

# Strategic risks of making decisions affecting third countries and future generations: are Europe's 2050 climate goals achievable?

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Secretary General

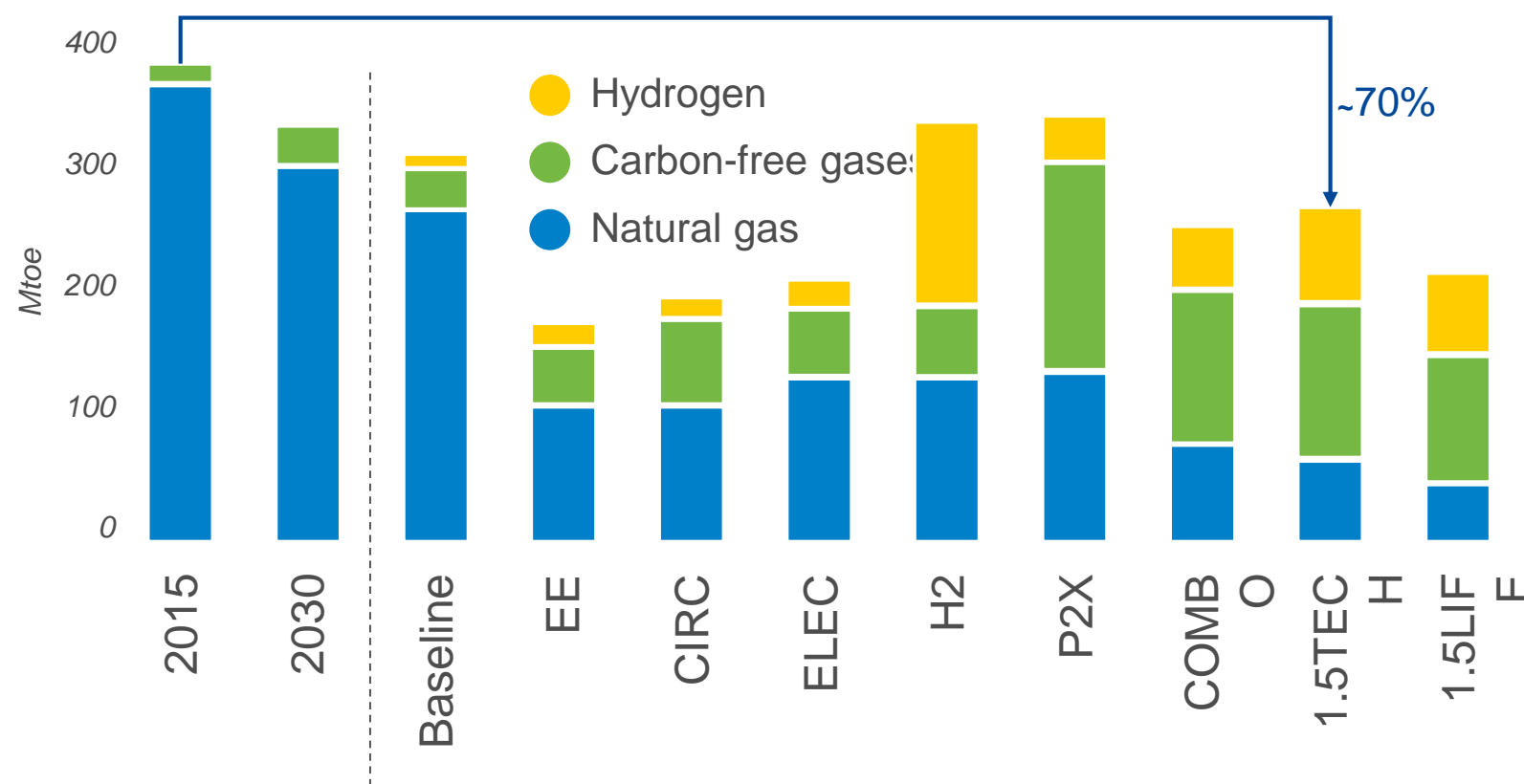


# Our members



# Gas continues to play a key role in a carbon neutral EU by 2050

Consumption of gaseous fuels



European Commission Long-Term Strategy confirms strong role of gas in the energy transition

