

# The Hydrogen Initiative – Hydrogen Vision for Europe

Austrian Presidency  
of the Council of the EU

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## Key topics for energy

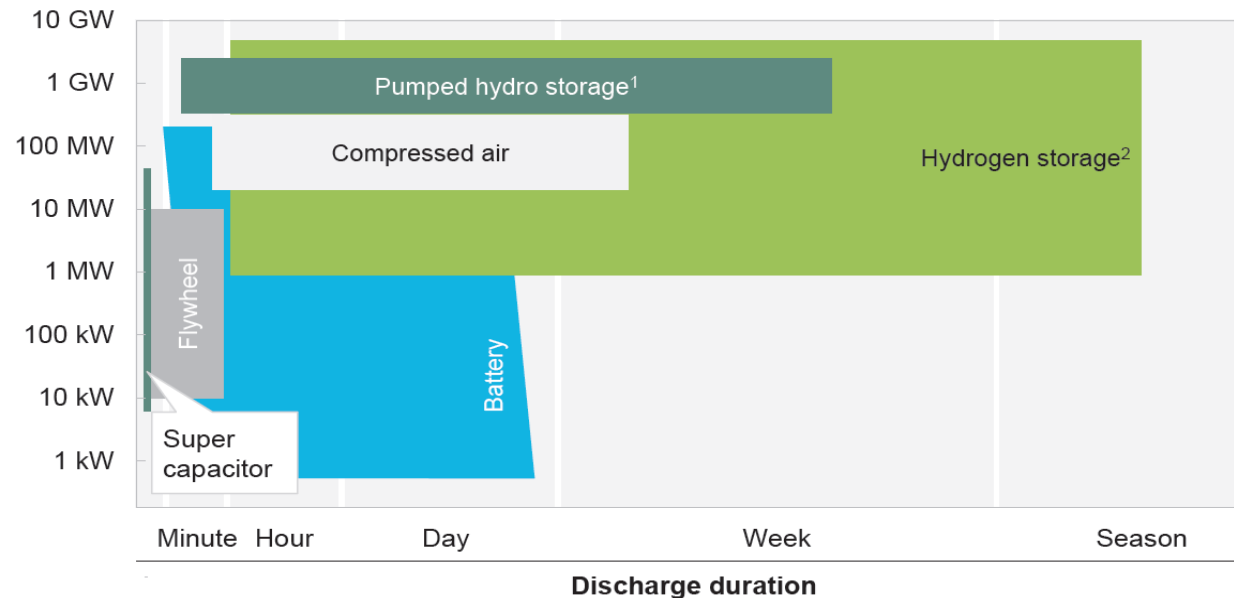
- finalising CEP legislation
- Vienna as International Energy Hub
- Innovative Energy Technologies

# 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



<sup>1</sup> Limited capacity (<1% of energy demand)

<sup>2</sup> 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 27 Member States, the European Commission, CH and IS

# Member States Support



# 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<sub>CO2</sub>



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

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# 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

