International Energy Agency

Gas Market Report, Q4-2021
Global Gas Security Review

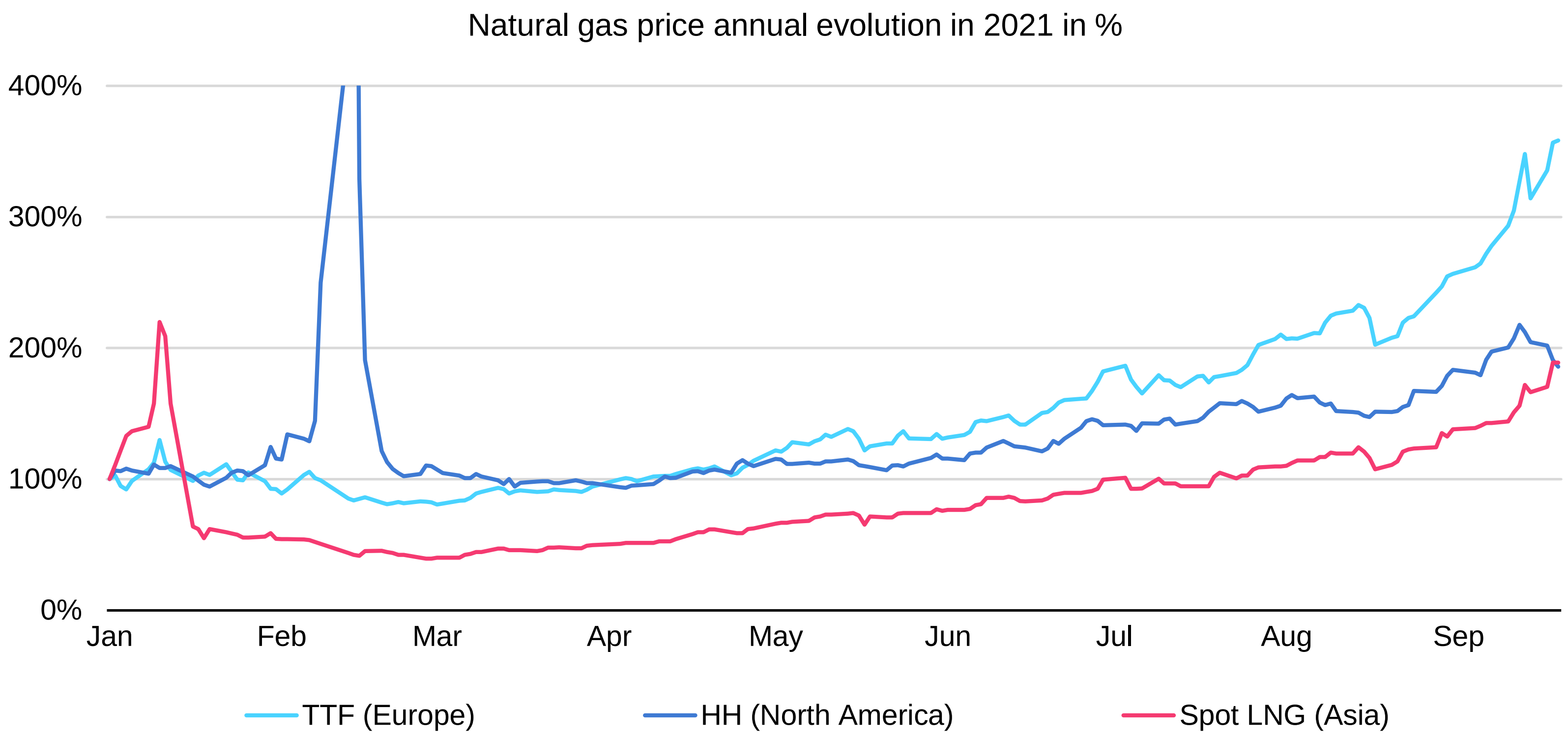
Jean-Baptiste DUBREUIL, Senior Gas Analyst
Gergely MOLNAR, Gas Analyst

Istituto Affari Internazionali – Clingendael International Energy Programme, 5 October 2021

Takeaways

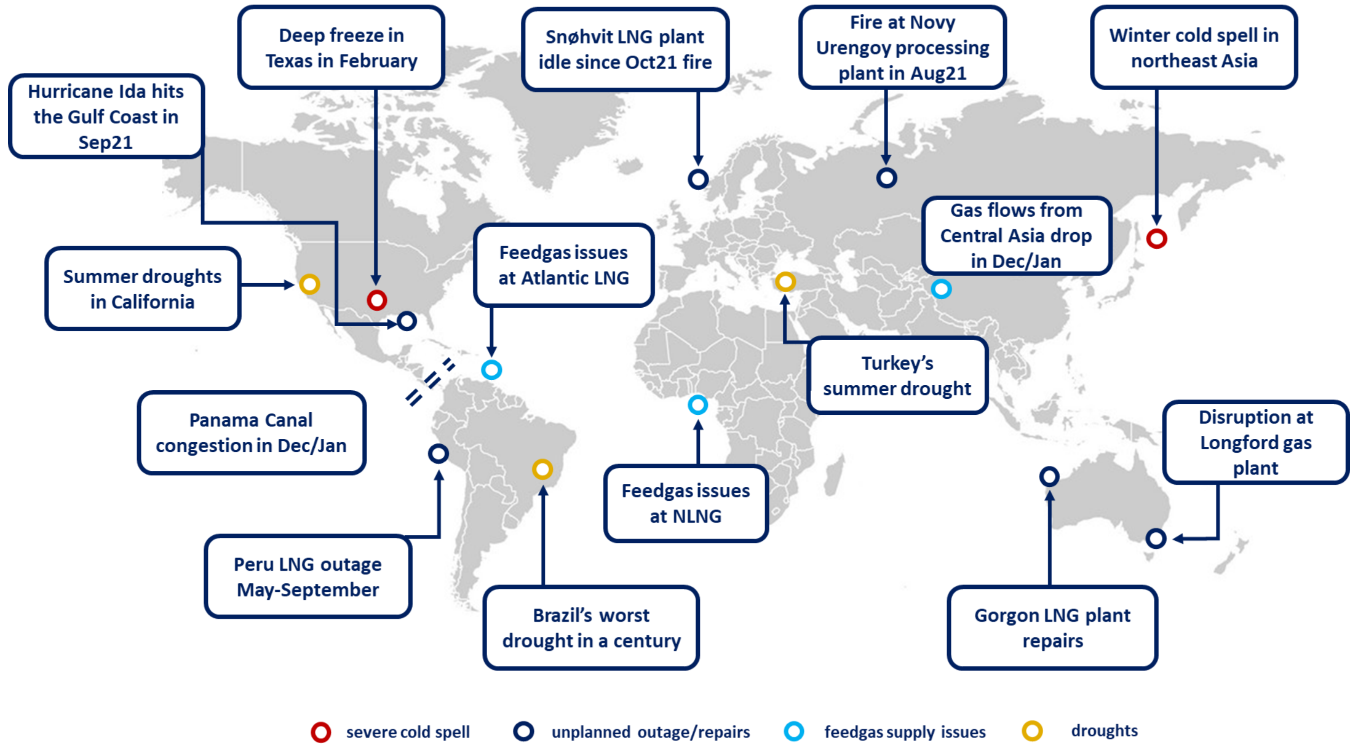
- Gas year 2020/21 closes on exceptionally high prices
- This results from a combination of a strong recovery in demand and tighter-than-expected supply, as well as several weather-related factors
- Gas demand growth is expected to cool down in 2022 after a strong recovery this year
- Severe weather events through 2021 remind that security of supply remains a central topic for gas markets
- The coming transition to low-carbon gases results in new security of supply challenges

