Mid-Term Gas Market Outlook

Axpo Solutions AG | Energy Markets Analysis | February 2021

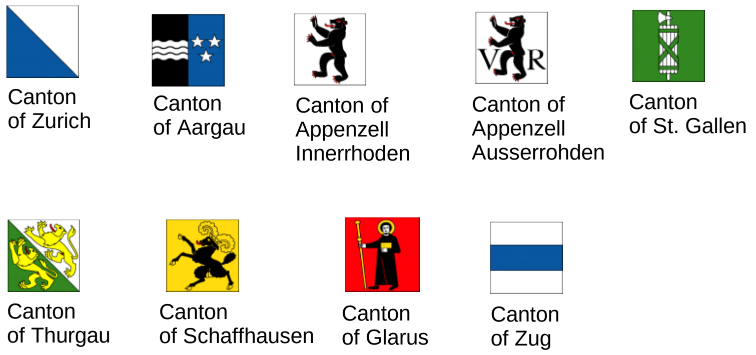
Axpo at a Glance

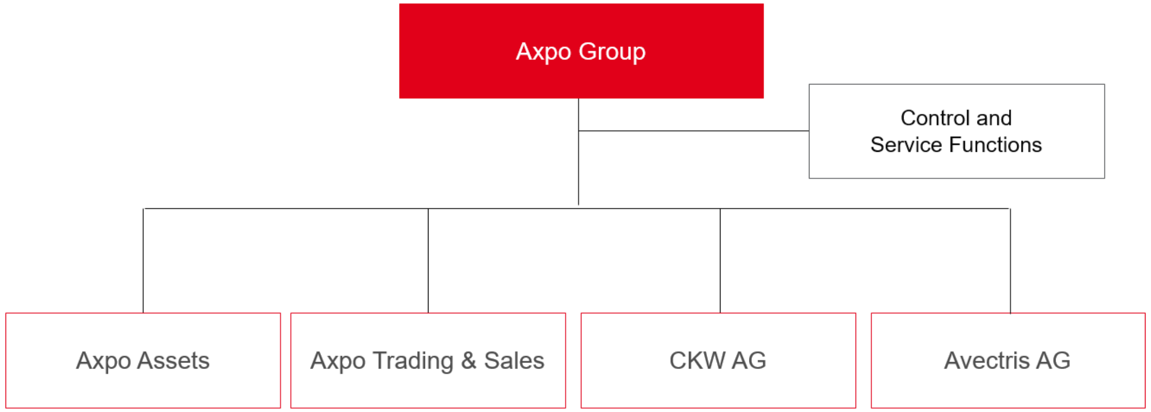
Swiss energy company founded in 1914 and 100%-owned by the north-eastern cantons of Switzerland

Operates in over 39 markets with around 5100 employees

Active along the entire value chain

- Electricity production (4 000 MW, 120 plants)
- Electricity distribution (grids in Switzerland)
- Energy trading
- Physical electricity sales and services





Axpo Solutions market presence

We believe the best way to serve diverse customers in multiple markets is to come to them.