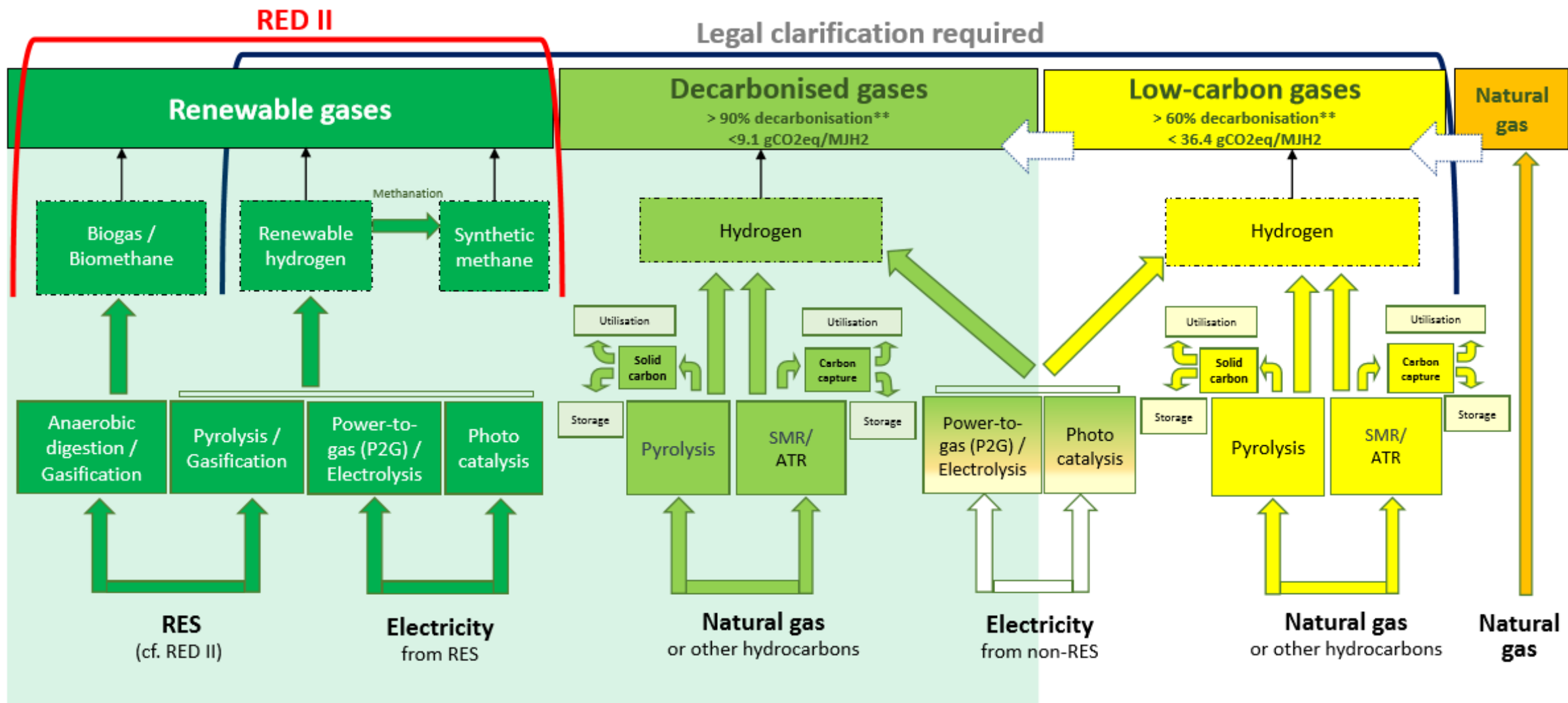
CCS a necessity

LEGAL BASIS ?

PRODUCT

PROCESS \*

ENERGY SOURCE



Disclaimer:

\* This overview is based on existing processes and known technologies and evidently does not preclude any other existing process or new technological developments.

