

HUPX Group – Refinitiv Workshop Gas Session



Recent gas market trends: turbulence and recovery

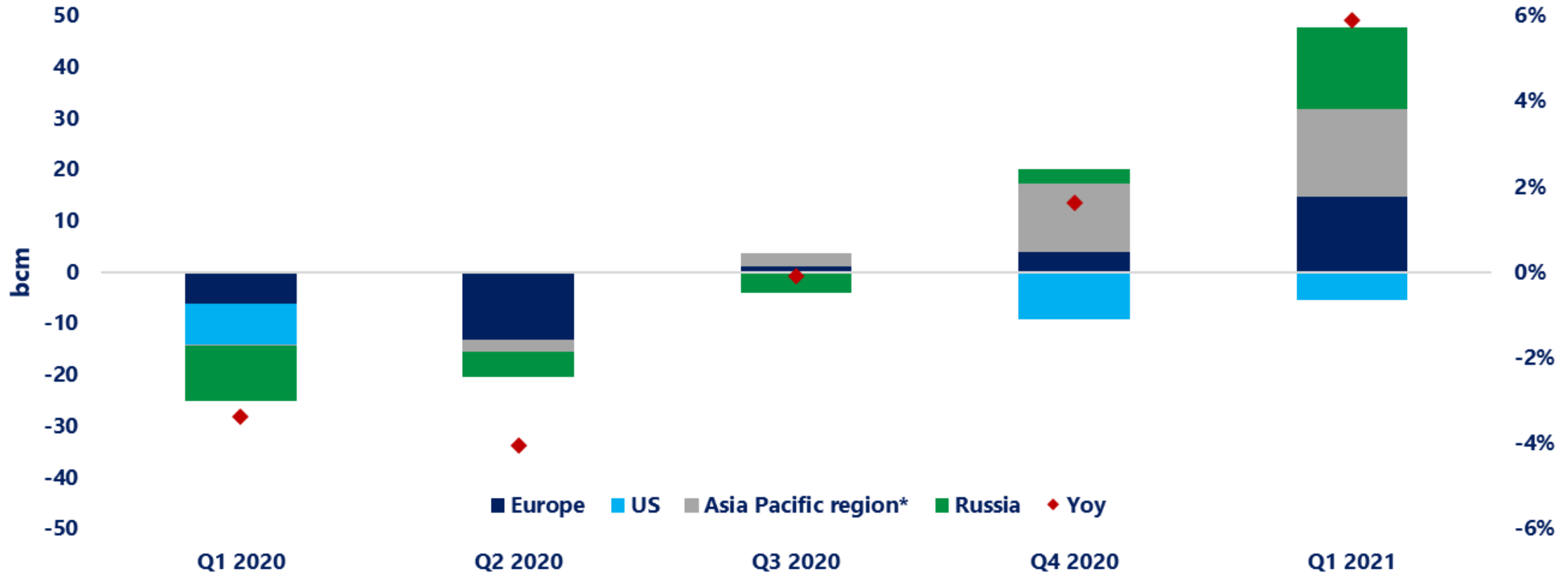
Gergely MOLNAR, Gas Analyst

HUPX-Refinitiv Workshop, Gas Session, 14 April 2021

Global gas market dynamics

Q1 2021: a strong start for gas demand

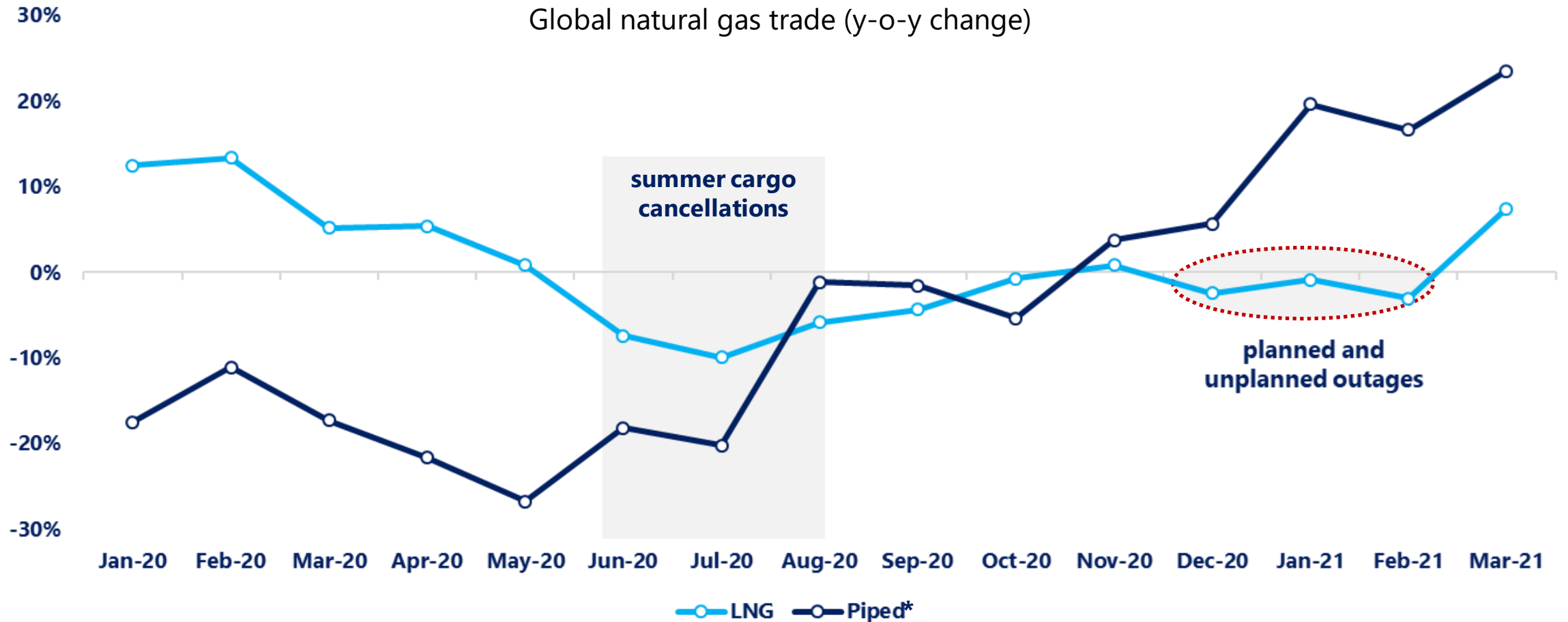
Natural gas consumption in key gas demand regions (y-o-y change)



