



From pilots to > 1 GWe electrolysis capacity installed by 2030 – Strategy and experiences from our Swedish and European H₂ -projects

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Uniper at a glance

7,000 employees ensure security of supply in Europe

Active in more than **40** countries

~ 22.5 GW generation capacity

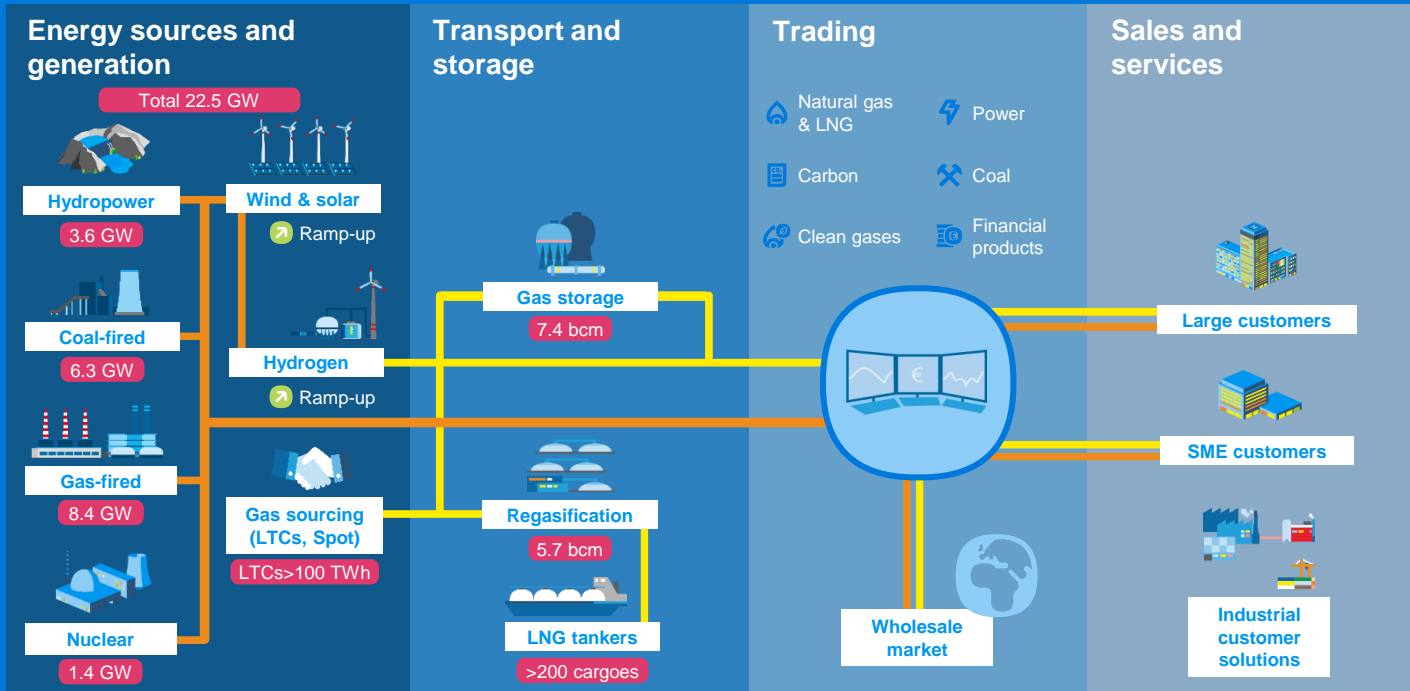
Entire business to be carbon-neutral by **2040**

Gas portfolio consisting of roughly **200 TWh**

€bn3.7 Adj. EBIT (H1 2023)



Uniper's business activities at a glance

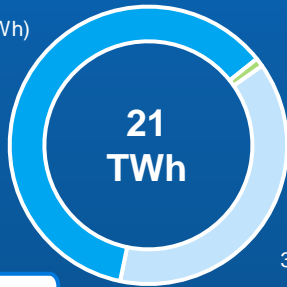


Uniper's Swedish operations – significant part of the national power system and positive cash flow contributor to Group