Over 900 Axpo Solutions employees in more than 27 countries and 39 markets

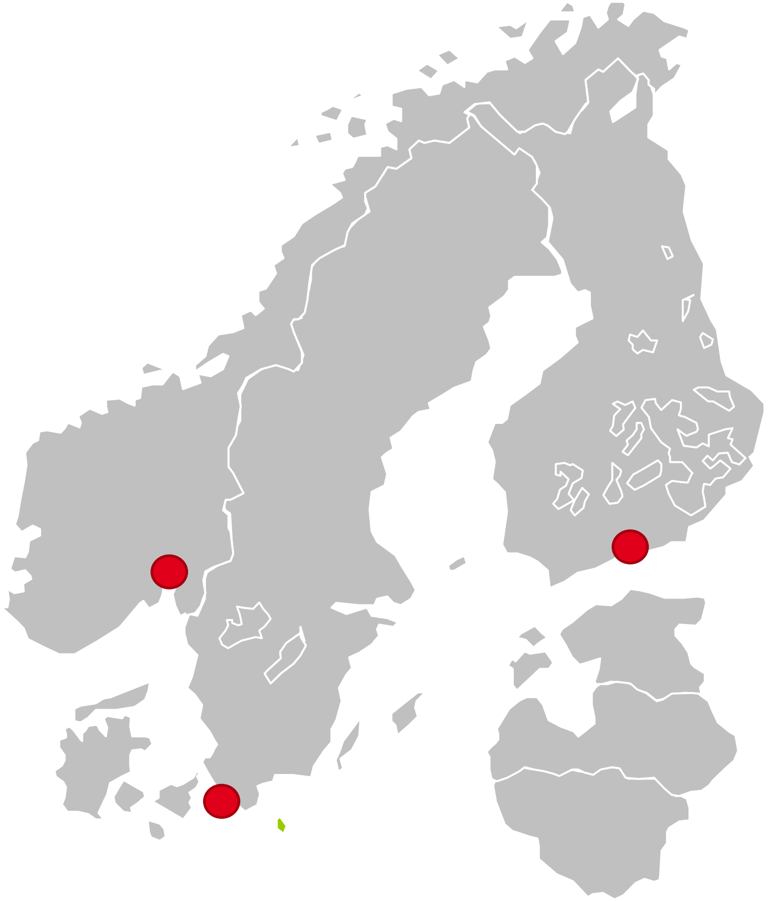
6 hubs build a strong network with a can-do culture in trading, origination and sales

<u>Deliveries 2020</u>
Power: 53 TWh
Gas: 14 TWh

Singapore est. 2020 – to focus on LNG transport

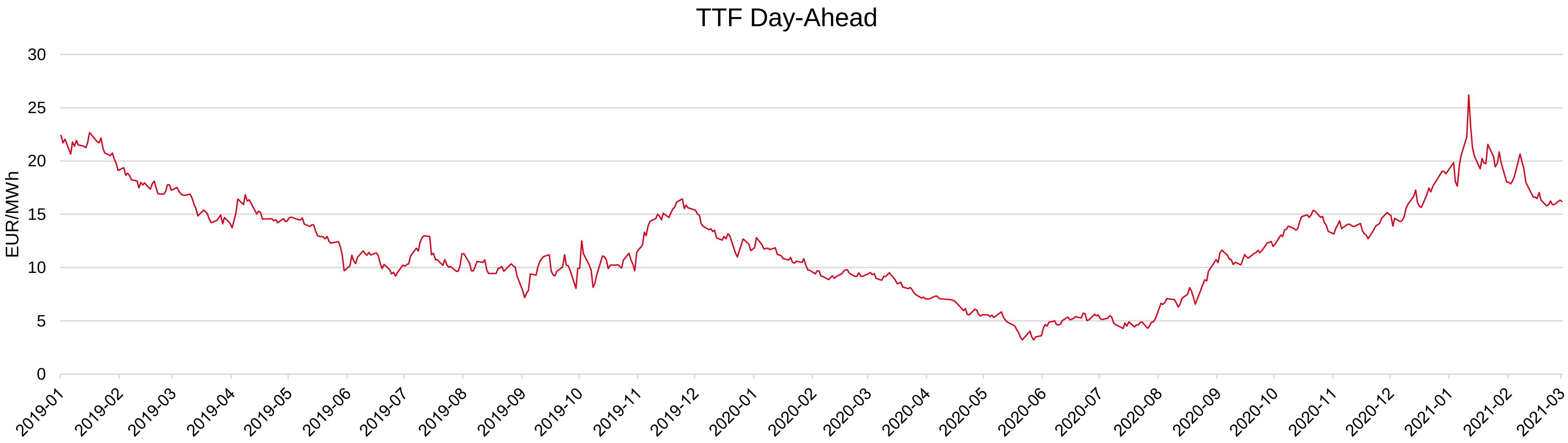
Axpo Nordic

- 40 employees in 3 locations
- No own assets
- Power: Balance responsible in Norway, Sweden, Finland, Denmark, Estonia and Lithuania.
- Gas: Balance responsible in Sweden since 2016
- Activities
  - Renewable production
  - Retailers
  - Industries
  - Oil, gas och Biogas