*China, India, Japan and Korea.

Northeast Asia and Europe are leading gas demand recovery in Q1 2021 supported by colder winter temperatures.

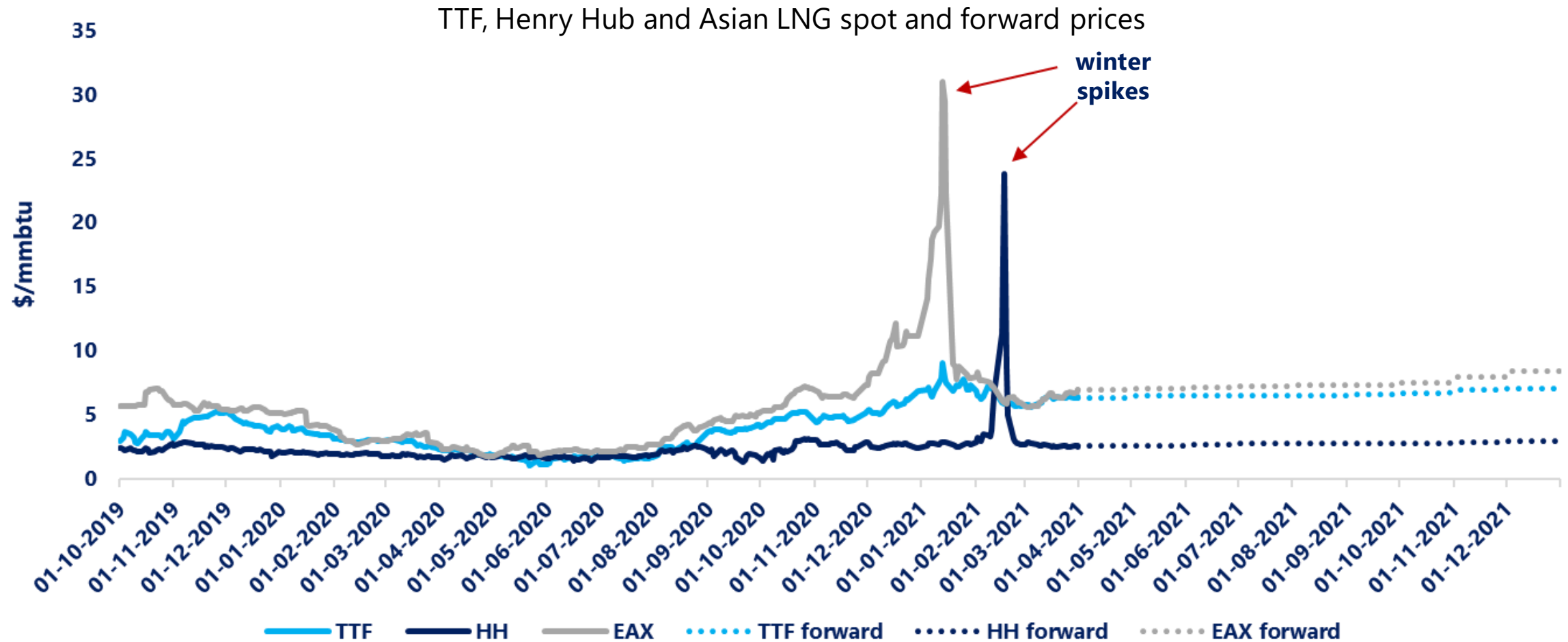
Global gas trade: pipeline trade led the recovery



*Pipeline imports to Europe and to China.

Ramp-up of supplies via new pipeline corridors and higher exports from Russia to Europe supported a strong recovery in long-distance gas pipeline trade.