Uniper Electricity production

Nuclear
60% (13 TWh)

Heat 1%
(0,1 TWh)



Hydro
39% (8 TWh)

15%

Of Sweden's electricity consumption



~1 000 employees



€1.7 B in revenue – strong base (2021)



Innovative new H2 projects: Project Air, H2@OKG, Liquid Wind, Bothnia LinkH2, SkyFuelH2



4 154 MW installed capacity



Uniper 2030: Flexible, balanced, bespoke – Providing what the energy system needs

Uniper 2030

Leveraging interlinkage of power and gas in core markets¹

Investing >€8bn 2023-2030 in growth and transformation

Coal phase out by 2029² as first step on path to carbon neutrality by 2040³

Independent and stand-alone investment grade rated company as well as attractive employer



Customer

- ~1000 municipal and industrial customers as well as grid operators
- Securing sustainable energy supplies for customers
- Developing bespoke energy solutions to support our customers' decarbonization



Green & Flexible Power

- 15-20 GW capacity
- Thereof >80% green
- Green power sales portfolio
- Security of supply (e.g. ancillary services)
- Decarbonization solutions



Green Gases

- >200 TWh gas sales
- >1 GW electrolyzer capacity
- Security of supply based on an increasing share of green gases

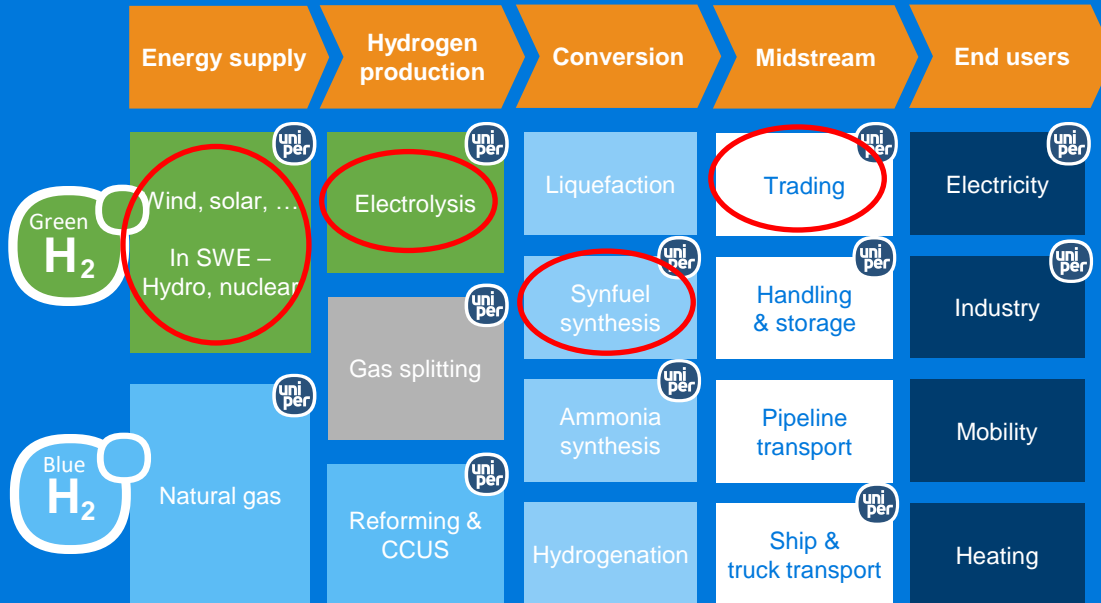


Optimization

- Balancing sales with supply
- Originating and trading energy products to optimize the energy system

In the Implementation of our Hydrogen Strategy, Uniper is Active in all Parts of the Hydrogen Value Chain

Uniper is covering the full hydrogen supply chain...