Fast and furious – tighter fundamentals trigger gas price escalation



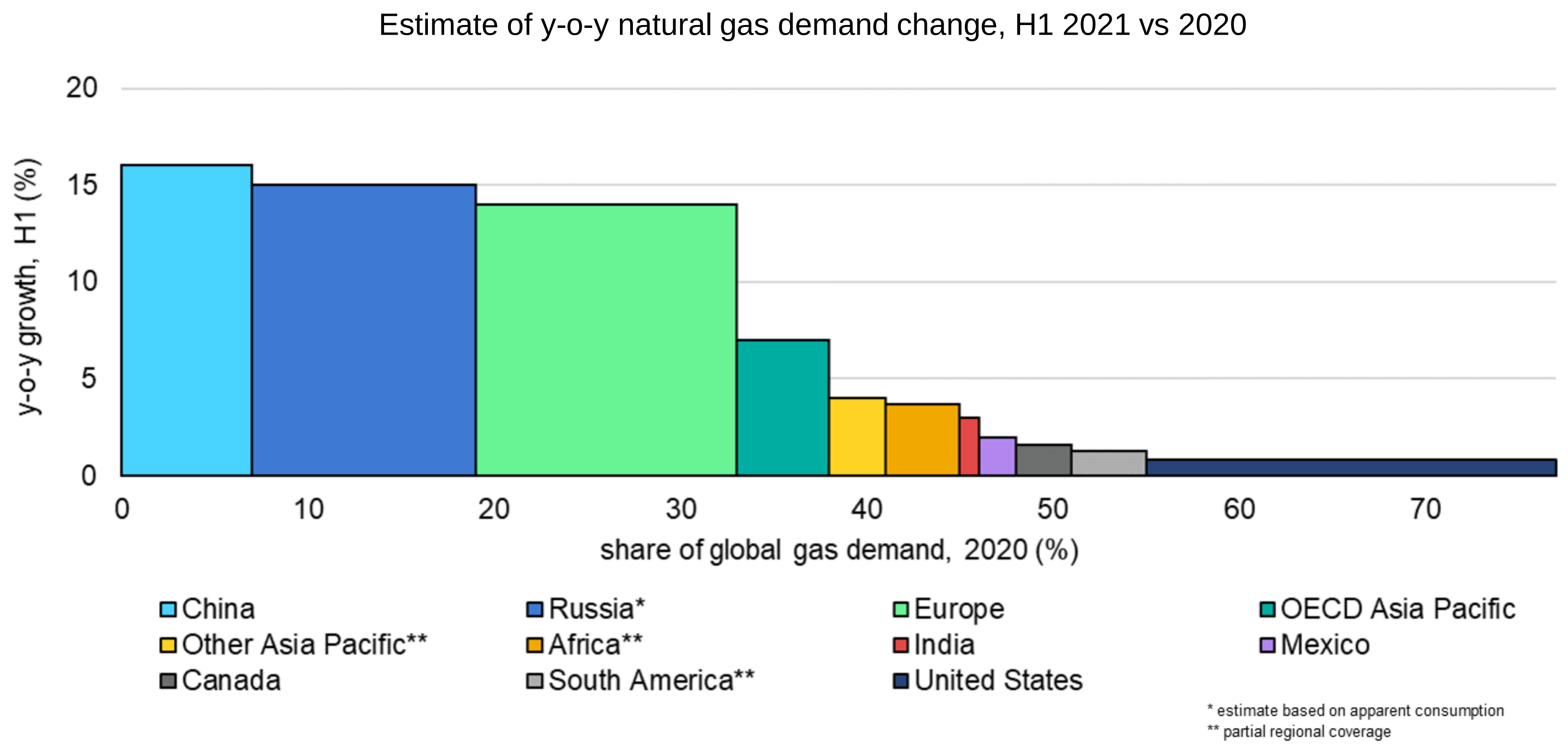
Europe's TTF more than tripled since the beginning of 2021, while US Henry Hub and Asian spot LNG doubled.

Expect the unexpected: the 2021 gas tightness



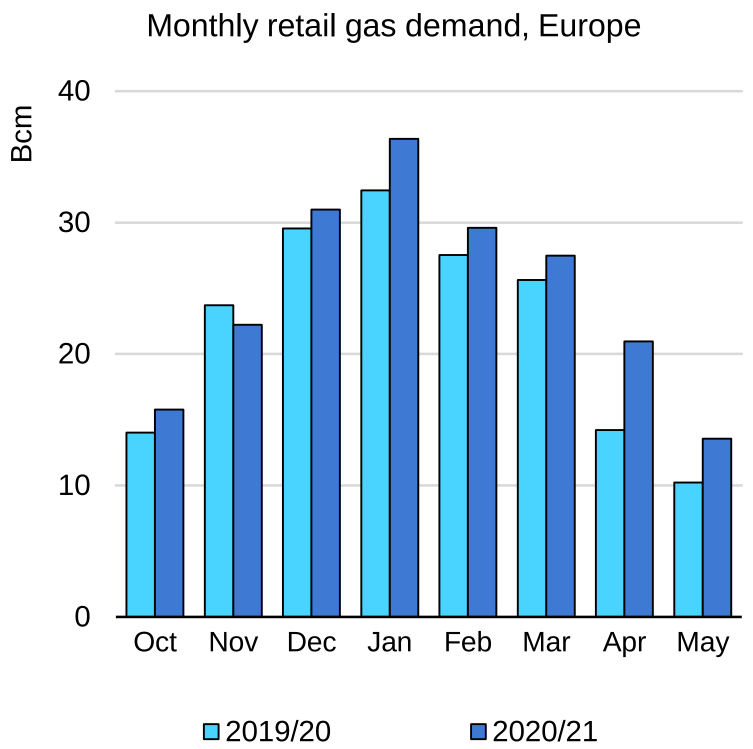
The combination of unexpected short-term supply and demand factors led to the gradual tightening of the global gas market over the course of several months.

