

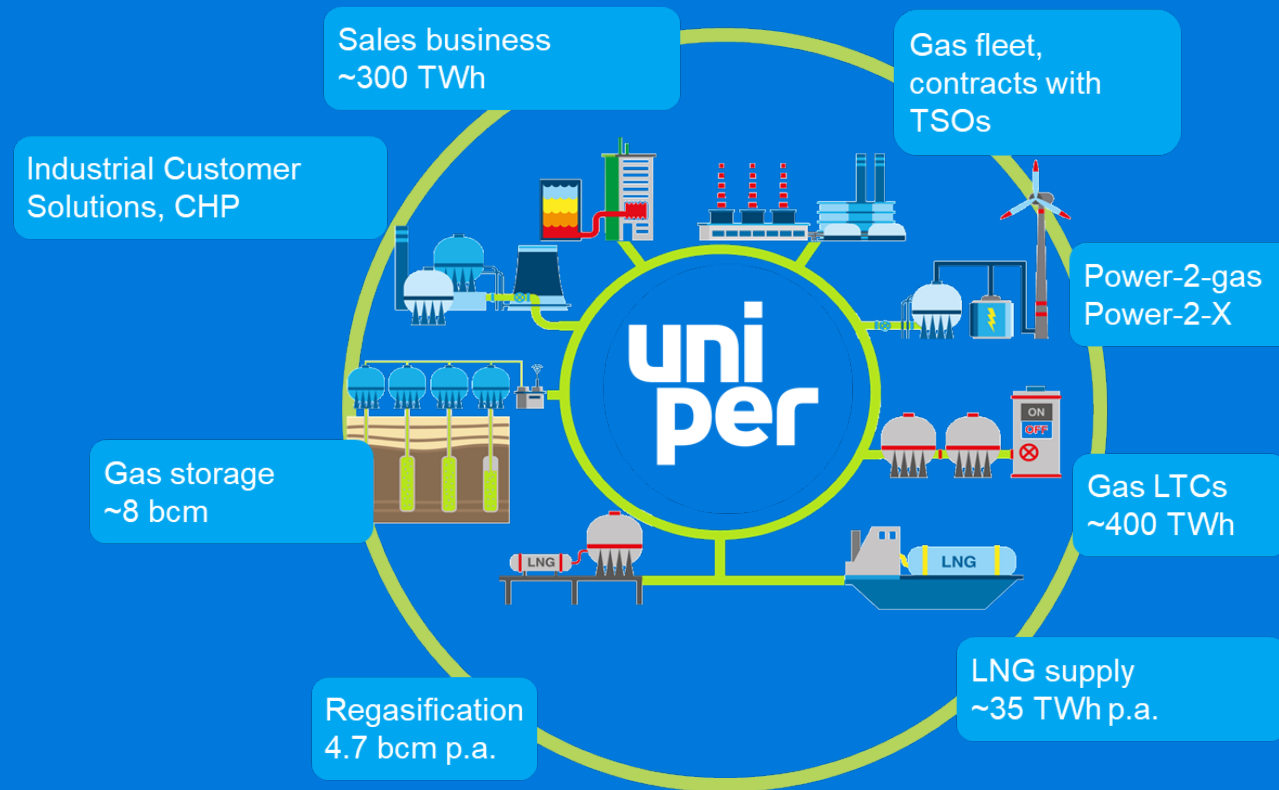


Panel Debate on Renewable gases: ambition vs realism

1st Annual European Gas Dialogues Conference
10th March 2021

Michael Schmöltzer, Uniper Energy Storage

Uniper's infrastructure and trading skills ideal to meet import demand for the switch to hydrogen

