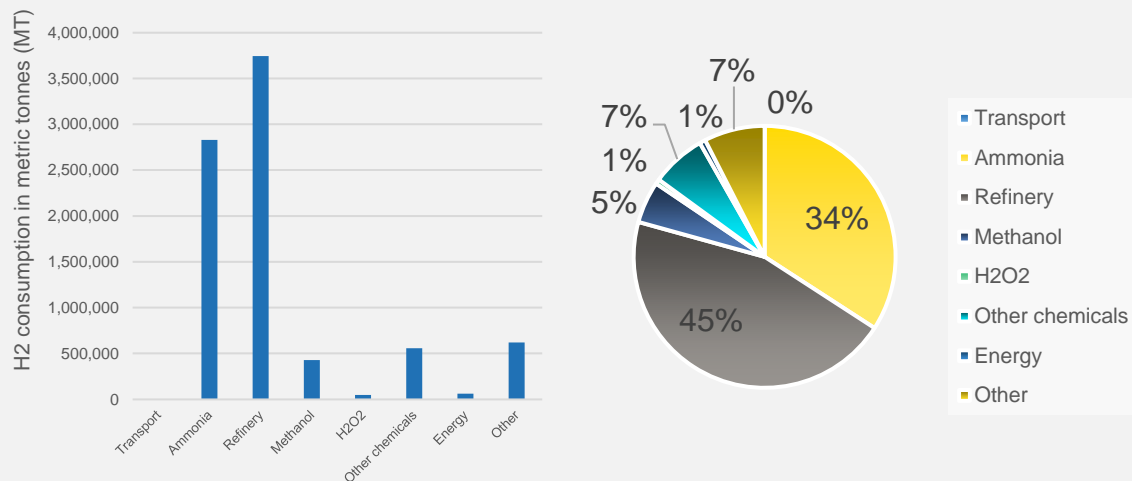
**Demand**

**State of the current H2 market in  
EU**

EU Hydrogen consumption by sectors (March 2020)

# Current demand for hydrogen in Europe by sectors

Data extracted from [Fuel Cells and Hydrogen Observatory \(FCHO\)](#)



EU hydrogen demand by sectors

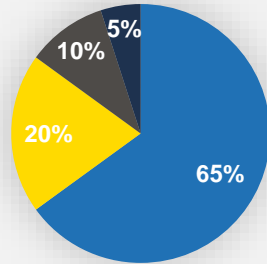
## H2 Production

- According to IEA 2020, only 2% of H<sub>2</sub> produced by electrolysis
- The remaining 98% is produced through steam methane reforming (SMR) or coal gasification



# Industrial demand for hydrogen : High-temperature heat for industry

Source of high-temperature heat in industry  
(2019)