A winter of spikes: prices remained volatile

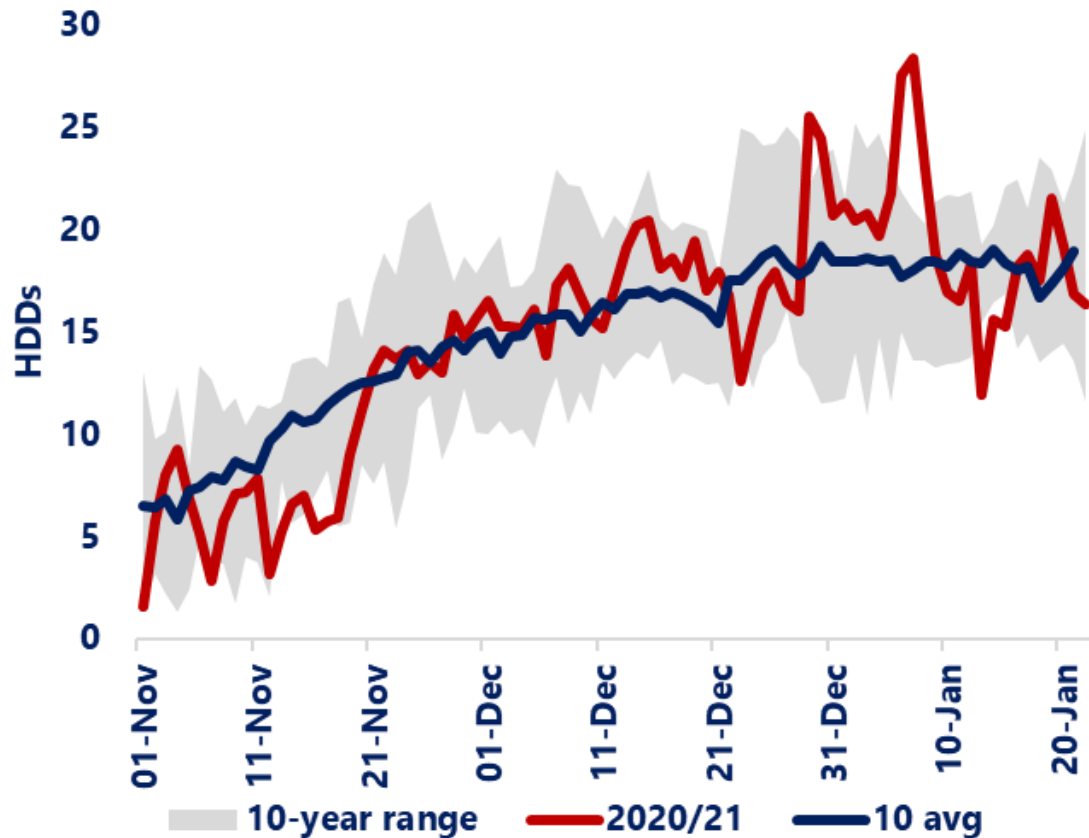


Spot prices in northeast Asia and the US climbed to record highs amidst sporadic cold spells.

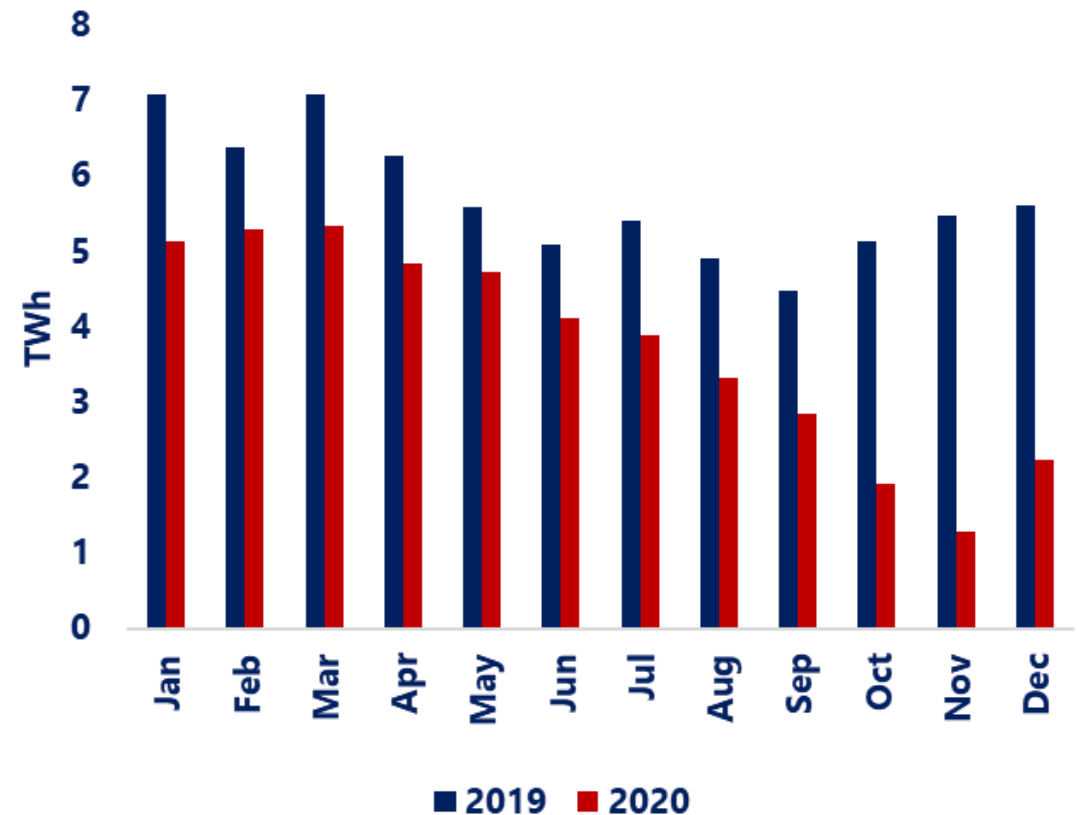
Anatomy of a price spike

Anatomy of a price spike: demand factors

Heating degree days in Beijing (2009/10-2020/21)



