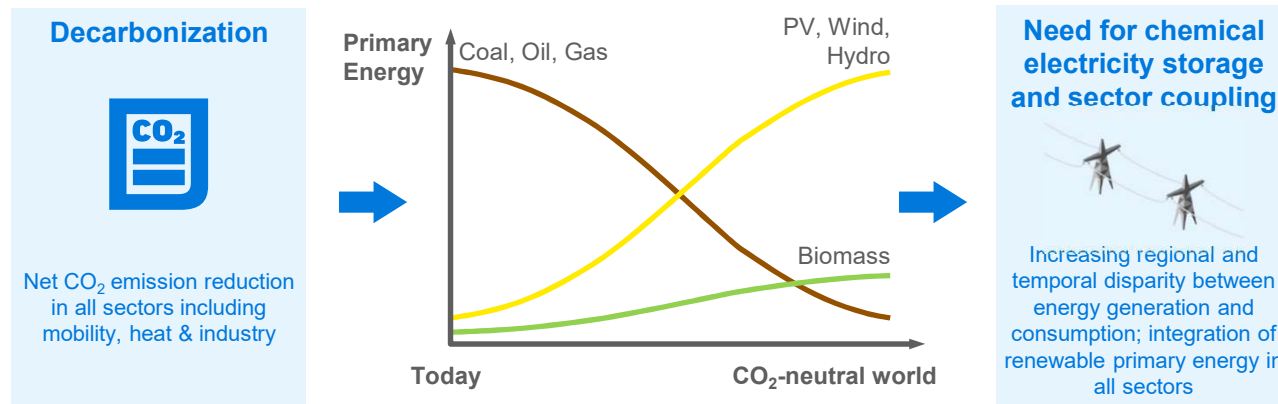




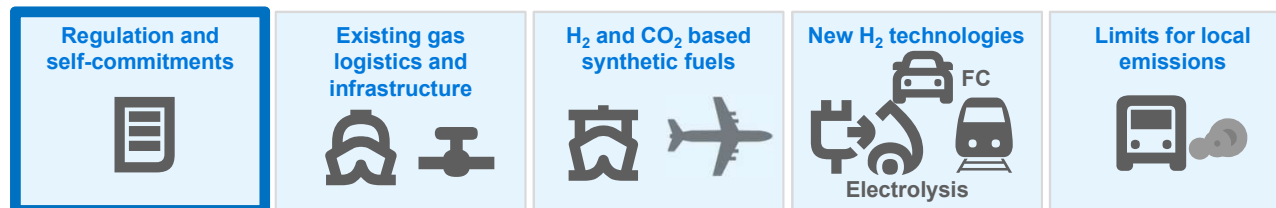
Decarbonize energy systems using Hydrogen as a clean energy carrier