■ Coal ■ Natural gas ■ Oil ■ Other : waste, biomass, H2, ammonia

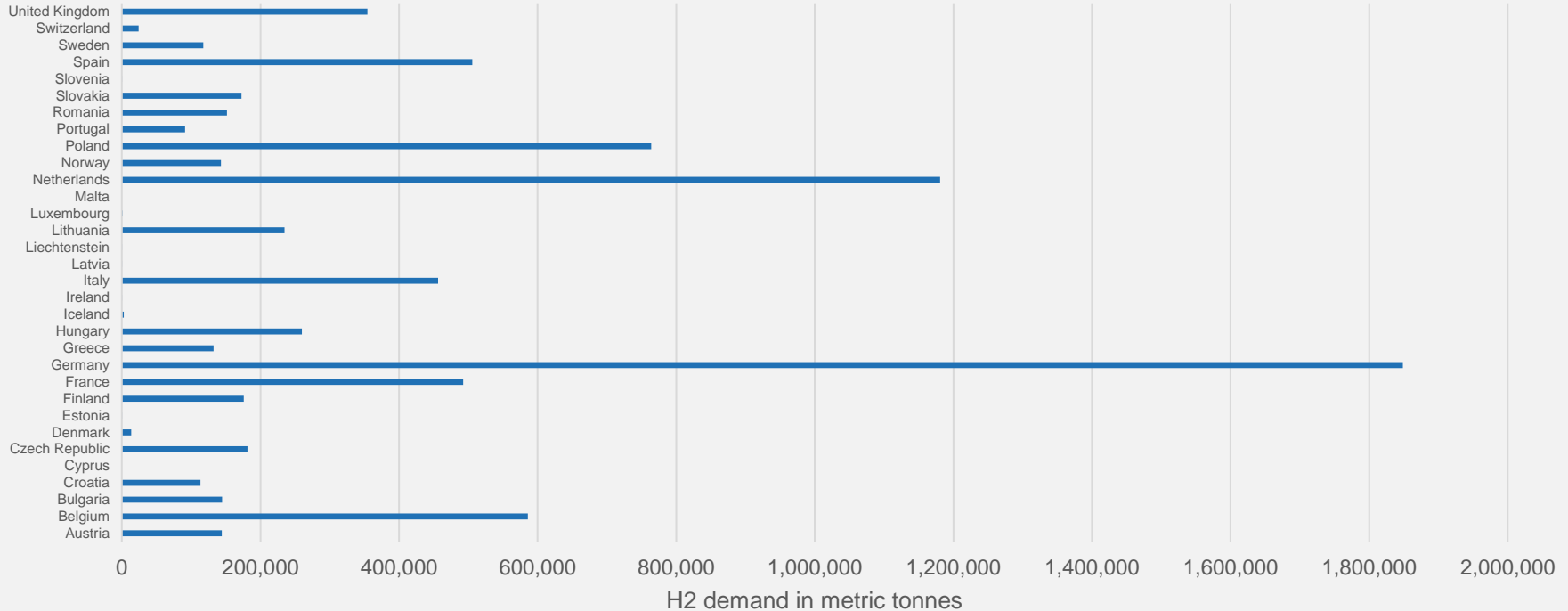
✓ **But challenges : technological barriers, cost competitiveness, security and curtailment**