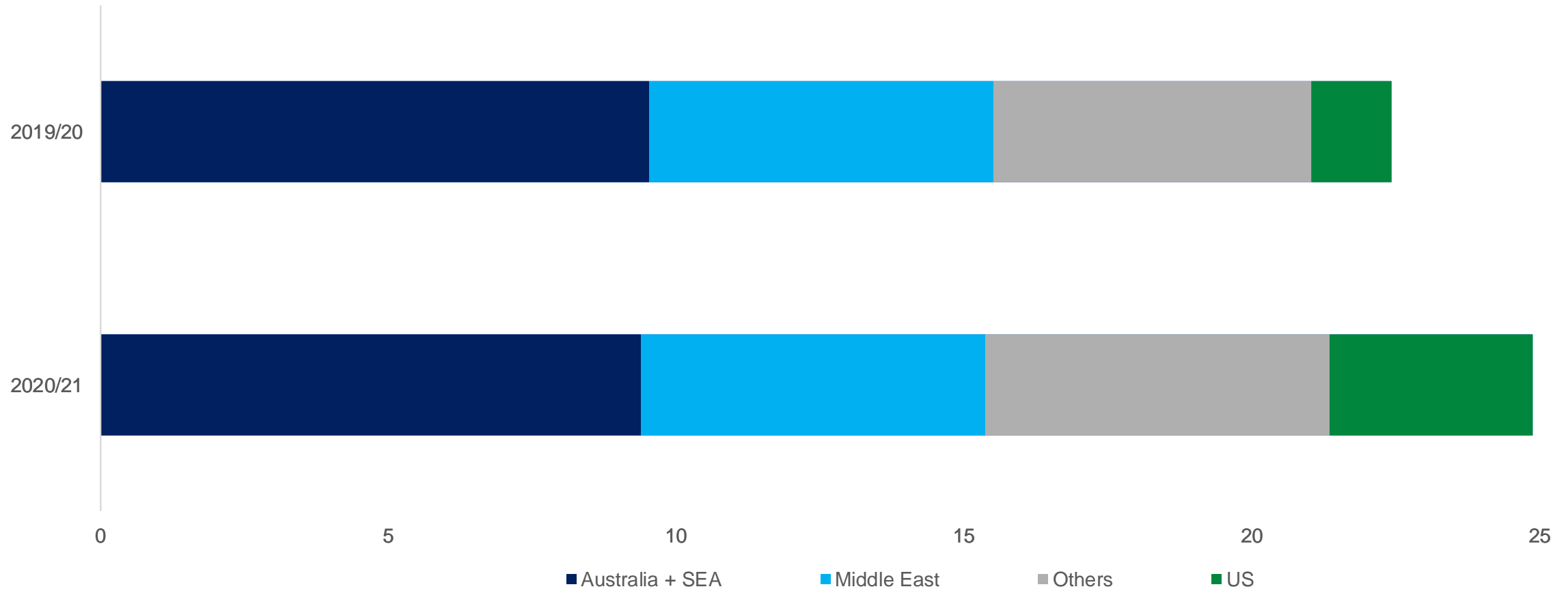
Nuclear power generation in Japan (2019-20)



Colder winter temperatures, low nuclear availability in Japan and environmental limits imposed on coal-fired power plants in Korea increased natural gas demand in northeast Asia.

Anatomy of a price spike: supply factors

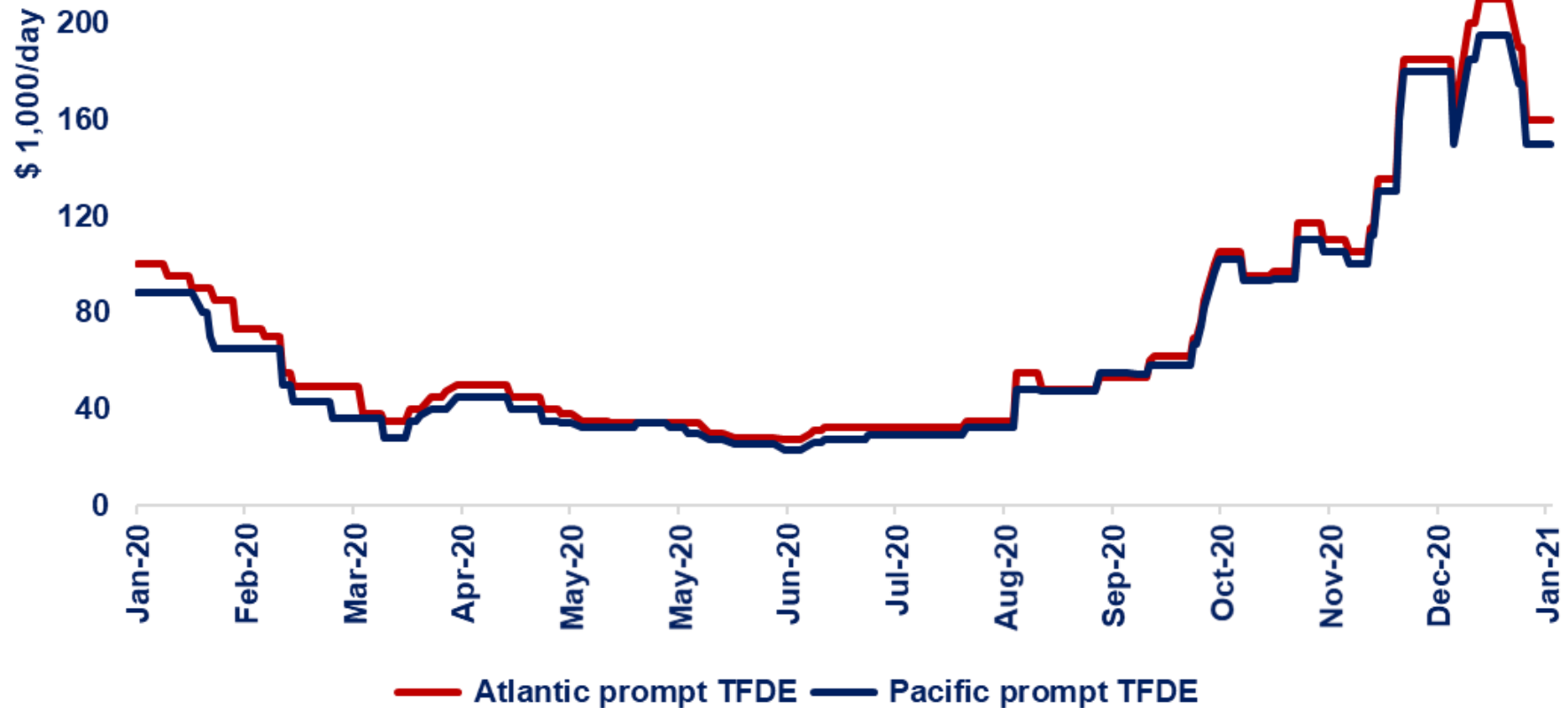
Northeast Asian LNG imports, December to mid-January, 2020 vs 2019