\*\* The GHG reduction is calculated on the BAT 91 gCO<sub>2</sub>/MJH<sub>2</sub> derived from [CertifHy](#) and could be replaced by a comparable threshold pending confirmation of the methodological basis for CertifHy.

# The Green Deal as an accelerator for Gas



## European Partnership for clean hydrogen

- Initiative to help create a clean hydrogen sector in Europe that is strong, innovative and competitive and fully capable of supporting and enabling the energy transition

## Smart Sector Integration

- Deploying clean energy across the economy
- Enabling decarbonisation
- Making use of the untapped flexibility potential of existing energy infrastructure

## Industrial Strategy

- An ambitious EU industrial strategy
- Balanced approach between competitiveness and climate neutrality



# Several countries already leading the way in promoting renewable and decarbonised gas

Industry led initiatives

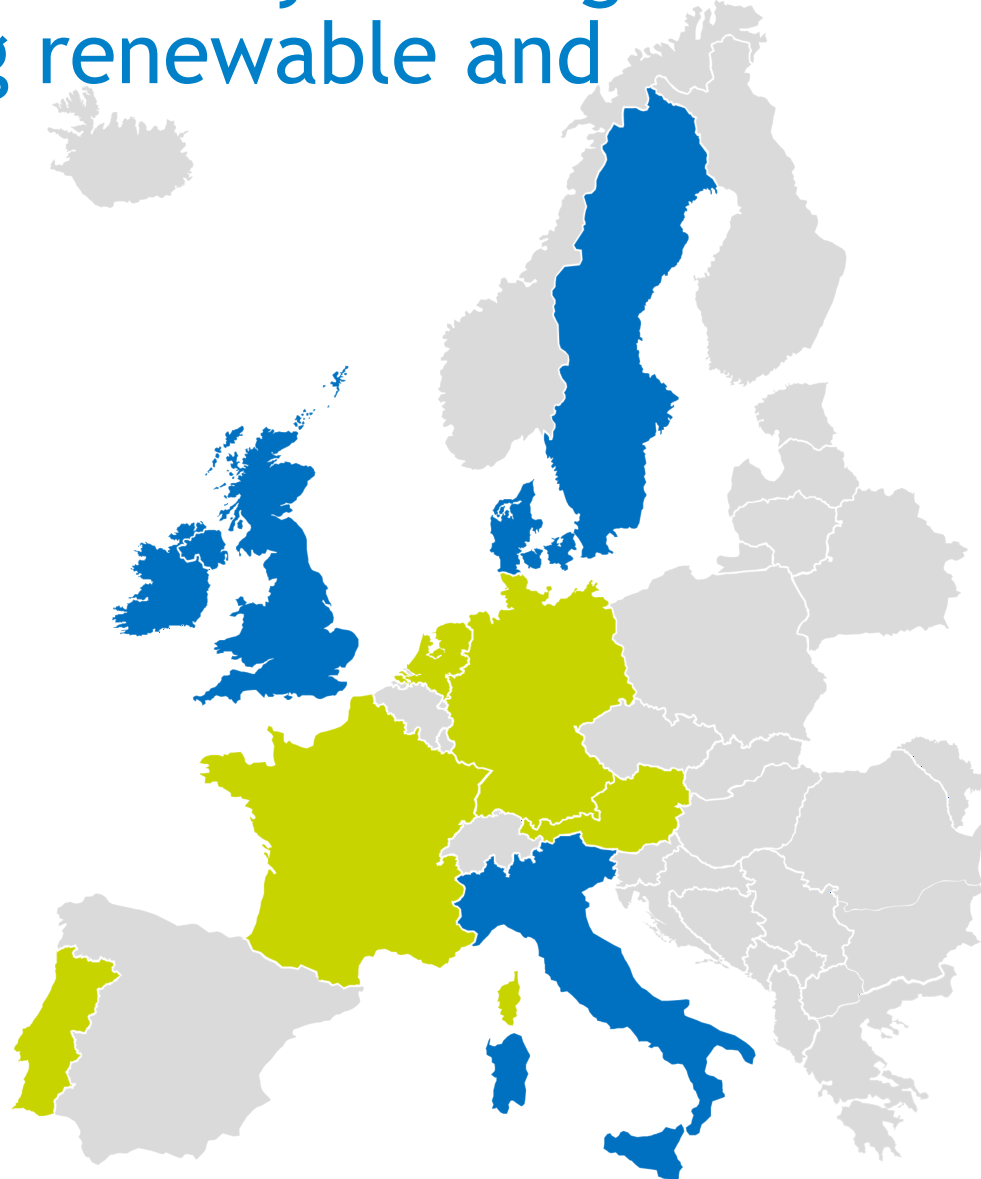
**Denmark:** 12% of gas consumption renewable in early 2020 - 100% by 2035