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# Current demand for hydrogen in Europe by country

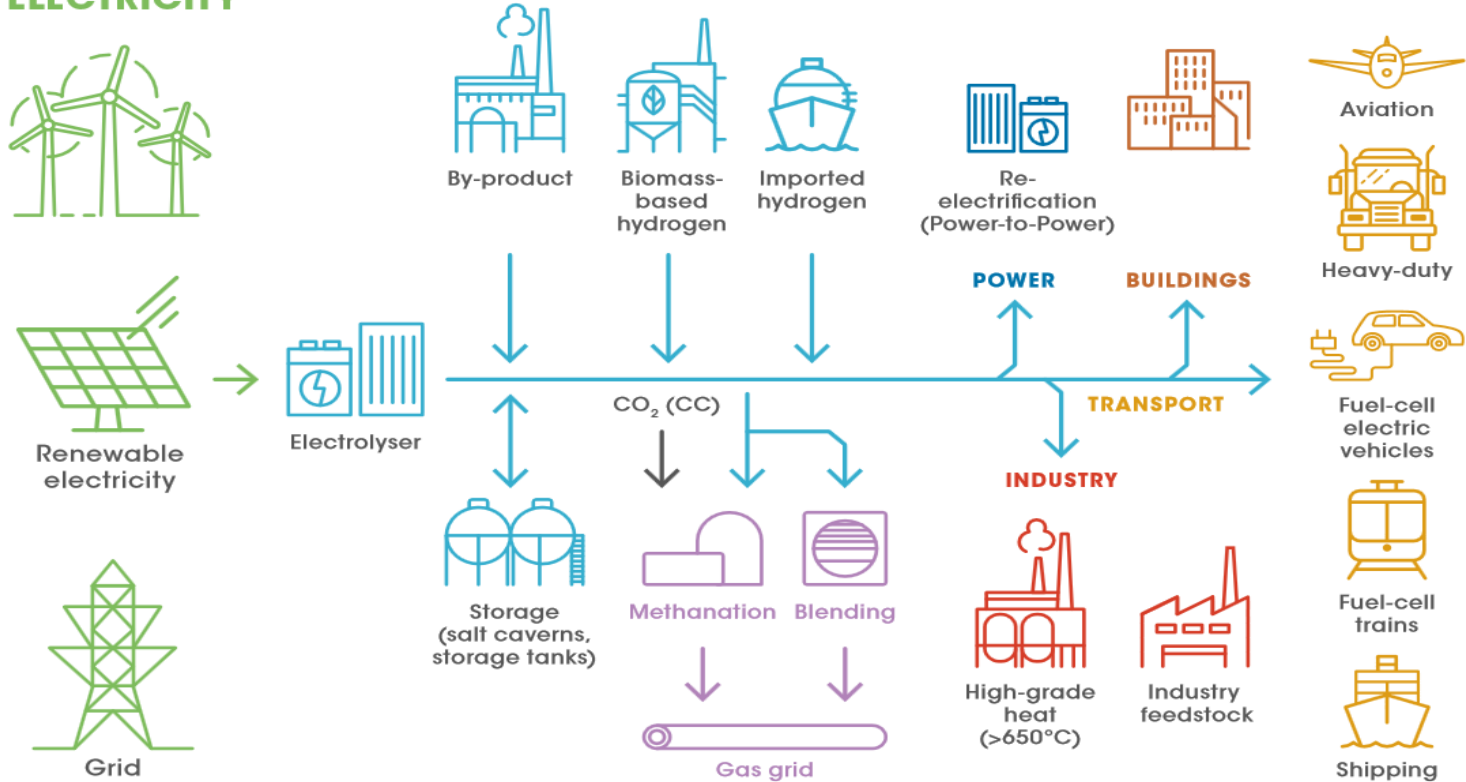
European H2 demand by country (March 2020)