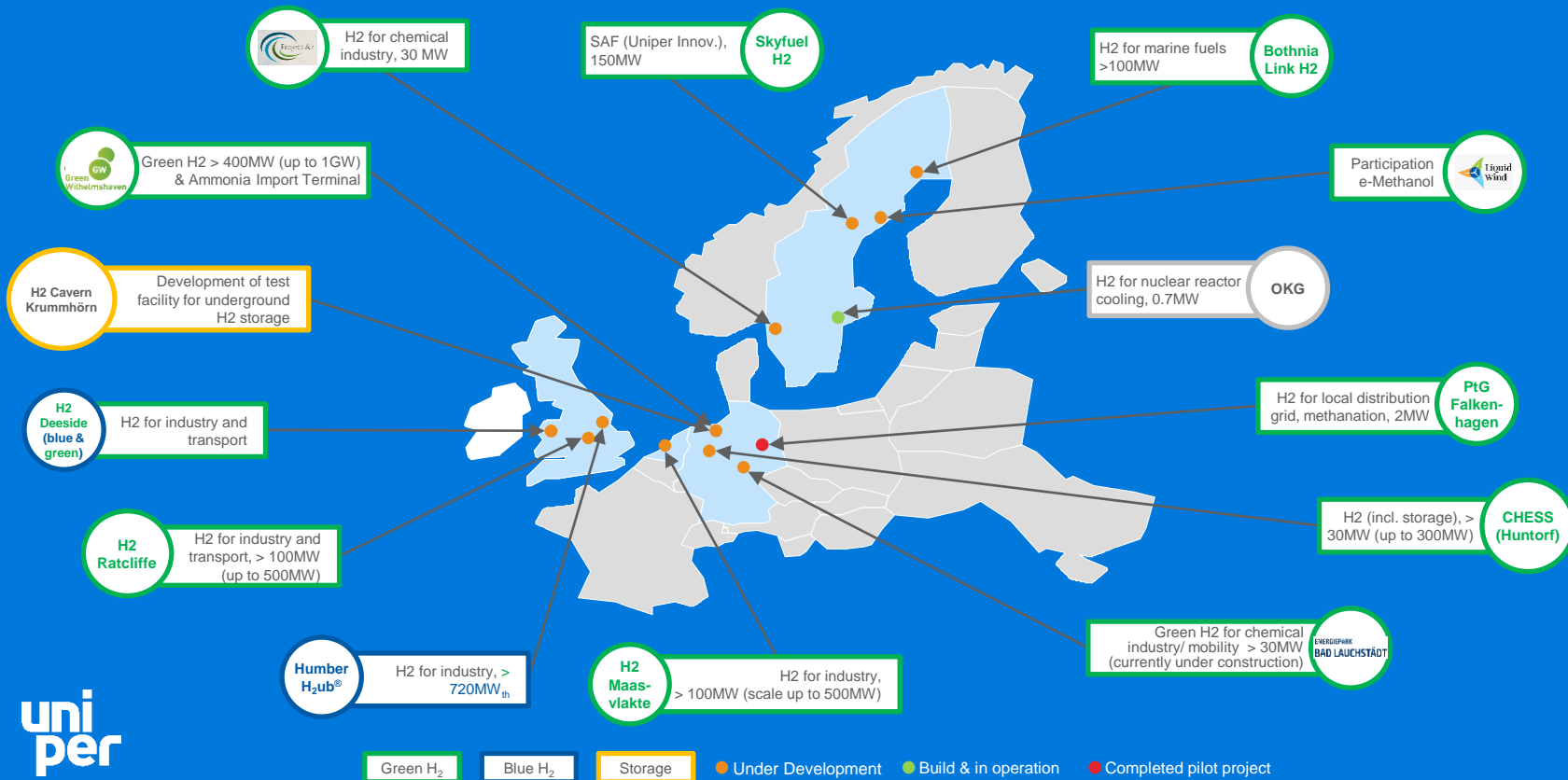


... and strengthening its position

- >€8 billion investments (including for hydrogen) between 2023 and 2030
- Grow portfolio of green H₂ (>1GW installed electrolyzer capacity by 2030) & derivatives
- H₂ readiness for fleets: Gas Turbine and Storage
- Actively shaping hydrogen market design and regulation
- Key success factors: clear scope and strong team
- Expansion of H₂ production and imports to decarbonize hard-to-abate sectors
- Cooperation with strong partners from industry and business associations