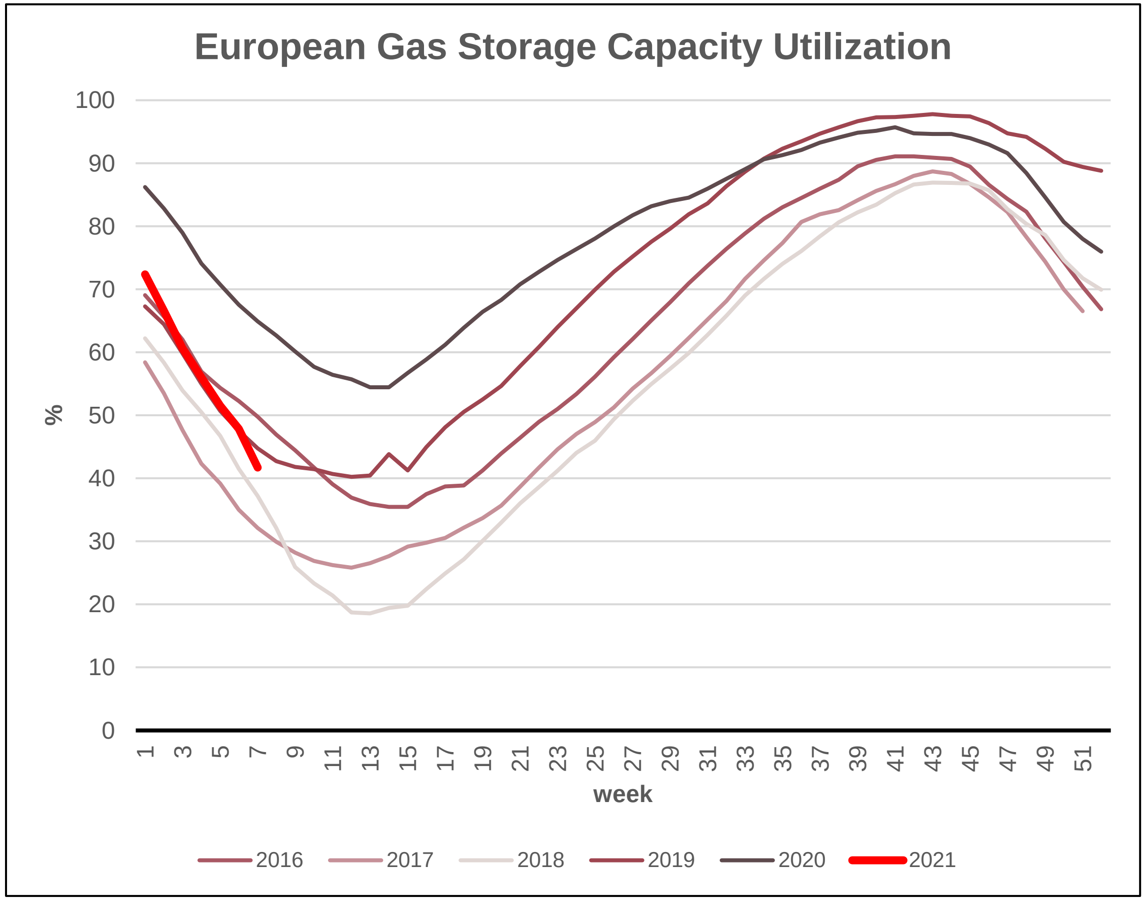


Two year price history

- Many countries increasingly LNG dependent (**Producers**: broader market reach; **Consumers**: energy independency)
- Gas markets become more interlinked globally
- Low prices in 2019/2020 due to mild winters on northern hemisphere. NWE acts as LNG sink (large storage cap)