**United Kingdom:** hydrogen to cover 70% of UK heat demand by 2050

**Ireland:** 20% of gas consumption to be renewable in 2030, potential for 100% in 2050 (50 TWh)

**Italy:** 10 bcm in 2030 = 13% of 2017 gas demand. 35 bcm in 2050 = 47% of 2017 gas demand. 10% H<sub>2</sub> blending trial in 2019

**Sweden:** 15 TWh of biogas by 2030



## Government led initiatives

**France:** 10% of all gas in the grid to be renewable by 2030 and 100%+ potential by 2050 (400+ TWh)

**Austria:** 5 TWh by 2030 of renewable gas injected, equivalent to 6% of its natural gas consumption in 2018

**Germany:** 3-5 GW electrolyser capacity and 20% of all H<sub>2</sub> production to be renewable by 2030

**Portugal:** plans a dedicated 1-5 GW solar power plant to produce H<sub>2</sub>

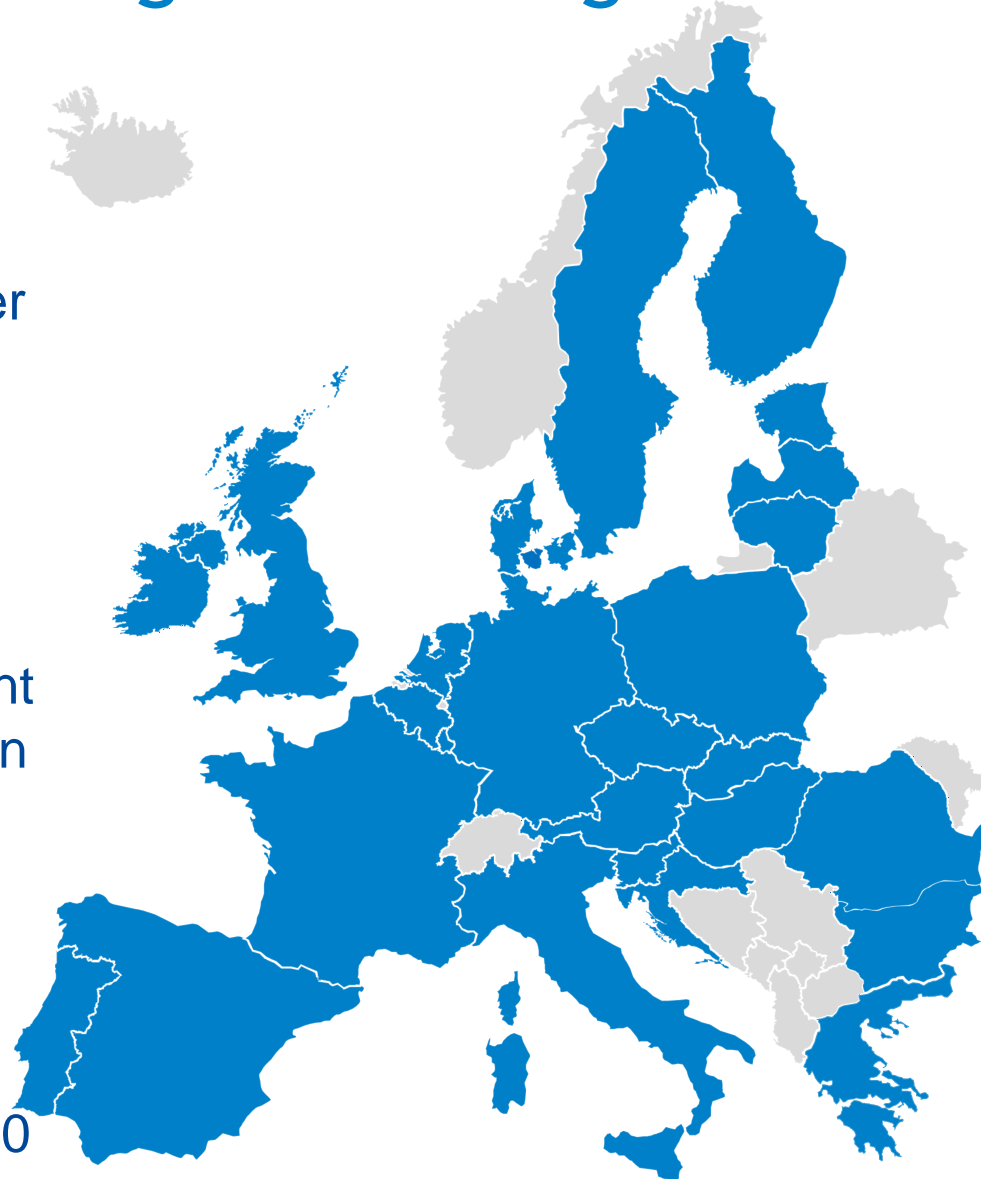
**Netherlands:** discussions over a renewable/decarbonised gas target