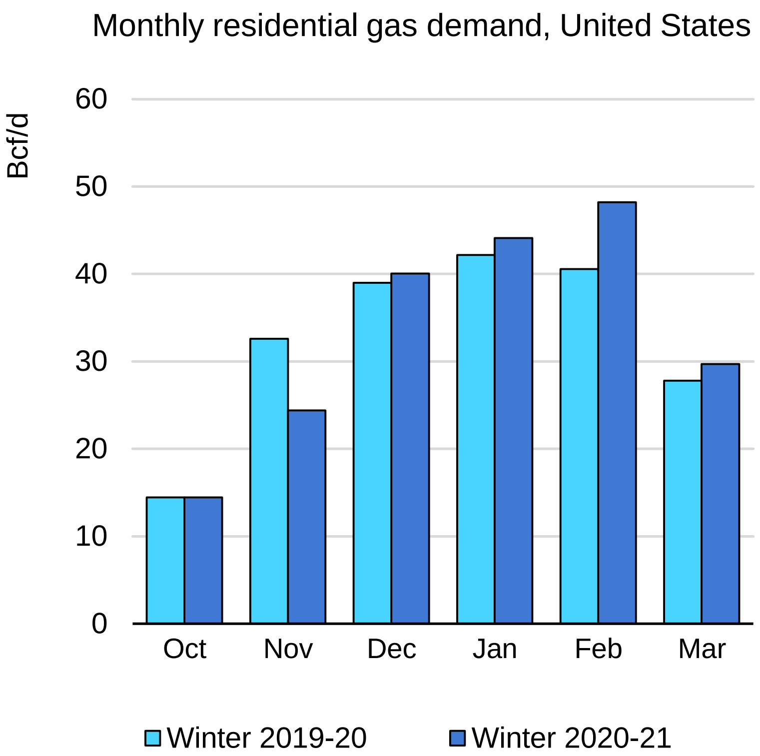
Global economic recovery pushes gas demand up



Preliminary data show an estimated close to 5% y-o-y drop in global gas demand for the first half of 2021.

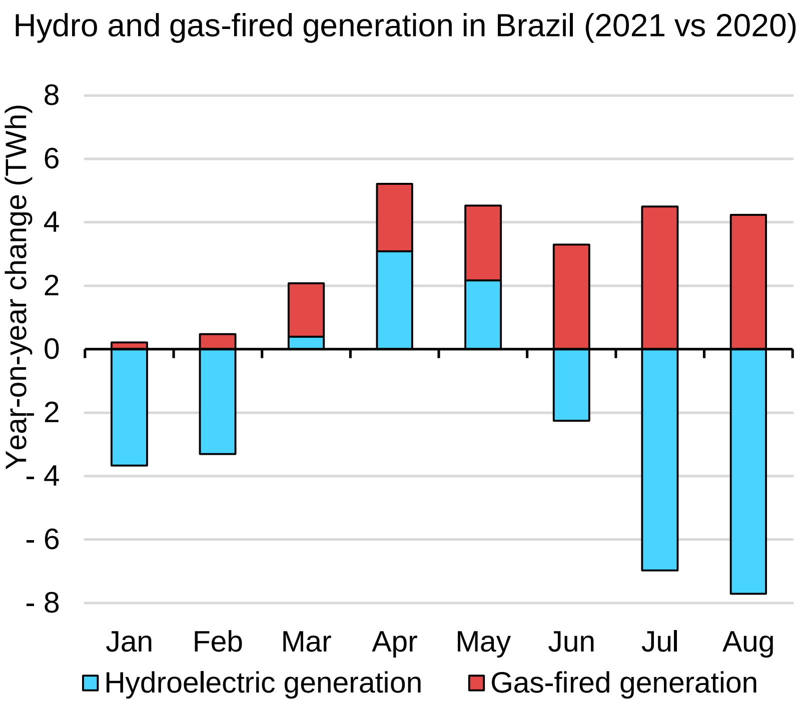
Temperature-sensitive demand was spurred by a long & cold winter

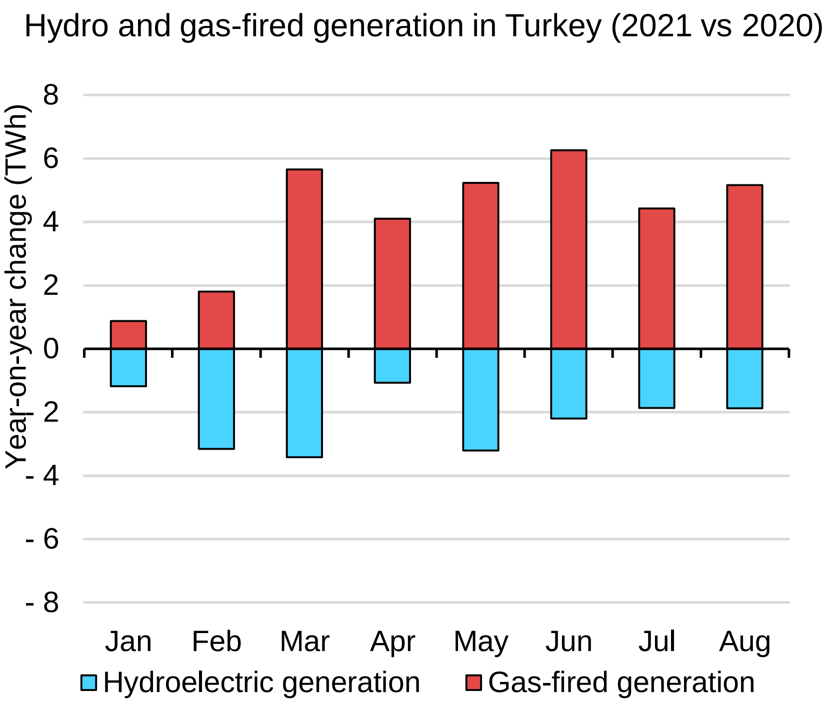




Markets in the northern hemisphere experienced higher and prolonged heating needs, which supported seasonal gas consumption on top of structural increase from economic recovery.