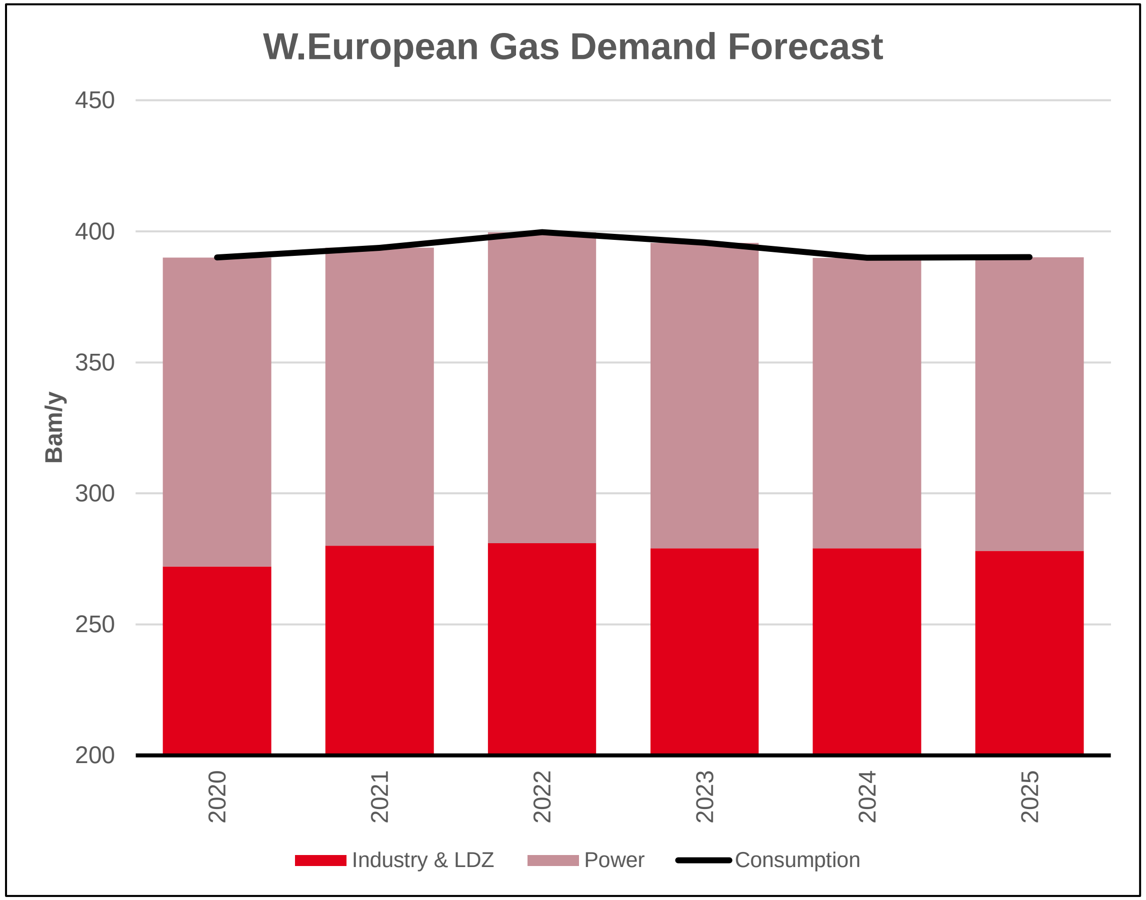
Cold weather, high carbon and lack of LNG & Russian supply reduced European gas storage volumes in winter 20/21



Source: Bloomberg

- **Fairly cold weather in Europe** in Jan/Feb lifted gas consumption. The double-heating effect due to Covid-19 related home office works probably added demand here as well, as did the high carbon prices, which weighted on coal plant's economics and favoured gas power generation instead.
- **Cold weather in Asia** in early Jan. Asia buyers purchased all available non-committed LNG cargoes, leaving low volumes for Europe.
- **Low available transit capacity via Ukraine** restricted the volume of Russian exports to NW Europe.
- Overall, this tight demand/supply picture reduced gas storages in Europe very quickly, bringing inventories below the 5-year average. Restocking demand should limit the downside risk for gas prices this summer.

