

The Hydrogen Initiative – Hydrogen Vision for Europe

Austrian Presidency
of the Council of the EU

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Key topics for energy

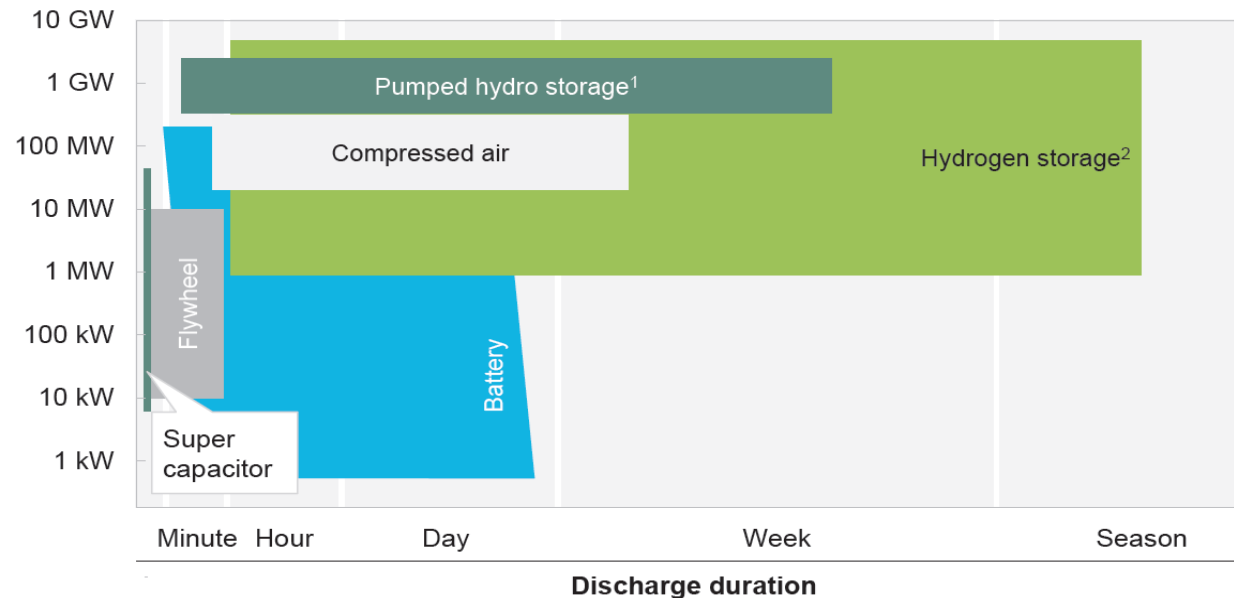
- finalising CEP legislation
- Vienna as International Energy Hub
- Innovative Energy Technologies

Renewable Energy Storage

- With increasing share of renewable intermittent electricity, flexible long- and short-term storage solutions are essential
- Spatial and temporal availability of renewable energy with hydrogen as energy carrier increases energy security
- Regional production of green hydrogen

Long- and short-term energy storage

Technology overview in power and time



¹ Limited capacity (<1% of energy demand)

² As hydrogen or SNG

SOURCE: IEA Energy Technology Roadmap Hydrogen and Fuel Cells

The Hydrogen Initiative

- Aims to evoke synergies in application of renewable hydrogen technology in following fields:
 - Sector coupling
 - Short- and long-term storage
 - Direct injection into the gas grid
 - Conversion to renewable methane
 - Industry
 - Transport and mobility
- Supported by 26 Member States, the European Commission, CH and IS

Member States Support



Member States, EFTA and EC



Austria



Belgium



Bulgaria



Hungary



Iceland



Italy



Switzerland



Croatia



Cyprus



Czech Republic



Latvia



Lithuania



Luxembourg



Ireland



Denmark



Estonia



Finland



Malta



Netherlands



Poland



Slovakia



France



Germany



Greece



Portugal



Romania



Spain



Slovenia

Chances for Energy Intensive Industry

- Hydrogen application can integrate renewable energy in highly energetic industrial processes
- European Emission Trading System (ETS)
 - Current price 20 €/t_{CO2}



Copyright: Schenck Process



Source: finanzen.net, 04/12/2018

High-Level Conference: Charge for Change – Innovative Technologies for Energy-Intensive Industries