Northeast Asian LNG imports rose by over 10% between December and mid-January, with the incremental volumes supplied by the United States.

Anatomy of a price spike: shipping factors

Charter rates, January 2020 – January 2021



As a result of longer voyages and the Panama Canal congestion, spot charter rates climbed to historic highs of above USD 200,000/day.

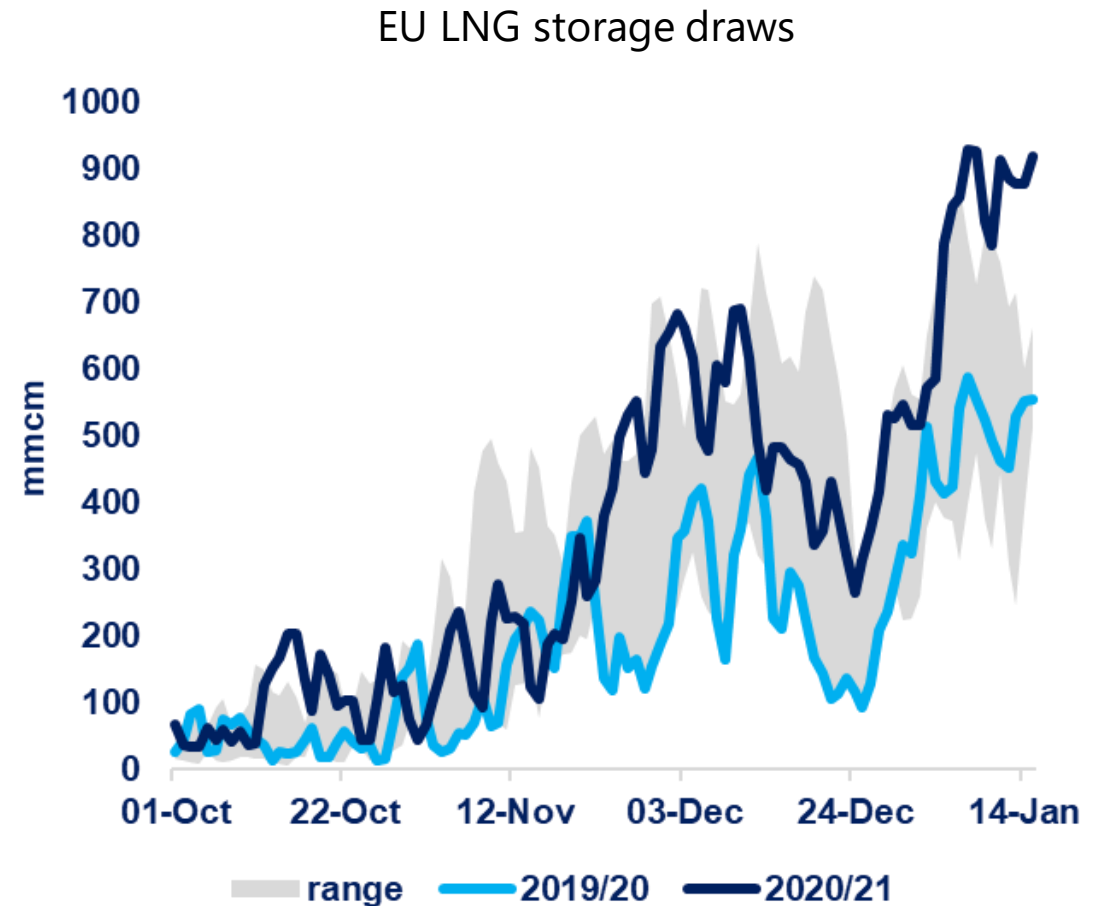
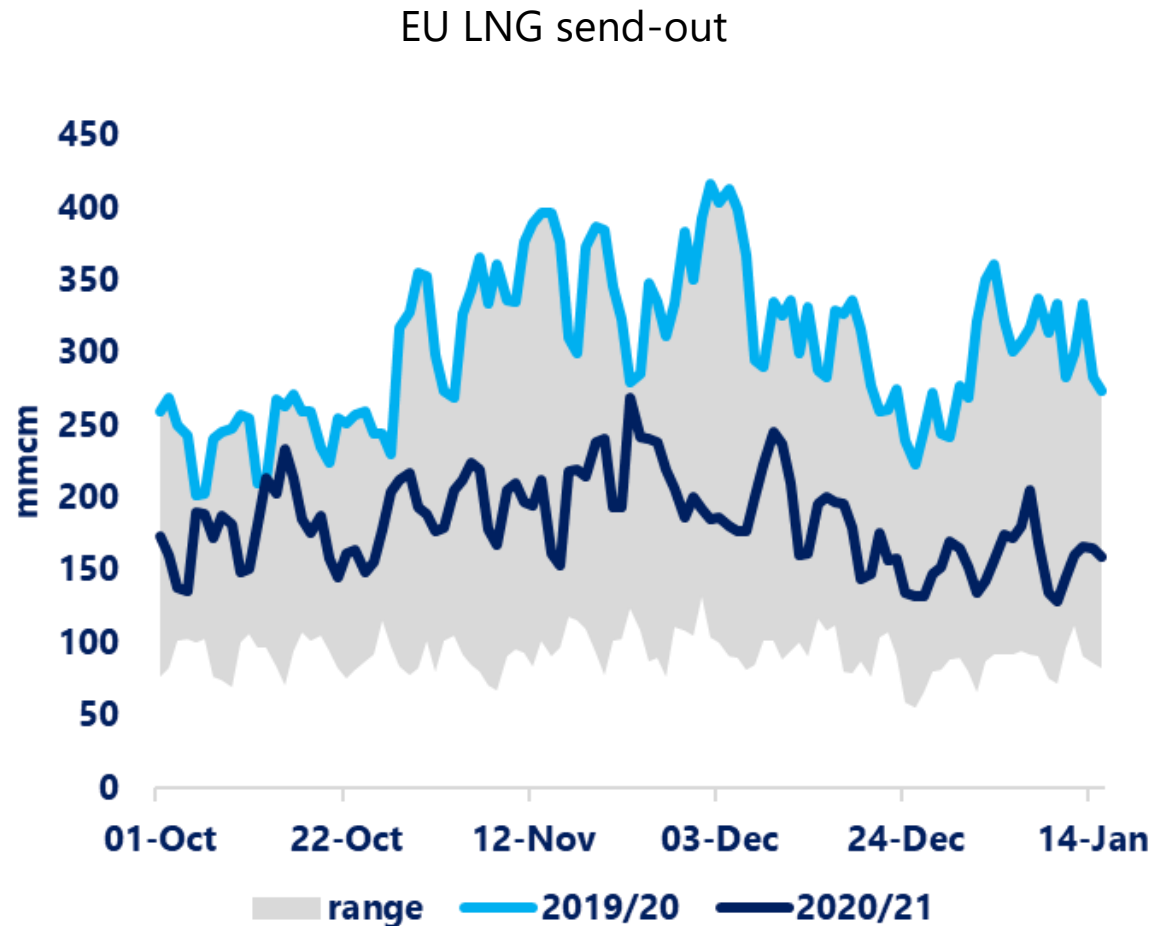
The spread between TTF and Asian spot prices has widened...