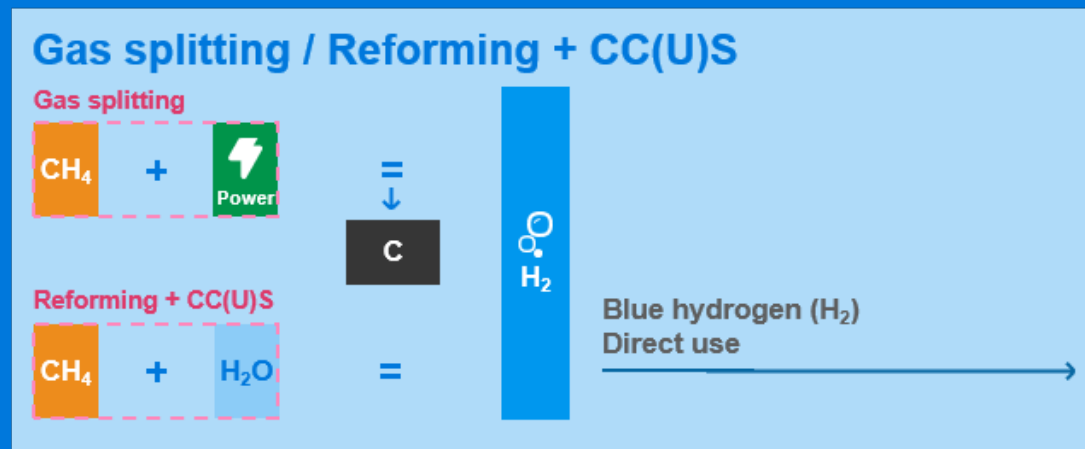
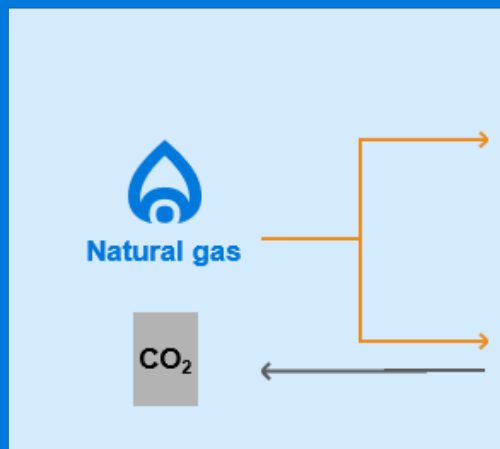
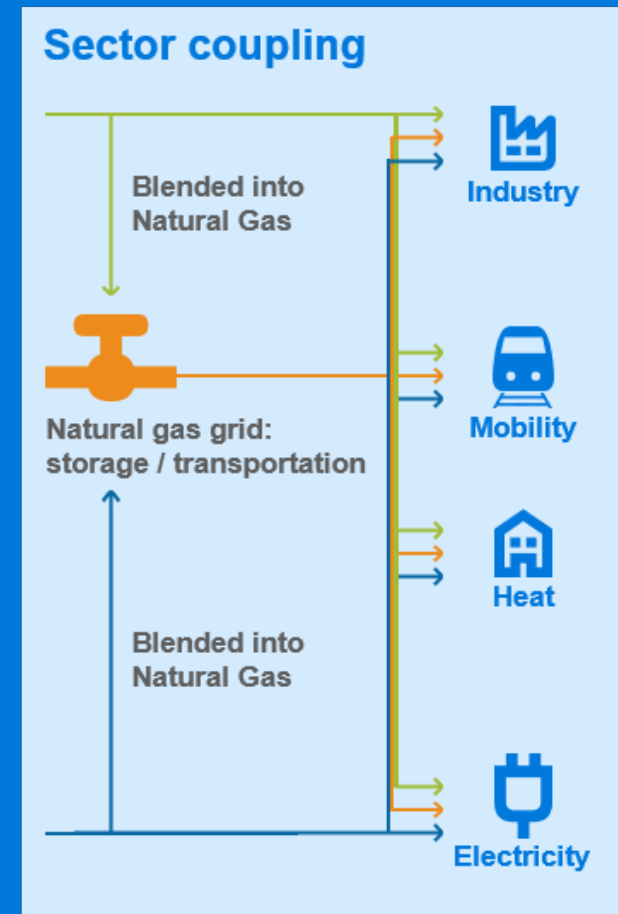
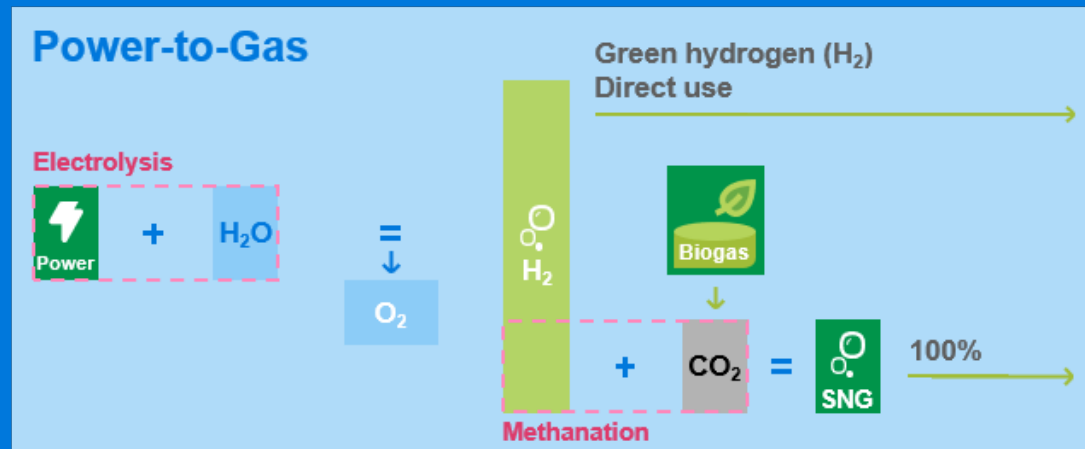
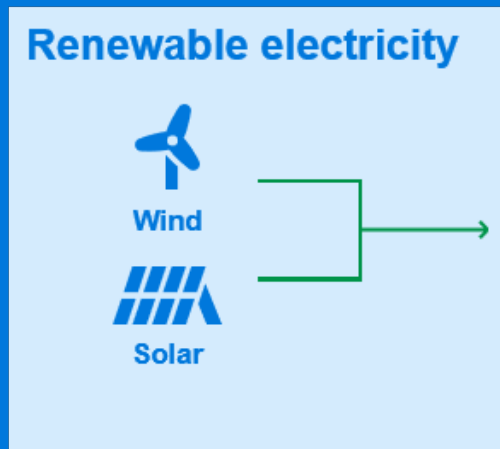