European gas consumption expected to rise before slightly declining later this decade

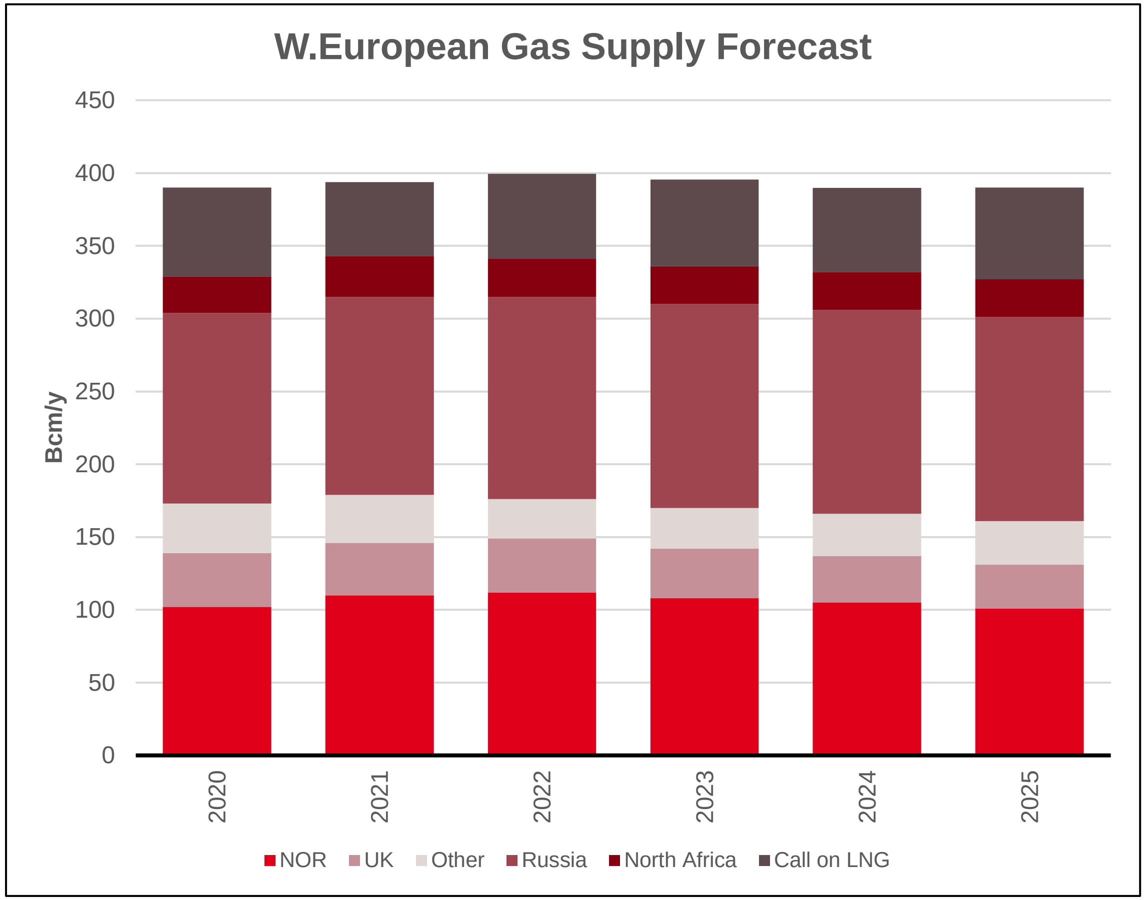


Source: Axpo Solutions AG

- Supported by an economic recovery after the Covid-19 recession we expect industrial and power-sector gas demand to increase in 2021 and 2022.
- Later on, growth rates turn slightly negative. LDZ and industrial demand stabilize, with a number of countries banning new household gas connections.
- In the power sector, gas burn will likely remain supported by the closure of nuclear and coal-fired power plants in the coming years.

  However, tighter gas supply might lead to some squeezed periods in the mid-term, and the ongoing expansion of renewable power generation capacities will first start to weigh on gas burn rates towards the middle of the decade.