2021 droughts highlighted the key role of gas supply flexibility

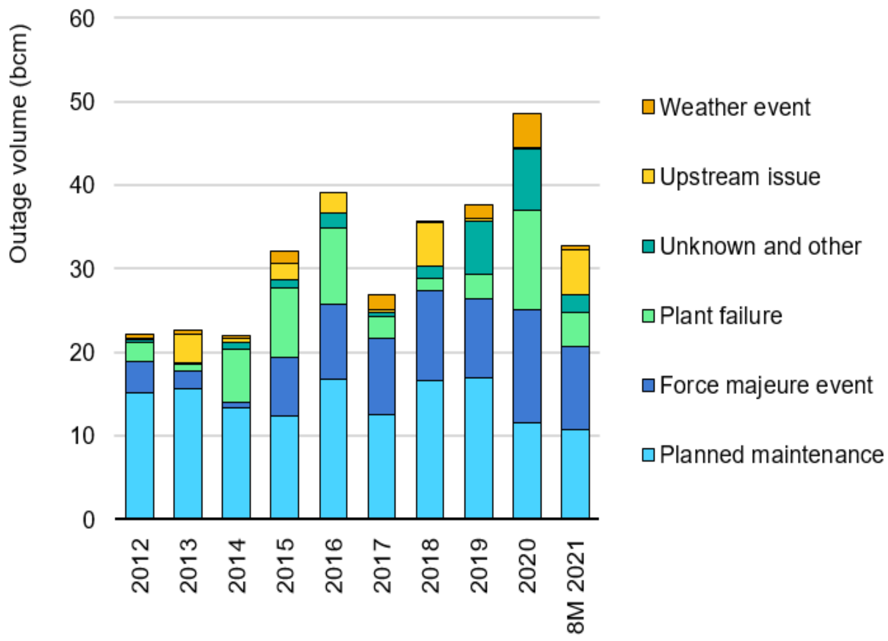


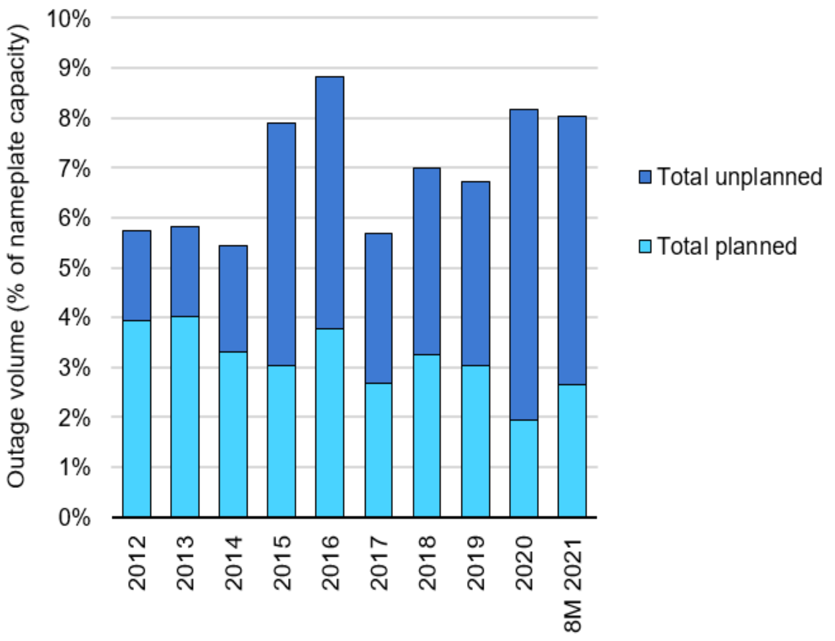


Flexible gas-fired power generation played a key role in providing back-up in hydro-rich power markets facing severe droughts through 2021.

Outages reduced LNG supply deliverability

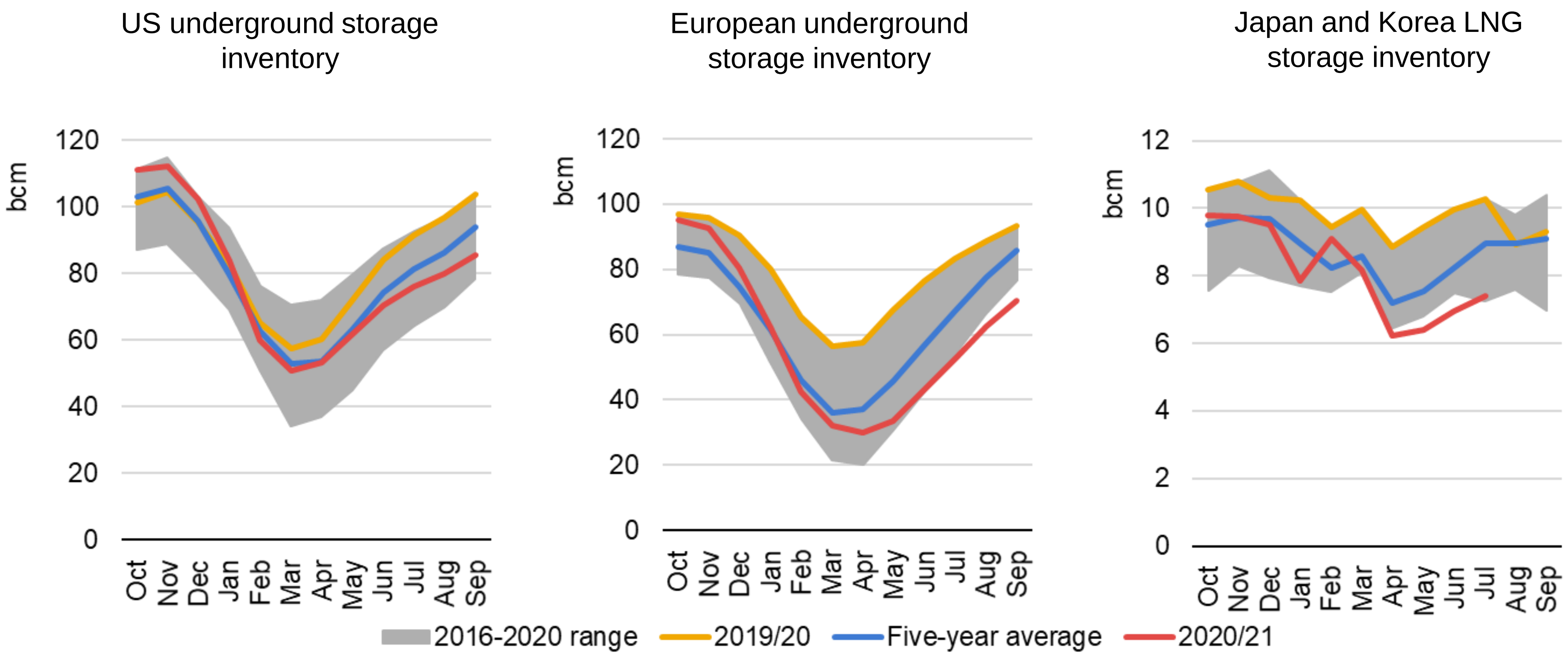
Planned and unplanned LNG capacity outages (2012-2021)