Asian spot LNG and TTF price spread, October 2020-January 2021



The price spread between Asian LNG and European gas hubs rose to over USD 20/MBtu by mid-January.

...driving away LNG from Europe and prompting strong storage withdrawals

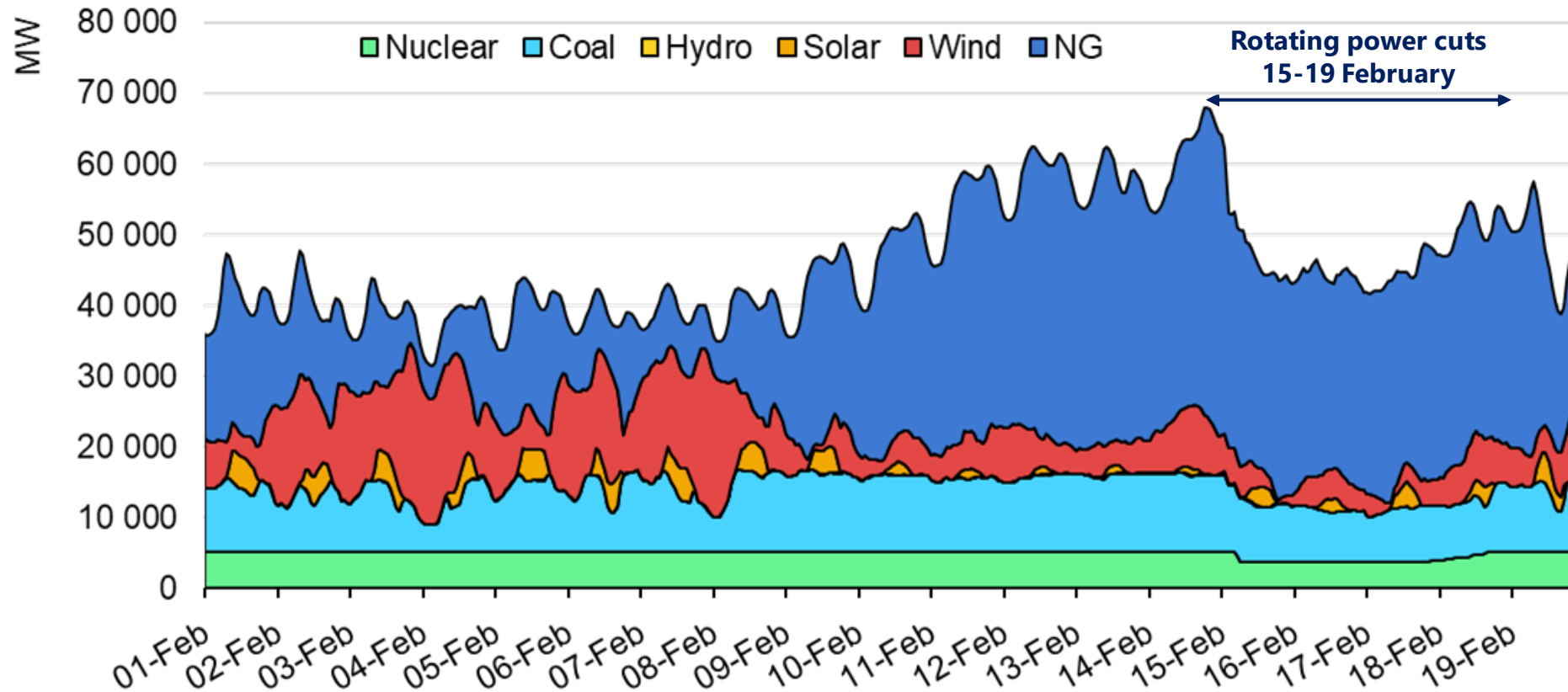


Europe played a key balancing role in the tight market conditions witnessed at the beginning of 2021.