Uniper Focusing on Developing Large Scale H₂ Projects

From Pilot Plants to Market Maturity



Our Swedish project portfolio covers different segments and electricity price areas



Project Air



Vision

Production of **renewable methanol** using renewable hydrogen, biogas, CO₂ and residue streams → reducing 500.000 tons CO₂ annually



Supply

3,500 tons per annum of green hydrogen



Target customers

Provide large-scale **green methanol** supply to the **adjacent chemical industry** as a raw material

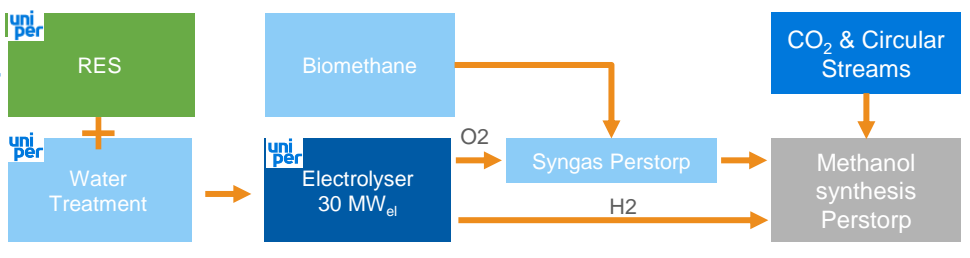


Value Proposition

First large-scale plant in the world to use **recycled wastewater** to produce **climate friendly hydrogen** and subsequently **green methanol**