# EU (+UK) wide hydrogen and biogas in 2050

## Ecofys (Navigant) in 2019

“Optimised gas” scenario allocates to buildings, industry, transport, and power sectors

- Predicts 1,710 TWh of green hydrogen.
- +
- about 1,500 TWh, or 142 bcm natural gas equivalent of blue hydrogen based on applying CCS
- About 1,200 TWh of biomethane in 2050
- 2017 gas use around 4500 TWh



## Trinomics 2019

Strong hydrogen end-use scenario posits end user preferences to be hydrogen-based applications

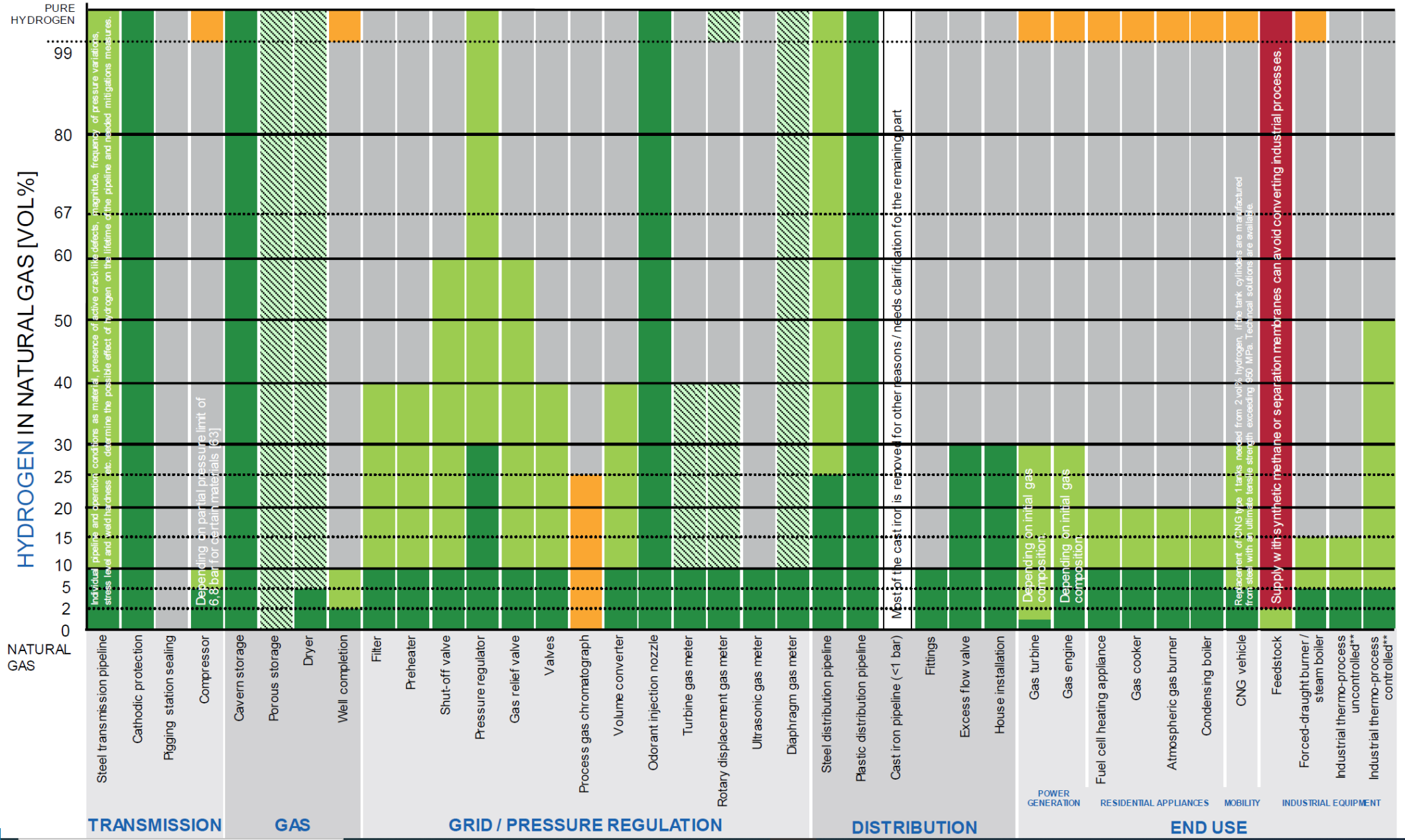
- Predicts 2,138 TWh/a hydrogen.