Brussels, 29.01.2020

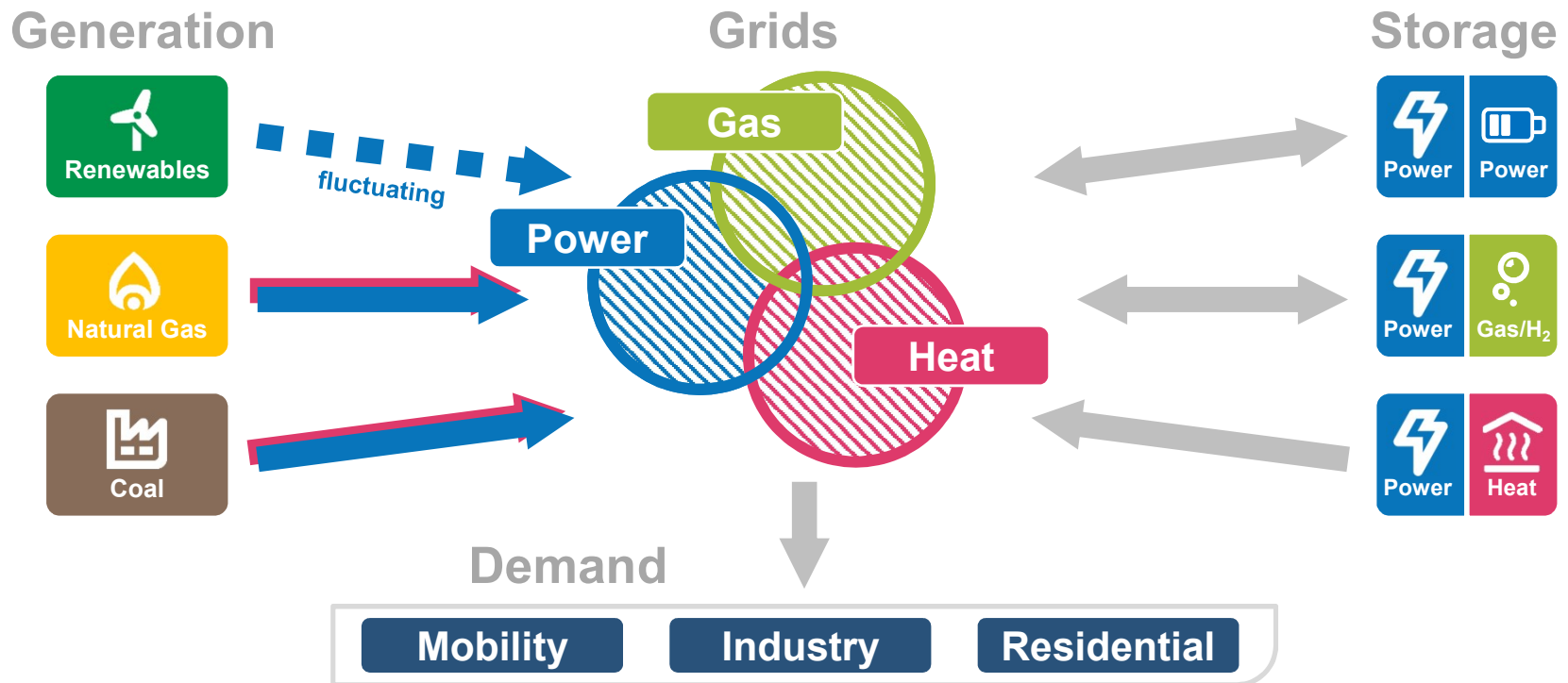
Main driver for H2 growth is climate protection



Further key enablers for hydrogen



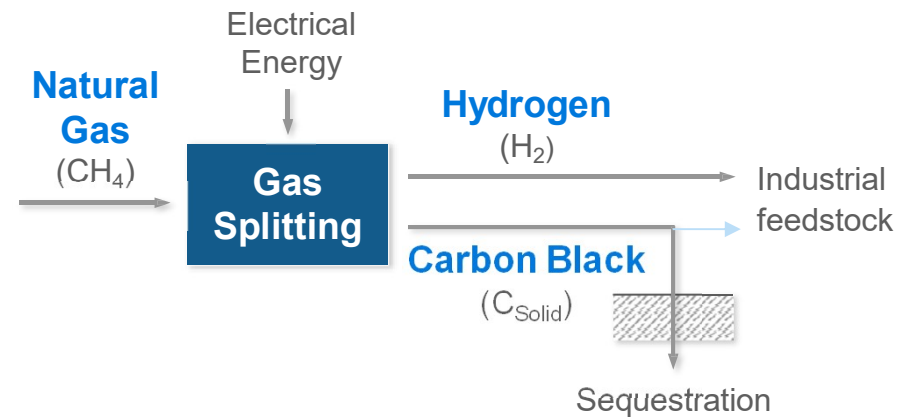
Sectorial integration – using today's infrastructure