Data extracted from [Fuel Cells and Hydrogen Observatory \(FCHO\)](#)

# Potential offtakers

## ELECTRICITY



# Stakeholders of H2 market in EU

**Policy makers**  
**Decarbonization**  
**competitiveness**

**Policy makers**  
**jobs**

**Developers**  
**Revenue-**  
**stabilisation**

**Industry**  
**Change to more**  
**active pull**  
**(connections)**

**Economic activity**  
**1 WTG**

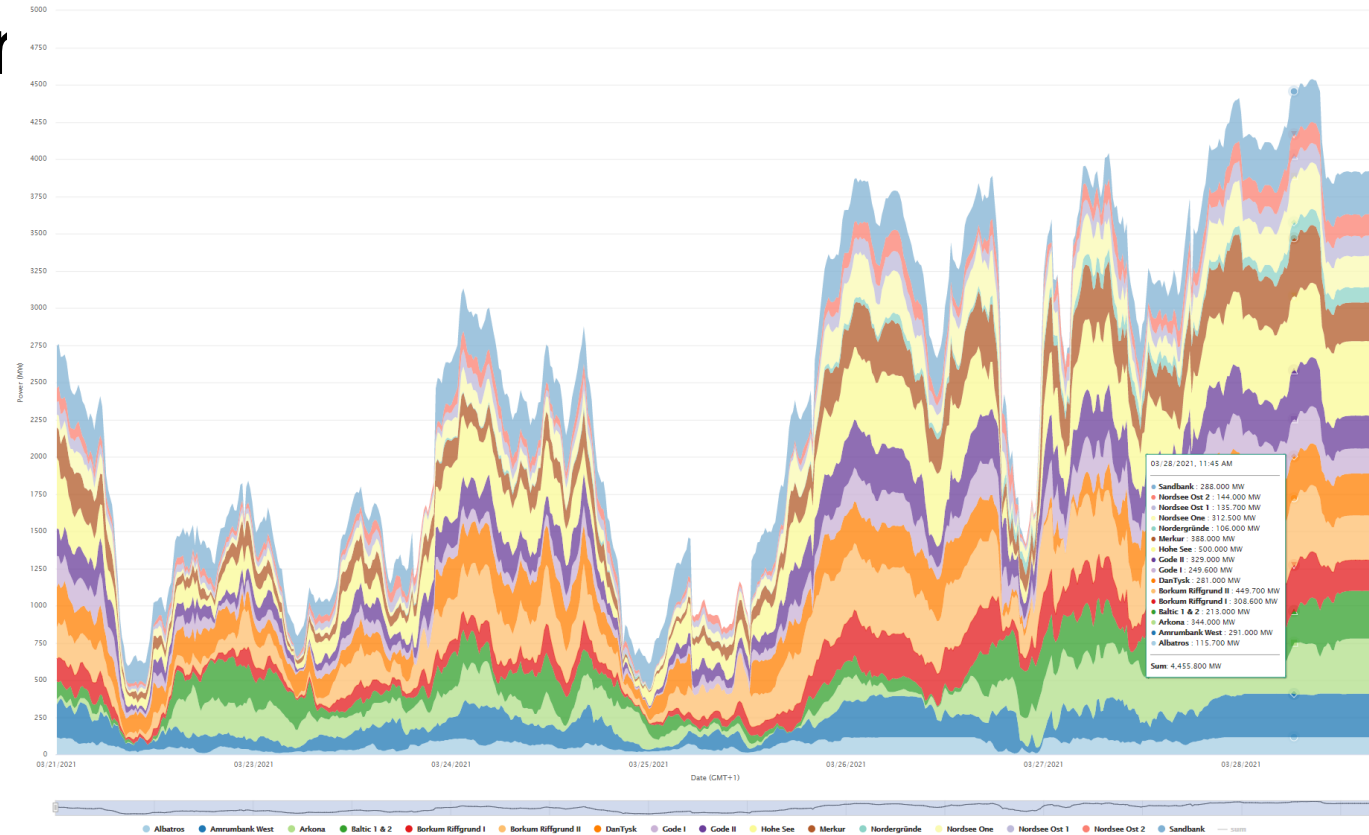


A low-angle photograph of an offshore wind turbine's internal structure, showing several tall, silver-colored cylindrical towers and a complex network of steel scaffolding and pipes. The sky is blue with scattered white clouds. The text "Offshore wind" is overlaid in the center in a large, white, sans-serif font.

# Offshore wind

# Offshore wir

- 300GW +
- Infrastructure
- Intermittency



Original figure from: [https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.magnuscmd.com%2Fthe-potential-of-offshore-wind-energy%2F&psig=AOvVaw0xpV6\\_vCMYWvxl-65AmswJ&ust=1624604730518000&source=images&cd=vfe&ved=0CAoQjRxqFwoTCPCjHr\\_ECFAAAAAAdAAAAABAN](https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.magnuscmd.com%2Fthe-potential-of-offshore-wind-energy%2F&psig=AOvVaw0xpV6_vCMYWvxl-65AmswJ&ust=1624604730518000&source=images&cd=vfe&ved=0CAoQjRxqFwoTCPCjHr_ECFAAAAAAdAAAAABAN)

# Offshore wind

- Connection types
  - Stable power output
  - Combined solutions
  - Deeper integration



Original figure from > [https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.magnuscmd.com%2Fthe-potential-of-offshore-wind-energy%2F&psig=AOvVaw0xpV6\\_vCMYWvxl-65AmswJ&ust=1624604730518000&source=images&cd=vfe&ved=0CAoQjRxqFwoTCPCijrHar\\_ECFQAAAAAdAAAAABAN](https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.magnuscmd.com%2Fthe-potential-of-offshore-wind-energy%2F&psig=AOvVaw0xpV6_vCMYWvxl-65AmswJ&ust=1624604730518000&source=images&cd=vfe&ved=0CAoQjRxqFwoTCPCijrHar_ECFQAAAAAdAAAAABAN)

# HYBRIT and SALCOS – Fossil-free steel production

- Fossil-free steel production
- Large-scale fossil-energy-free steel production in Sweden, Finland and Germany by 2026
- Joint ventures
- HYBRIT and SALCOS







# Thank you for your attention

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