Uniper pushing for hydrogen

- Hydrogen is key to climate neutrality as electrification alone cannot achieve climate goals
- Key demand areas are transport, heavy industry but also power generation
- Legislative action needed to drive decarbonization of gas
- Uniper's infrastructure can deal with an increasing amount of hydrogen today
- Uniper operates various large scale hydrogen facilities
- Current projects envisage up to 30-40 MWeI electrolyser & injection of green hydrogen into the caverns

Hydrogen: Uniper embraces the technology-neutral approach and supports all colors

Gas generation & gas midstream



H₂O (water), H₂ (hydrogen), CO₂ (carbon dioxide), SNG (Synthetic Natural Gas), CH₄ (methane), C (solid carbon), CC(U)S (Carbon Capture (Utilisation) and Storage)

Uniper ready to scale up hydrogen and for sector coupling

**WindGas
Falkenhagen**

2013

Start of operations

2018

Addition of methanization equipment

Production

H₂ fed into gas distribution pipeline

**uni
per**

**WindGas
Hamburg**

2015

Start of operations

Transport

H₂ fed into gas distribution pipeline

**Reallabor
Bad Lauchstädt**

2019

Start of planning

Industry

Shaping a (green) H₂ economy in the Central German Chemical Triangle

Uniper's existing gas turbines

**H₂
compatible**

Power generation

Gas turbines hydrogen compatible

To release Sector Coupling potential ...

- A **common terminology** via clear & science-based definition of renewable & low-carbon gases, including H₂
- A **set of national binding consumption targets** for renewable & low-carbon gases, including H₂, which consider technological developments of Member States
- An **EU-wide credible documentation of the green value of renewable & low-carbon gases**, including H₂, such as Guarantees of origin (GOs), with a technology-neutral approach & compatible with the EU ETS
- The **adjustment of levies, grid charges & taxes to reflect societal benefits** provided by the gas infrastructure & the avoidance of double charging
- The **need for a coordinated network** planning, including storage, to **optimize the costs** of the energy transition
- The **amendments of relevant EU legislation (e.g. TEN-E regulation)** to enable network owners to operate several categories of gases, including H₂, & **providing them with incentives to adapt their infrastructures** to cope with the coexistence of different gases
- **Dynamic regulatory approach on Hydrogen Regulation** to support different pathways and business models
 - TPA and Tariff Regulation shall be subject to a market test
 - Unbundling requirements to be transferred to H₂ market
 - Public Funding to retrofit existing gas infrastructure in H₂ readiness