The “big freeze” in Texas

Gas-fired power generation ramped-up amidst the cold spell...

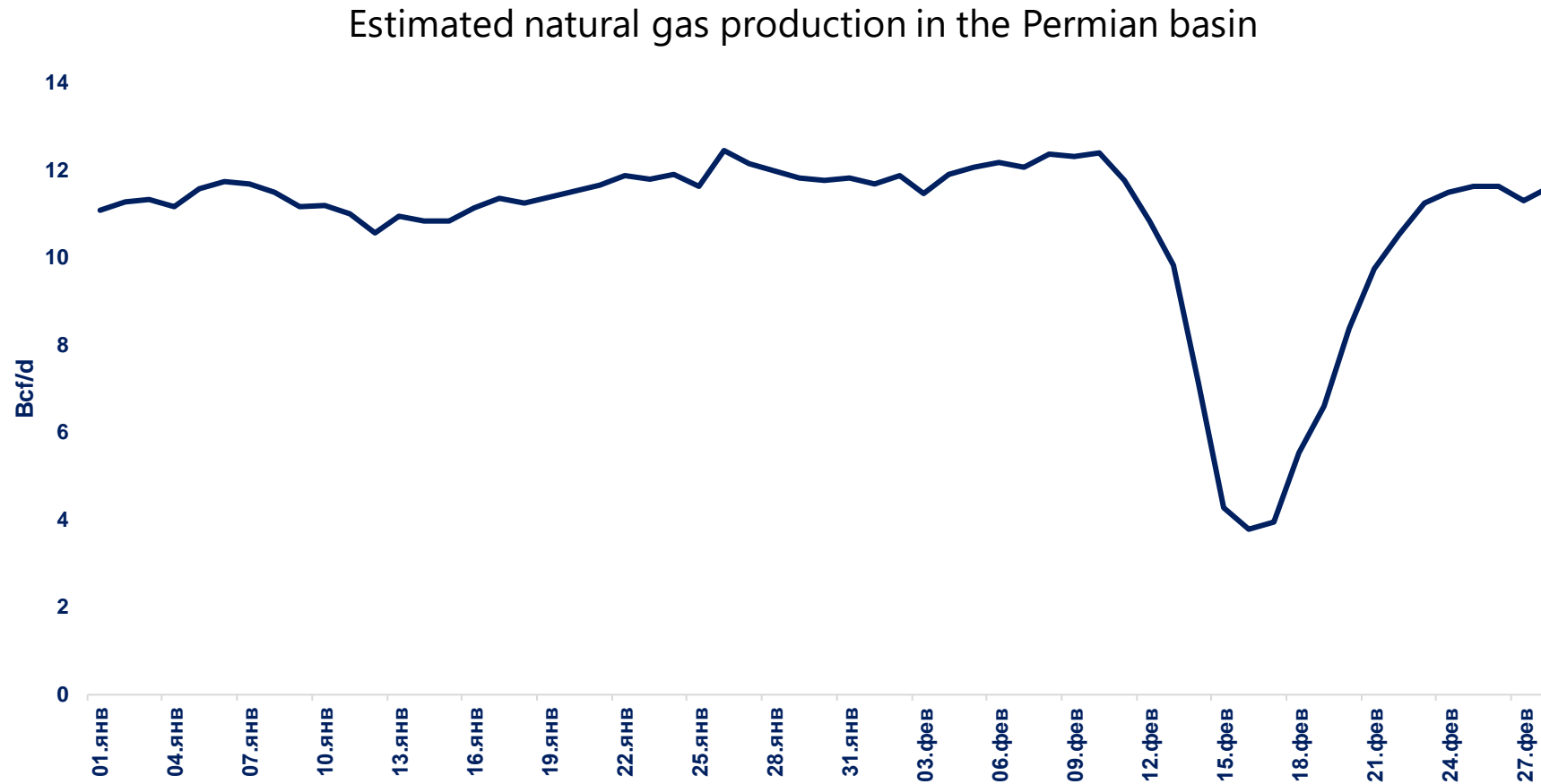
Generation by fuel type in Electricity Reliability Council of Texas (ERCOT)



Source: EIA

Gas for power in ERCOT more than tripled between 6 and 15 February, before plummeting due to a combination of freezing components at power plants and lack of natural gas supply.