Source: wikipedia



Source: h2future

Stakeholder Support



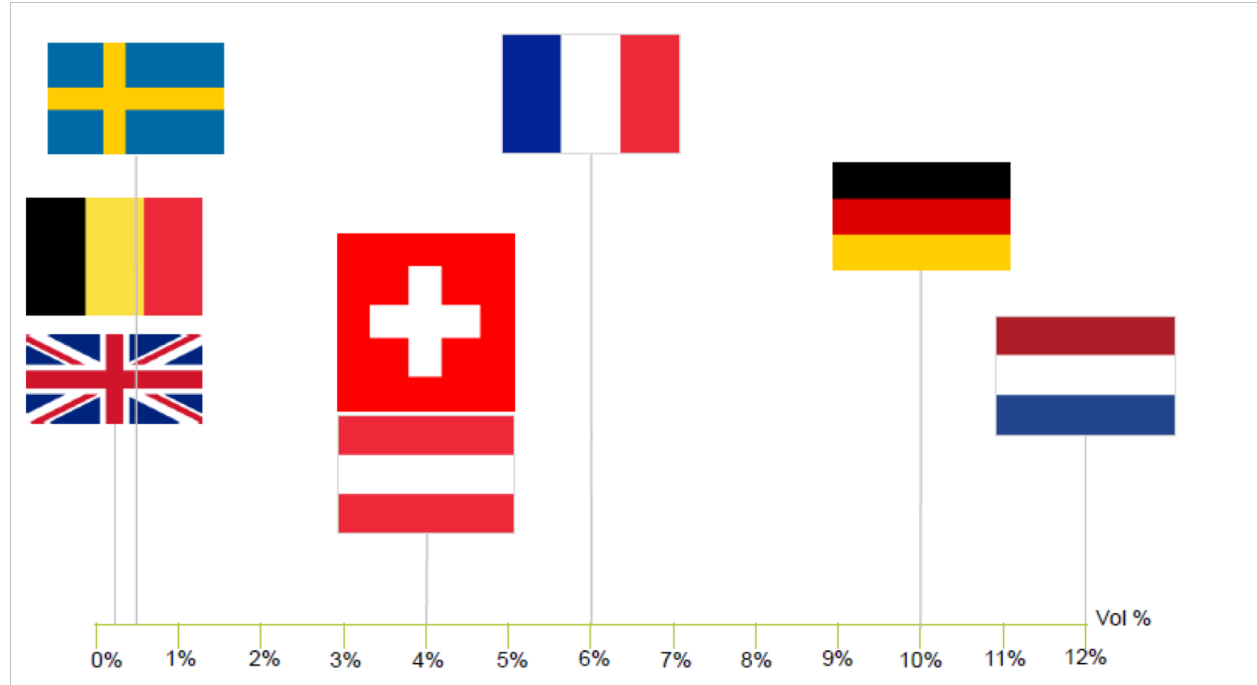
Stakeholder Support



Need for EU-wide standards for gas grids

- Assurance for gas quality
- Security for consumers
- Necessity for cross border trade in pipelines
- Implementation of hydrogen infrastructure