European gas production is set to decline, keeping the need for LNG elevated



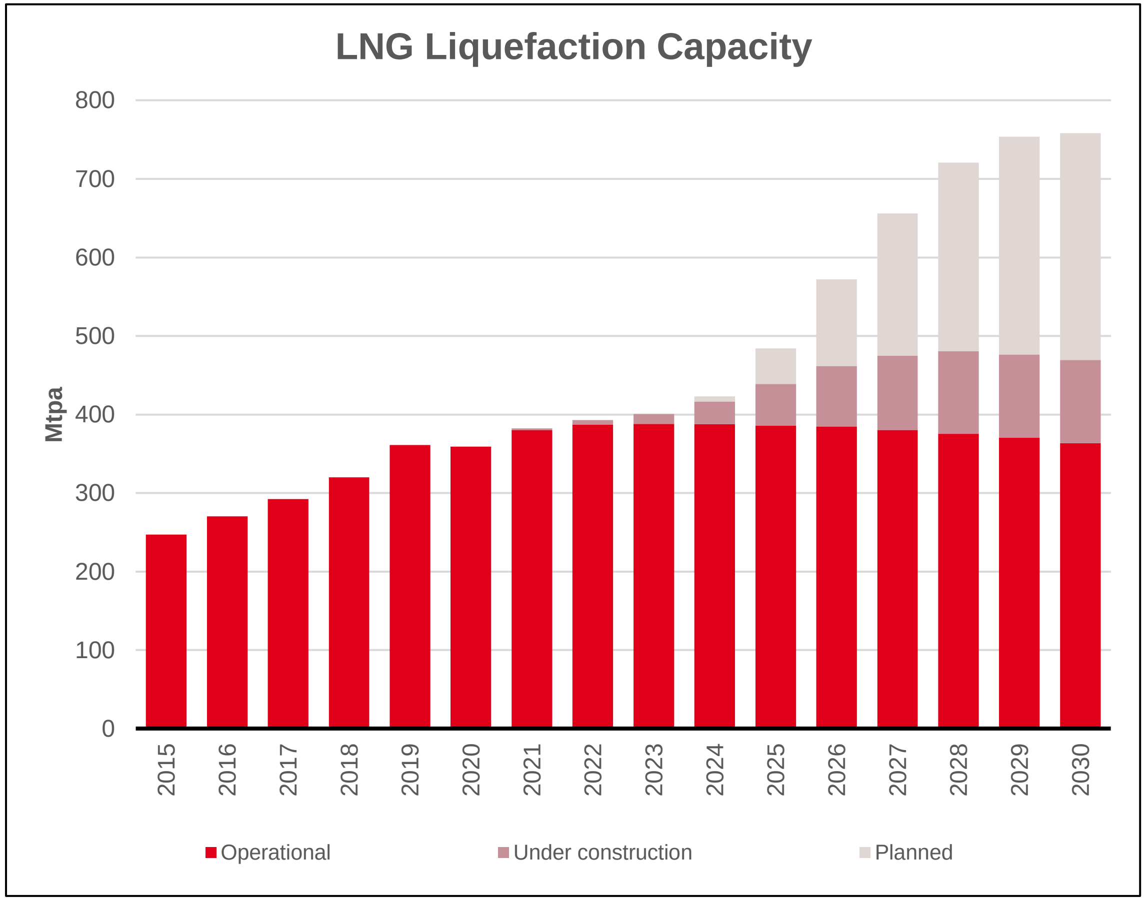
Source: Axpo Solutions AG

- Limited investments in the North Sea and the politically-driven ramp down of the Groningen field in the Netherlands will reduce domestic gas production in Europe significantly in the coming years.

- Supply from Russia will likely increase somewhat thanks to the start-up of a number of pipelines (TAP, Turkstream, Nordstream 2).

- However, we believe Western Europe will still need to import some 70-80 Bcm p.a. of LNG in the coming years to meet its demand.