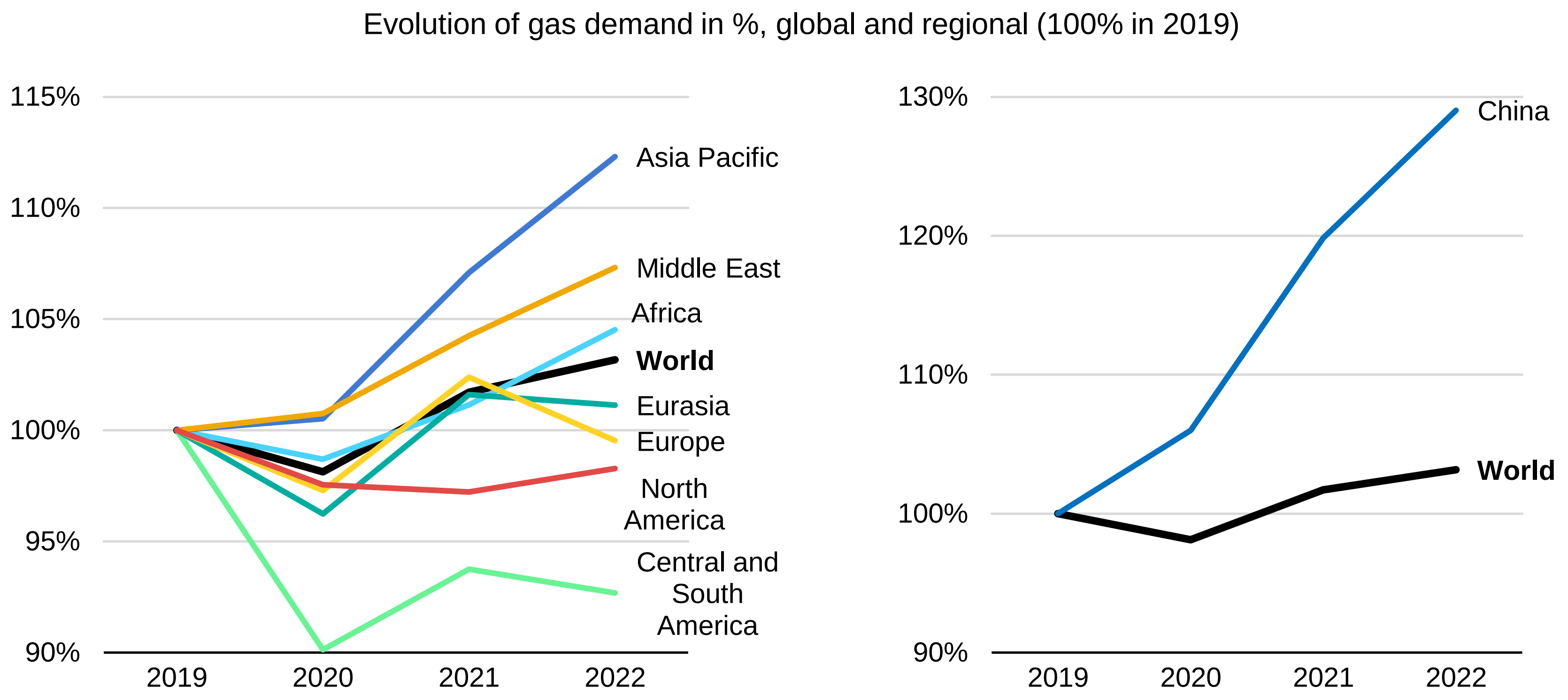
LNG capacity outages hit an all-time high in 2020 and stayed elevated so far in 2021.

Gas year 2020/21 ends on lower-than-average storage levels



Lower storage levels could increase primary gas supply requirements during the 2021/22 heating season and potential spot price volatility.

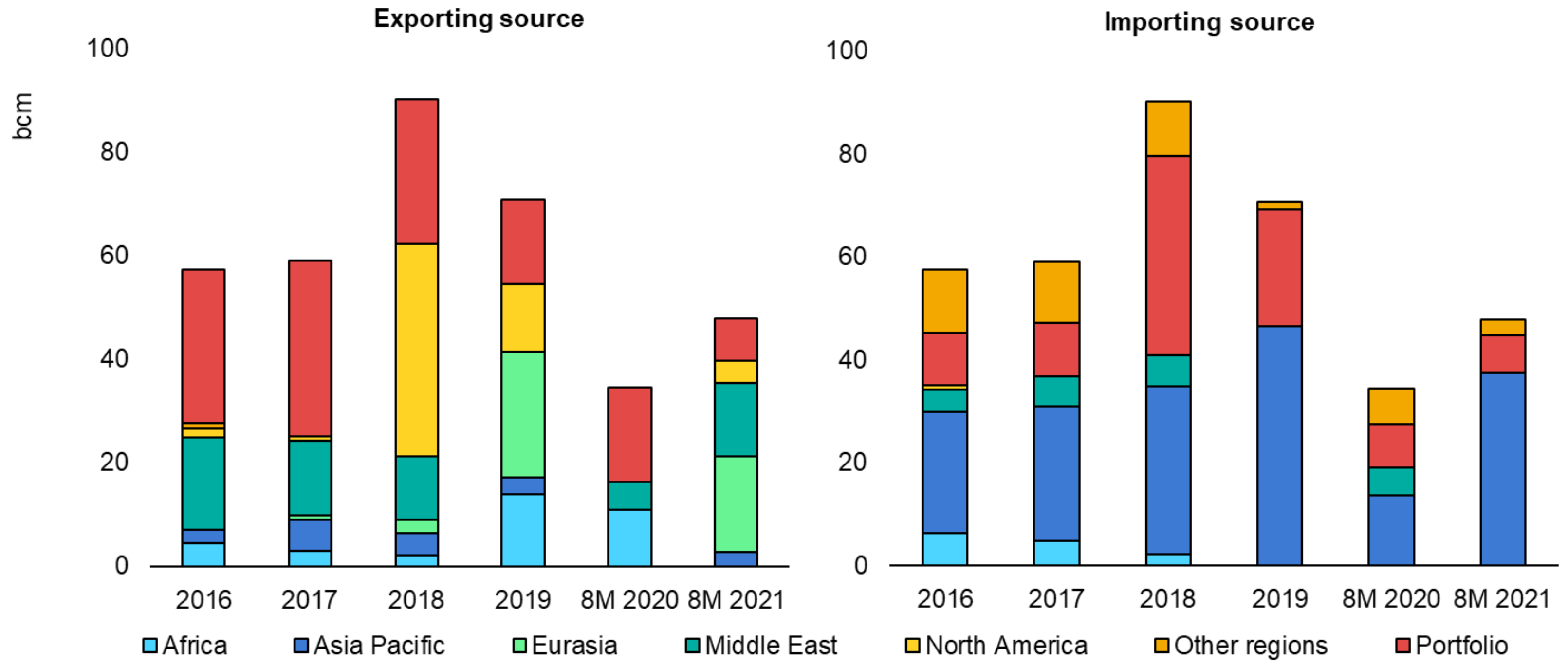
Lower growth anticipated for 2022, China keeps driving demand



Global gas demand growth is expected to cool down in 2022 after this year's recovery, some markets are not fully recovering their 2020 losses.