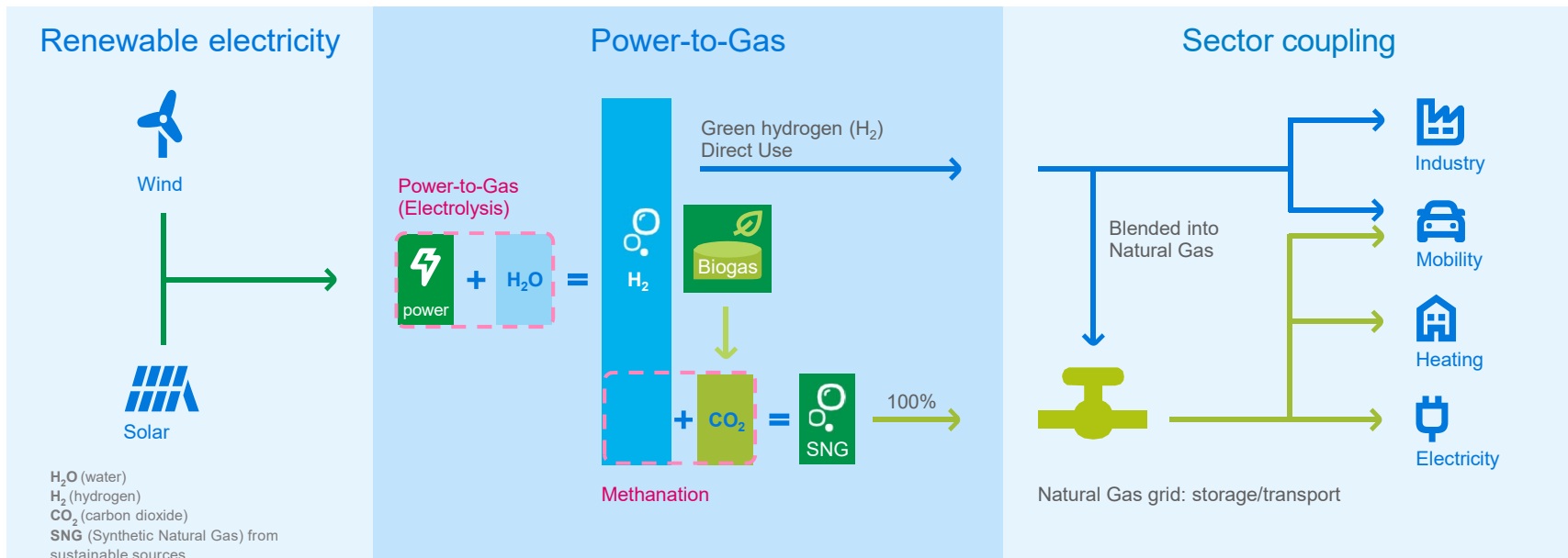
Gas splitting as an enabler for Hydrogen economy

- It requires less energy and results in lower H₂ costs
- Especially in the mid-term future, gas splitting can be an important bridging technology to overcome lack of renewables capacities
- Market penetration of Gas Splitting will positively impact growth for H₂ from Water Electrolysis (e.g., due to increased general acceptance of H₂ and growing infrastructure)

Natural Gas Splitting into elements: $\text{CH}_4 \rightleftharpoons \text{C} + 2 \text{H}_2$



Power-to-Gas: Green electricity gets a „second life“



With its energy storage projects, Uniper is actively contributing to the energy transition

WindGas Hamburg



- 1.5 MW_{el} (stack) / 290 m³/h H₂
PEM electrolysis
- Start of operation: 2015
- H₂ injection into gas distribution pipeline

WindGas Falkenhagen



- 2 MW_{el} / 360 m³/h H₂
Alkaline electrolysis
- Start of operation: 2013
- 3 years of very successful operation, >8GWh H₂ produced, >10,000 operating hours, >800 starts/ stops
- H₂ injection into gas transportation pipeline

STORE&GO



- Expand WindGas Falkenhagen by 1 MW catalytic **methanation** plant
- Start of operation: 2018
- Input: Renewable H₂: 210 m³/h, Biogenic CO₂: 52.5 m³/h
- Green SNG (54 Nm³/h) injected into the grid

Thank you

Interested in the topic and want to know more about it?

Please get in touch with us:

hydrogen@uniper.energy

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