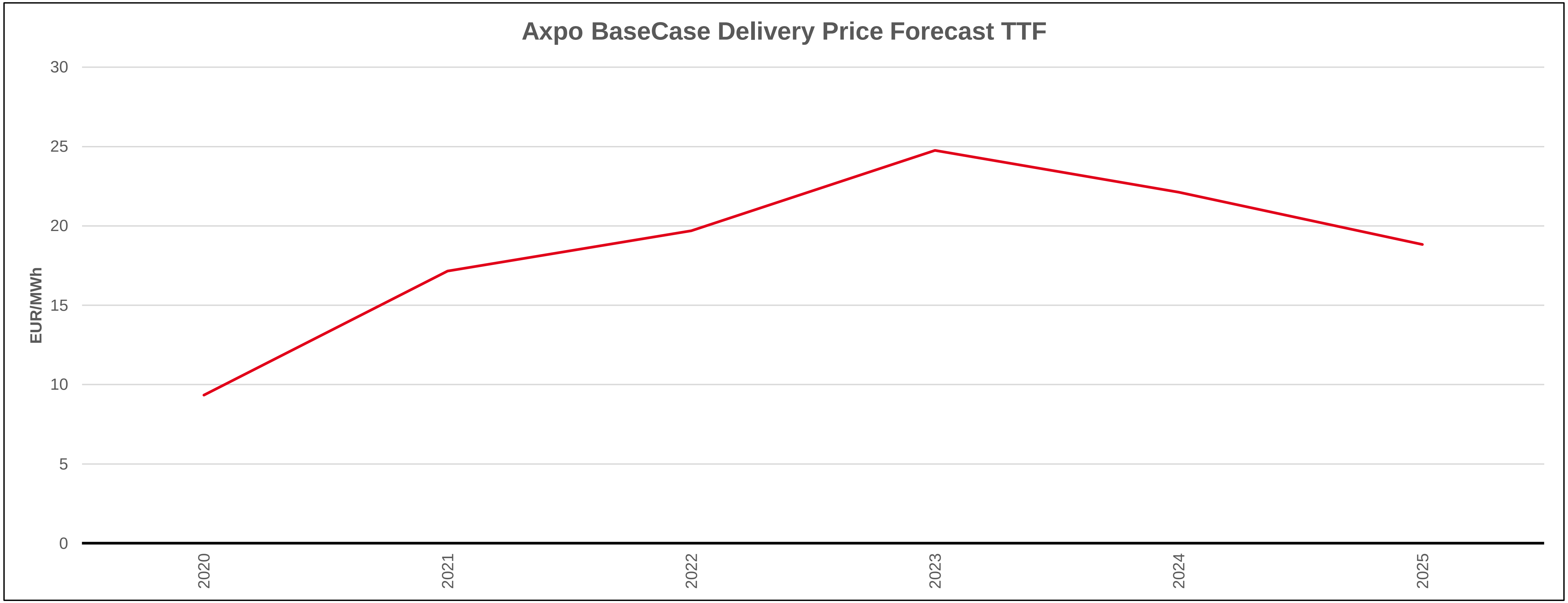
Growth of global LNG supply stalls the next years, while demand continues growing



Source: Axpo Solutions AG

- A first wave of new LNG liquefaction projects lifted global (partly flexible) gas supply between 2015 and 2019. Although much of that came to meet increasing demand, it also was one key factor of bearishness in prices in 2019 and 2020, when global demand growth slowed, and the oversupply ended up in Europe.
- In the coming 2-3 years, little new capacity will come online. However, global demand for LNG is going to continue increasing, and hence we expect the market to tighten, and LNG prices to increase.
- By 2023/2024 the next wave of fresh LNG supply projects is expected to start up, based on investment decisions taken in the past 2 years. This will gradually relax the tightness of the LNG market, and will cool down prices somewhat, in our view.

We expect TTF gas prices to rise in the coming years, as European gas production declines and LNG gets tighter



Source: Axpo Solutions AG

Risks & Long-term outlook

Bullish Risks

- **High demand growth in Asia** tightens LNG market even quicker, reducing EU supplies.

  A similar bullishness if carbon price rises faster than we assume (~50 EUR/t by 2025), driving remaining coal out even quicker.

- **Very strong increase of EV penetration** in the transportation sector or if blue hydrogen would require more natural gas.

  Although we expect this development mainly for the second half of the decade and in the 2030s, politics could accelerate the speed.

- **US sanctions prevent Nordstream 2 completion**.

  In the long-run, the start-up of new LNG liquefaction capacities could also be delayed, leaving the LNG market tighter for longer.

Bear Risks

- **Weak economic development** globally continues despite a brief post-Covid recovery.

- **Higher renewable and battery storage** development than we anticipate.

  Also, very high carbon prices, strong political support and a fast build-out of renewable energy sources open the business case for green hydrogen faster, significantly limiting the potential for blue hydrogen.

- **Gazprom continues operating under a market share strategy** until the end of the period. In that, Russia aims to supply Europe and China with enough gas to fight LNG from other places. This would result in significant oversupply.

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