LNG contracting activity recovered from its 2020 lows

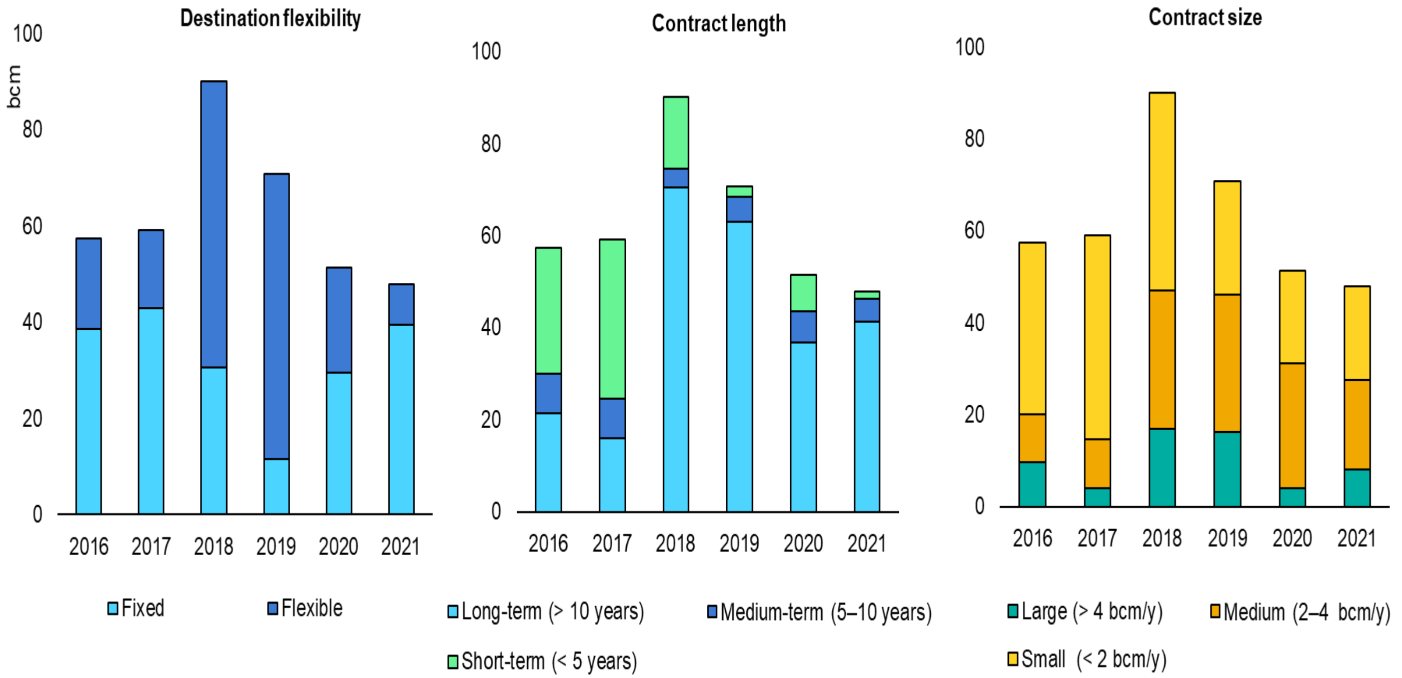
Volume of contracts concluded in each year split by exporting and importing source (2016-2021)



The recovery in LNG contracting activity has been largely led by Asian LNG buyers, and by Russia on the supply side.

LNG flexibility metrics: a switch back to fixed and longer contracts

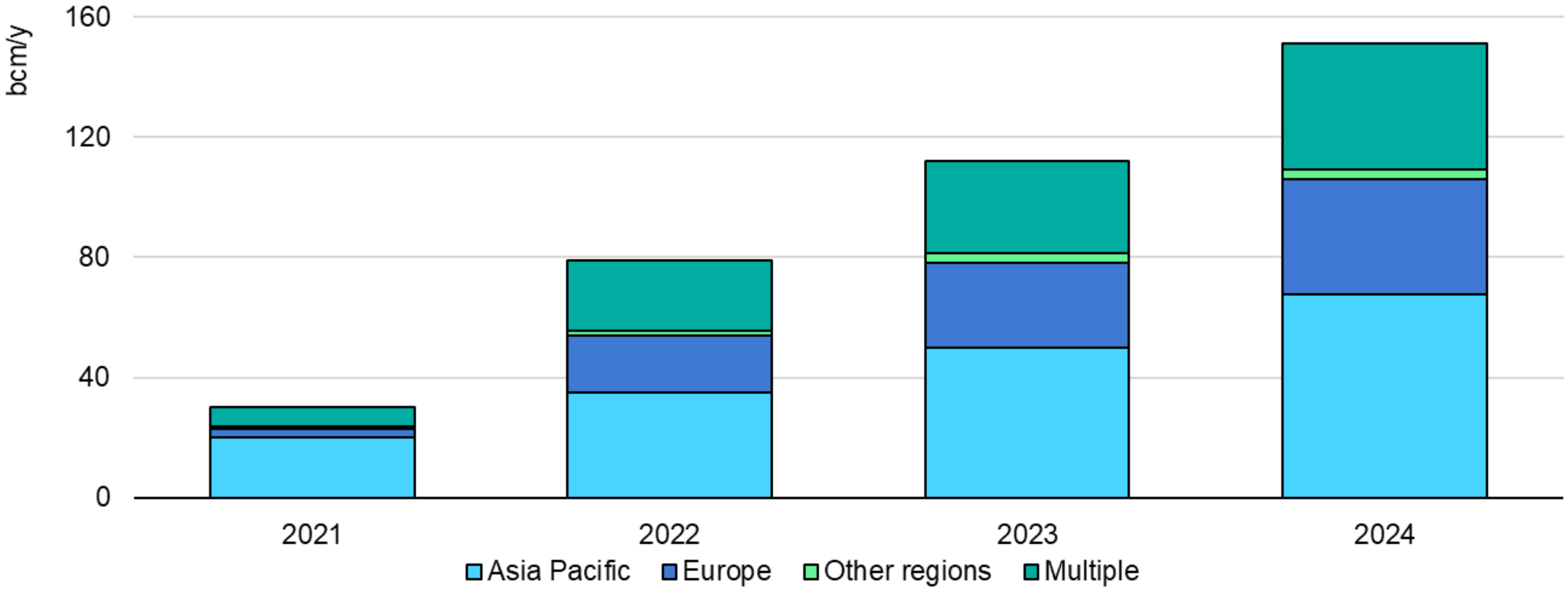
Volume of contracts concluded in each year split by exporting and importing source (2016-2021)



Market uncertainty, together with declining share of flexible supply sources led to a pronounced switch-back to destination-fixed, long-term contracts.