# OVERVIEW OF AVAILABLE TEST RESULTS\* AND REGULATORY LIMITS FOR HYDROGEN ADMISSION INTO THE EXISTING NATURAL GAS INFRASTRUCTURE AND END USE

■ No significant issues in available studies\*.
 ■ Mostly positive results from available studies\*. Modifications/ other measures may be needed.
 ■ Technically feasible, significant modifications/ other measures or replacement expected.
 ■ Currently not technically feasible.
 ■ Insufficient information on impact of hydrogen, R&D required.
 ▨ Conflicting references were found, R&D/ clarification required.

This assessment is based on information from R&D projects, codes & standards, manufacturers and MARCOGAZ members expertise.  
The assessment applies to segments in isolation. Any decision to inject hydrogen into a gas infrastructure is subject to case by case investigation and local regulatory approval.

\*According to the list of references.



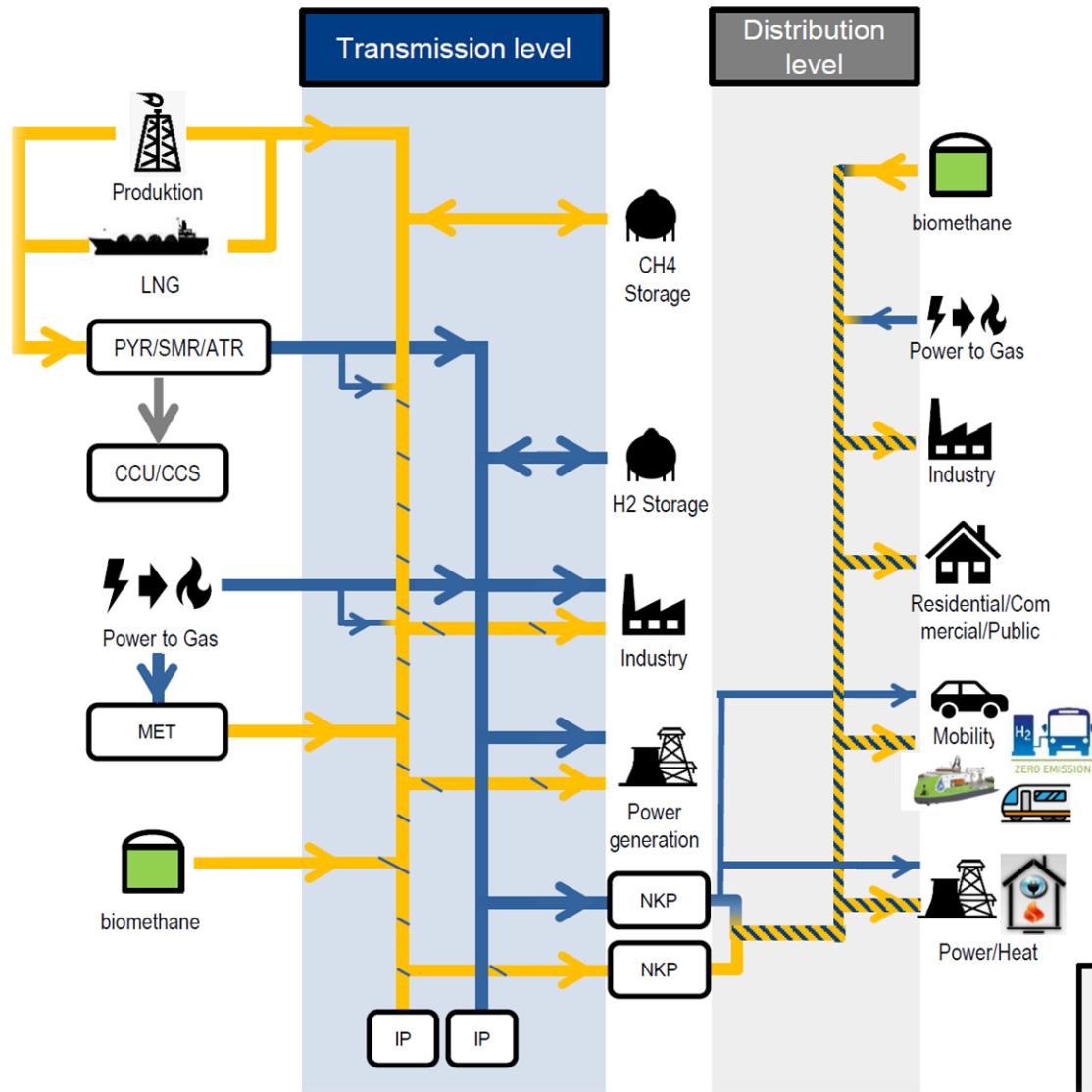
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TECHNICAL ASSOCIATION  
OF THE EUROPEAN NATURAL GAS INDUSTRY





The DSO builds on the proposal of the TSO to achieve maximum system flexibility to deal with the unexpected. Optimal combination of local energy with security of supply from the TSO.



#### Possible developments on the transmission level

- Use of existing infrastructures
- Converting certain pipelines to 100 % **H2**
- Low H2 blending into the CH4 network. Level not harmful to large feedstock customers, storages, compressors, turbines
- Connect customers and DSO to **H2** and **CH4** grid according to their demand and individual situation

#### Distribution level

- Use of existing infrastructure!
- Enables local injection of biomethane, hydrogen, blends, syngas
- Possibility for dedicated H2 delivery but also “deblending” with membranes for critical consumers

# Recommendations



- Policy – **Investor Certainty** that will drive the decarbonization of the gas system
  - A binding **EU-level target** for renewable and decarbonized gas
  - EU blueprint for **guarantees of origin** for R/D gasses
- Infrastructure – Preserve the **strategic role of gas infrastructure** and enable the growth of R/D gas
  - A **holistic approach to gas and electricity** concerning market regulation and infrastructure planning
  - Adequate **blending rules** to promote the rollout of new gasses
- Cooperation – with our partners to ensure that we support them to produce the gas that we need for carbon neutrality
  - A **comprehensive approach** to energy partnerships including identifying best pathways for partner countries to contribute to their own decarbonization
  - Enabling an export market with joint planning
- Markets – To ensure a **competitive energy market** and **security of supply**
  - **Extend the regulatory framework for natural gas** to cover R/D gasses
  - Further improve the **liquidity and efficiency** of the EU gas market

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## Contact details

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