Technical Concept



Project Start
2020

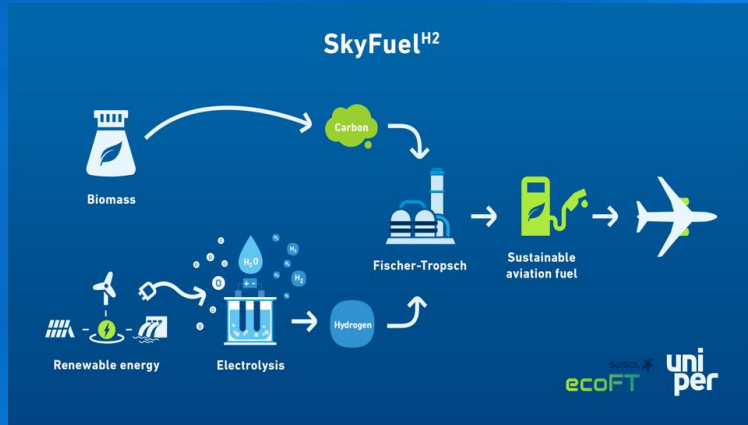
Construction Start
2024

COD
2027

Supported by

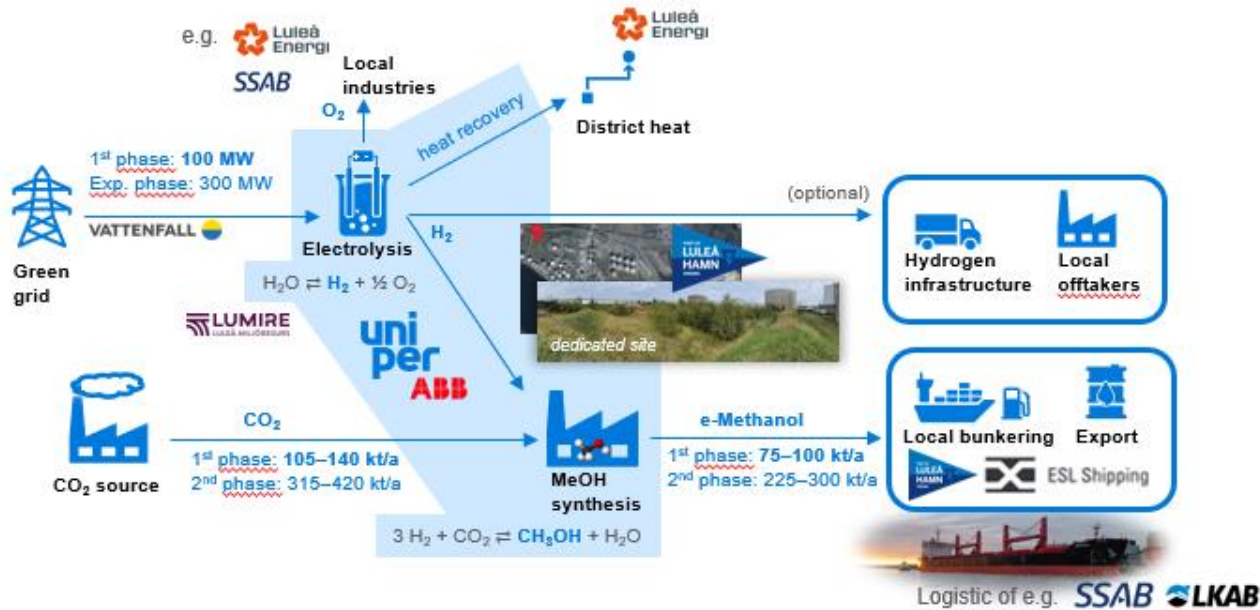


SkyFuelH2 - First-of-its-kind industry scale production of SAF in Sollefteå



- Production capacity 79 kTon SAF/yr (8 % of the Swedish domestic aviation industry's yearly fuel consumption) + 16 kTon naphta/yr
- High carbon efficiency, > 90 % CO₂ reduction vs. fossil kerosene
- FEED ongoing, FID 2025, COD 2028

Bothnia Link H2 - The missing piece in full decarbonization of heavy industries

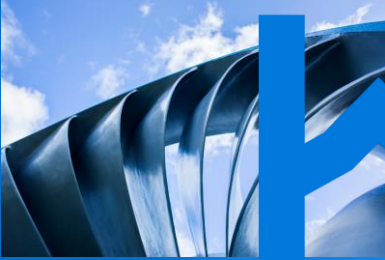


Current status

- Conceptualization and technology selection
- Investigation on permit requirements
- Electrical power & CO₂-sourcing

5-party MoU to develop the project





We can optimize and offer bespoke solutions for our customers and partners across several markets, e.g. power, gas, hydrogen and hydrogen derivatives

Summary

- Uniper is an early mover in and has a clear strategy for H₂ and its derivatives with a group target of > 1 GWe electrolysis capacity installed 2030
- >€8 billion investments for growth and transformation (including for hydrogen) between 2023 and 2030
- Runs >15 large scale H₂ projects in EU today, corresponding to > 2 GWe, out of which >300 MWe in Sweden

Key-success factors based on our project experience

- Good site! Availability of electrical power, water, land, logistics and (ev.) biogenic carbon dioxide
- Clear scope and strong team including a dedicated team for public funding support
- Cooperation with strong partners from industry and business associations, good understanding of different offtaking segments
- Optimized and bespoke solutions for our customers and partners across several markets, e.g. power, gas, hydrogen and hydrogen derivatives

Challenges

- Lack of energy infrastructure (electricity, hydrogen pipelines, energy storages)
- Lack of market and long-term market rules, including unpredictable and long permit processes
- Due to the world's situation/high inflation – significantly increased CAPEX and delivery time of long lead items
- Lack of national long-term public support for renewable H₂-projects (CAPEX & OPEX)

Challenging? YES, but
there are already today business cases, and we take positive
FID:s for large-scale renewable H₂-projects in EU

Thanks for your attention!

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