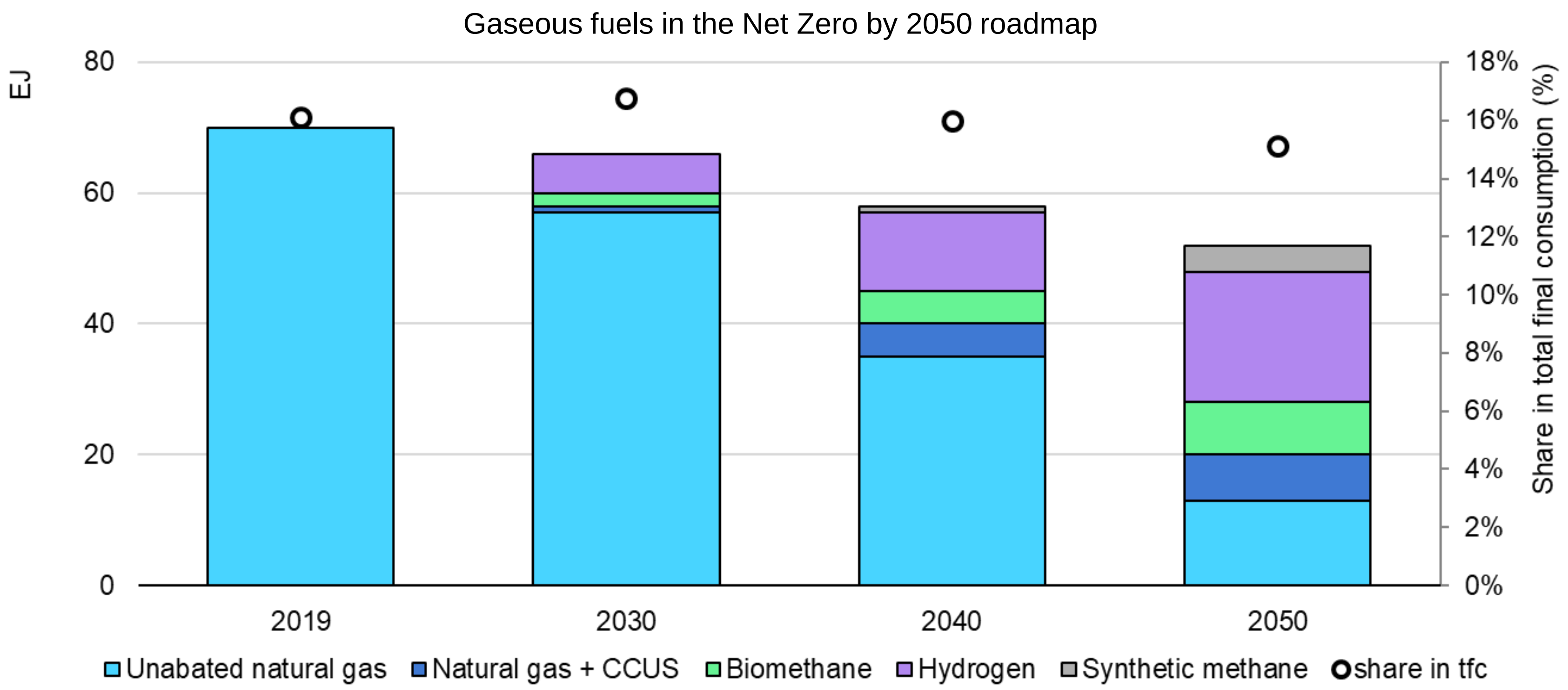
Contract expiry will contribute to a contestable market space

Cumulative volume of long-term contracts expiring (2021-2024)



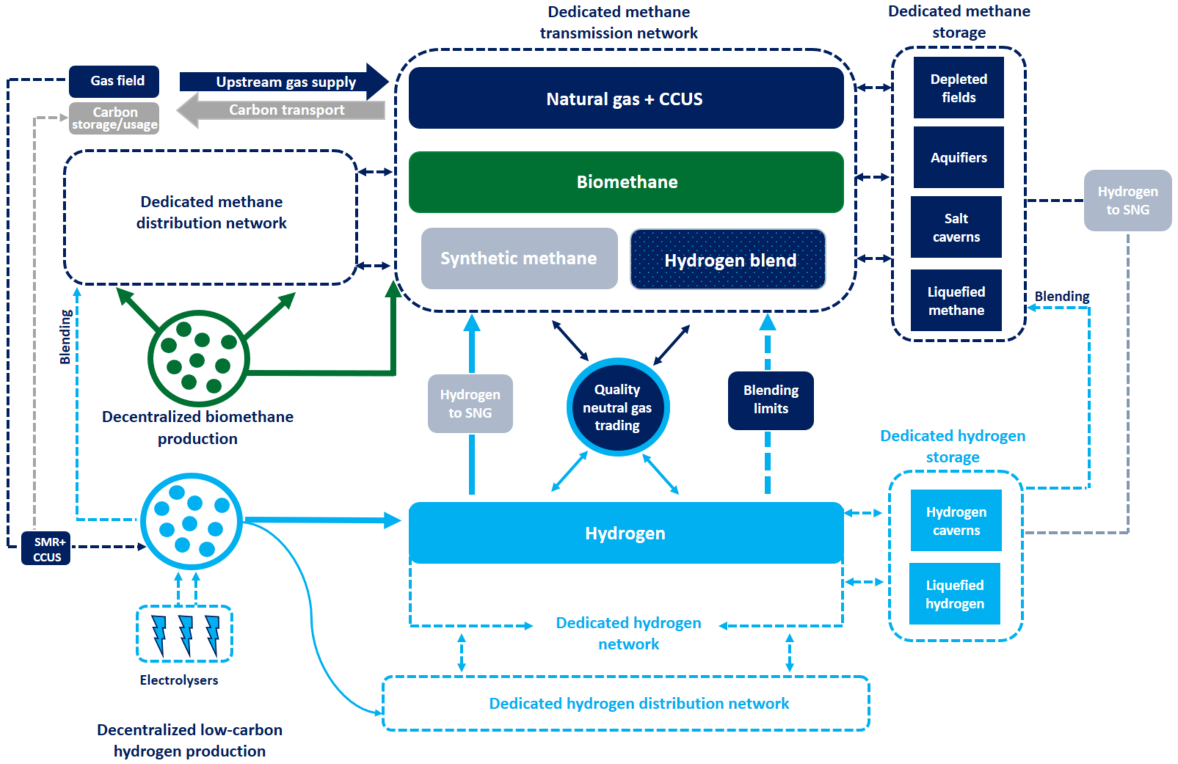
Over 150 bcm of LNG contracts is set to expire by 2024, driving up competition between market players and potentially leading to a further diversification of LNG contracts.

Low-carbon gases will be key in decarbonizing the energy system…



The share of low-carbon gases in the total final consumption of gaseous fuels increases to 20% by 2030 and to over 80% by 2050, while accounting for the majority of gaseous fuels in the power sector.