National standards for hydrogen content in the gas grids



Source: Gas Connect Austria GmbH, 2018

Production Costs of Hydrogen with Electrolysis

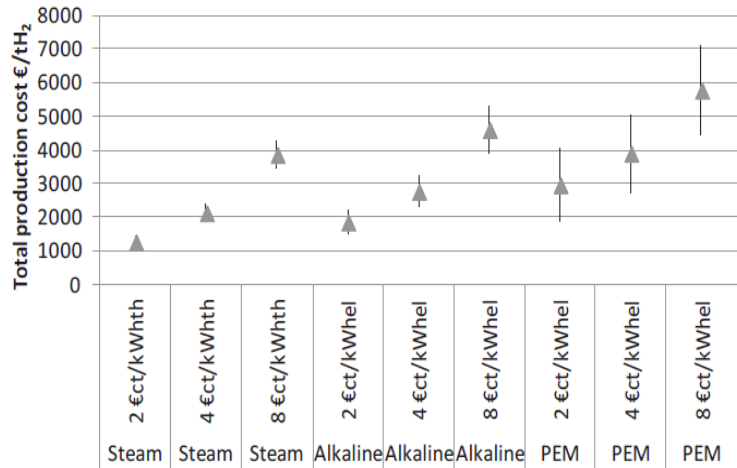
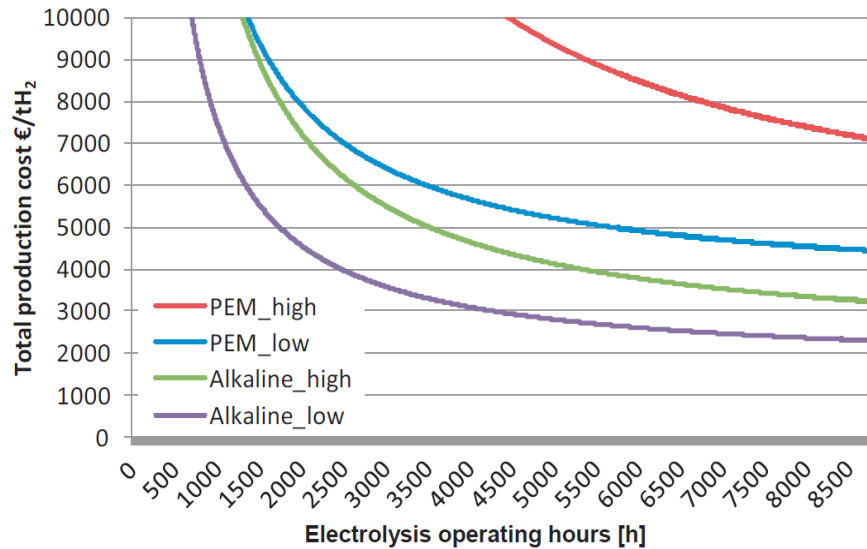
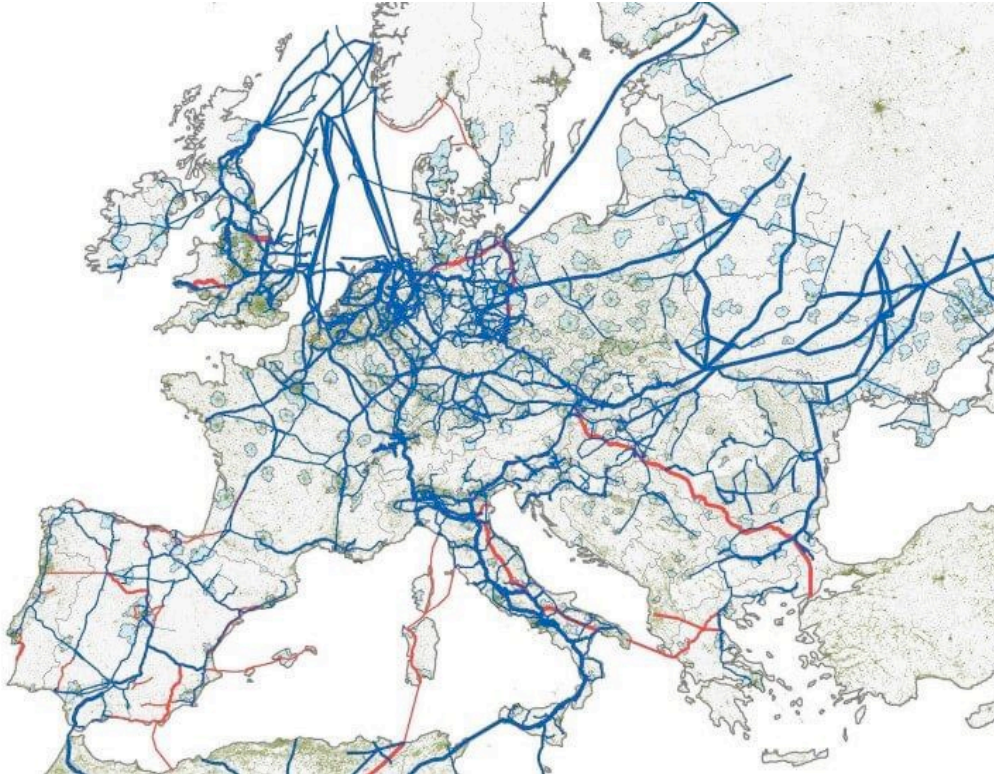


Figure 5: Cost comparison hydrogen production cost for methane steam reforming (steam) and electrolyser technologies (Alkaline, PEM)

Source: DECHEMA, Low carbon energy and feedstock for the European chemical industry, June 2017

Network for Decarbonisation



Source: British Business Energy, Wikimedia; Hydrogen Europe

Thank you for your attention!

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