# Production Costs of Hydrogen with Electrolysis

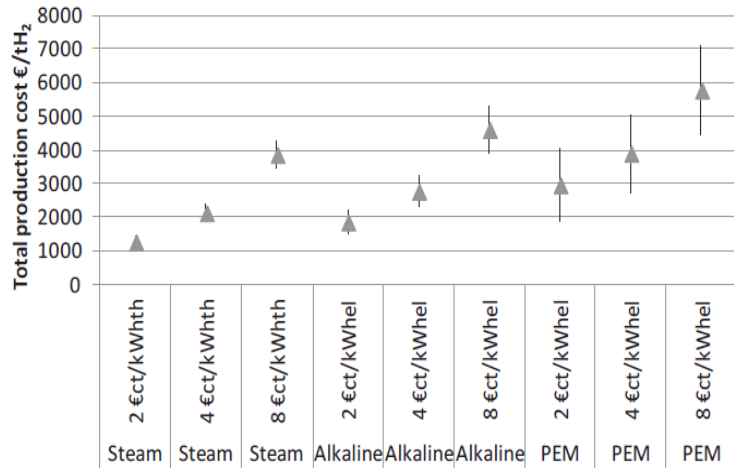
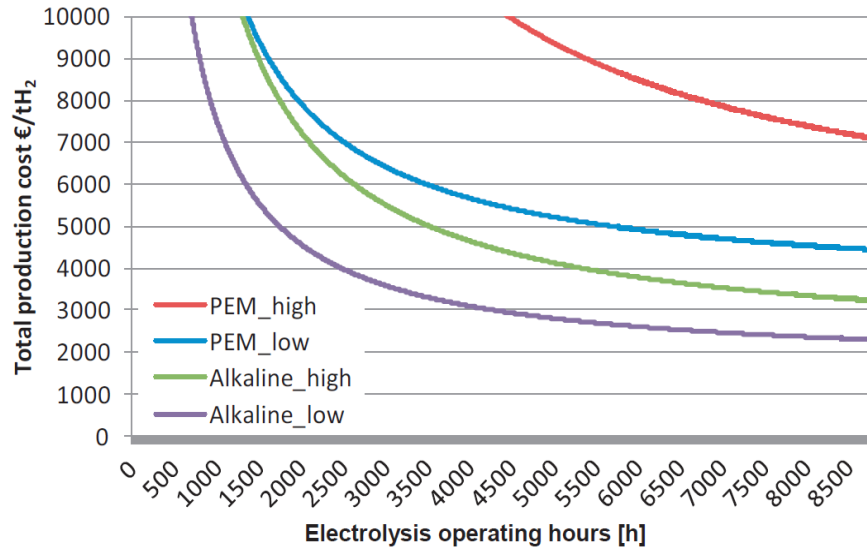
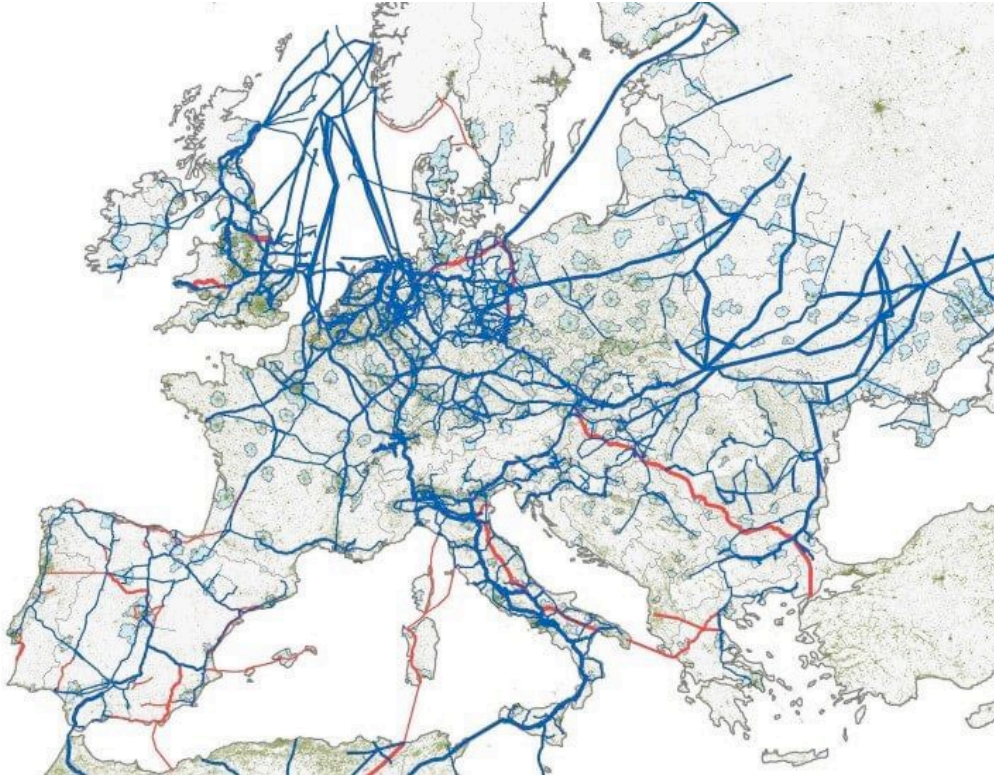


Figure 5: Cost comparison hydrogen production cost for methane steam reforming (steam) and electrolyser technologies (Alkaline, PEM)

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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