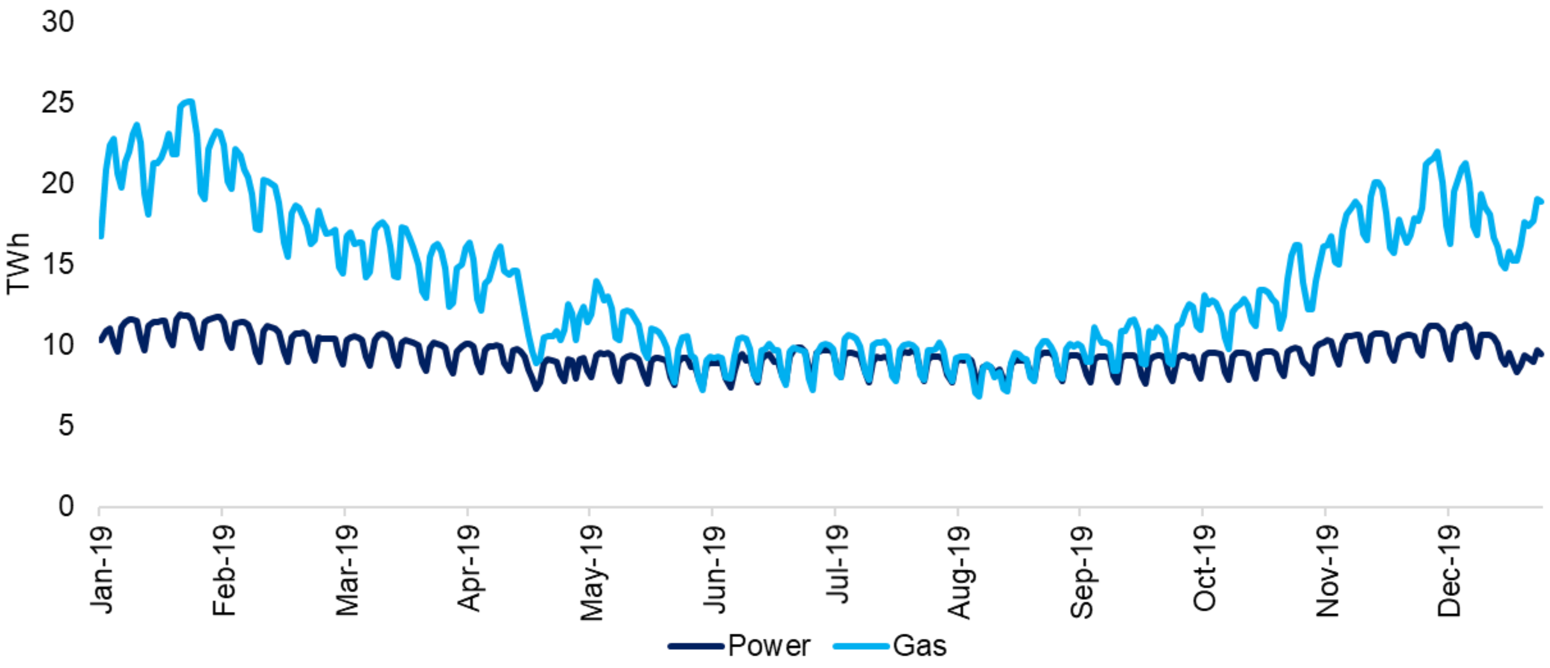
…leading to a more complex and intertwined gas system



The transition towards low-carbon gases will require prudent market design, taking into consideration the network integration challenges and changing supply flexibility of low-carbon gases.

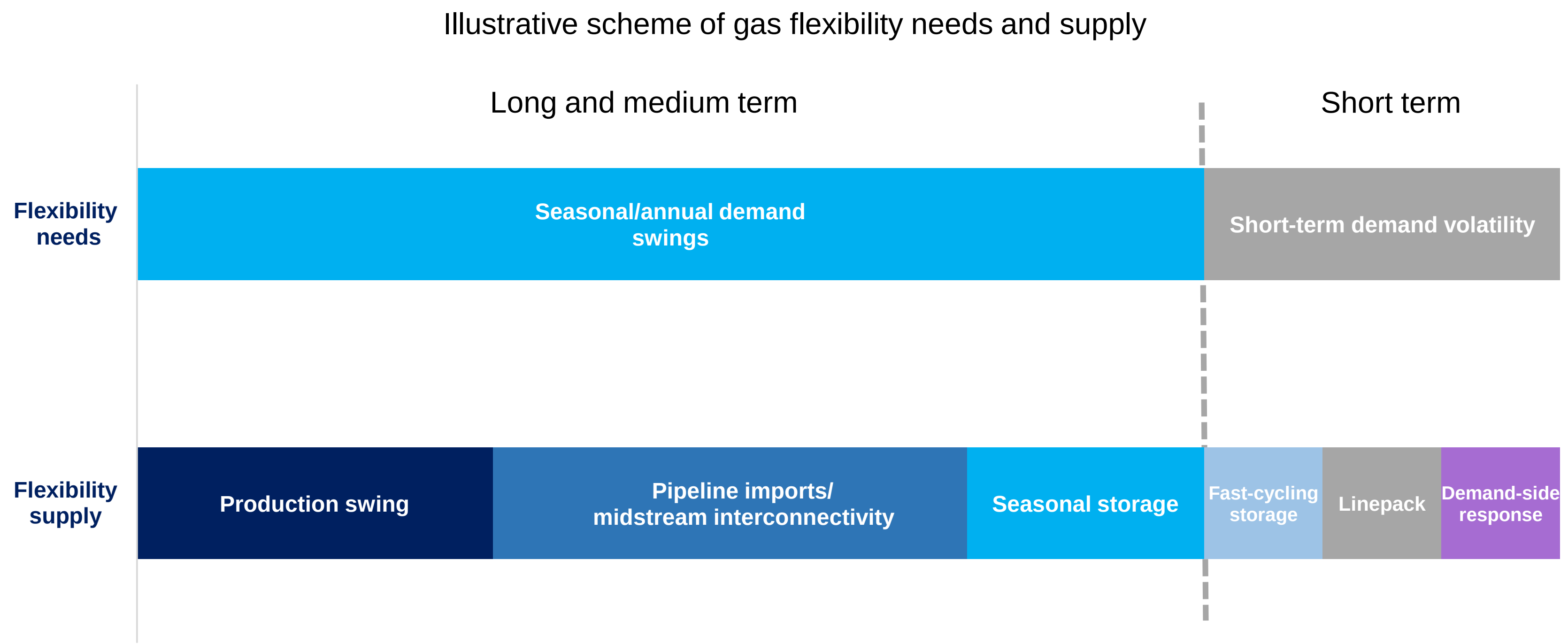
Gas flexibility at play: seasonality and short-term variability

Daily natural gas and electricity consumption in Europe in 2019



The natural gas system plays a key role in meeting seasonal energy demand swings and short-term demand fluctuations.

Fitting the flexibility toolkit for low-carbon gases



Low-carbon gases will benefit from the flexibility toolkit of the existing gas system, although their respective production routes and physical characteristics will change gas supply flexibility patterns.