...while wellhead freeze-offs led to a steep drop in gas output

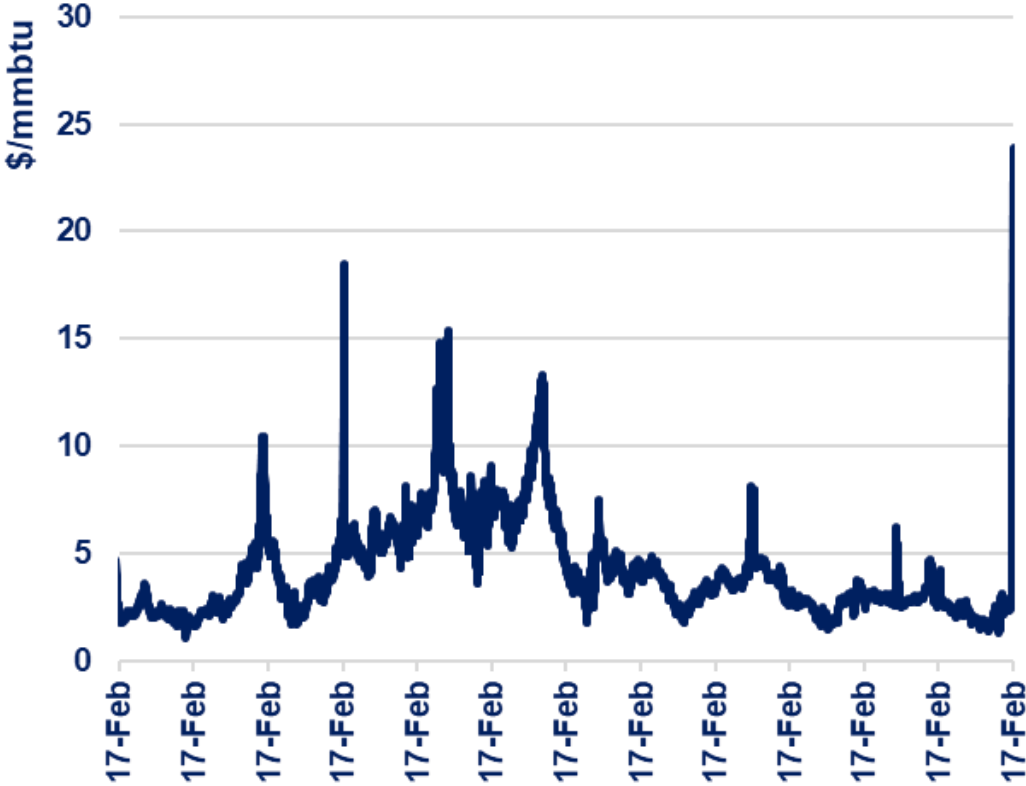


Source: Bloomberg

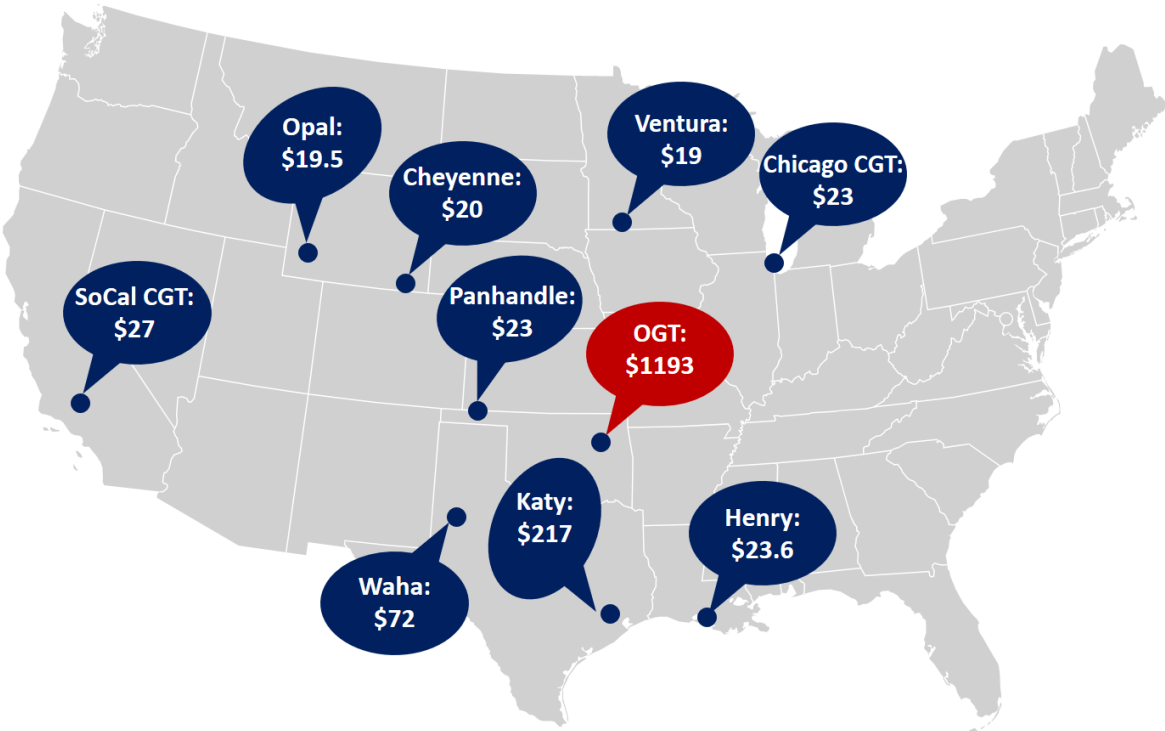
Natural gas production in the shale basins supplying the Texan market plummeted due to a combination of wellhead freeze-offs and power cuts.

Natural gas prices reached soared to record highs

Henry Hub spot prices



Regional spot gas prices, 17.02.2021



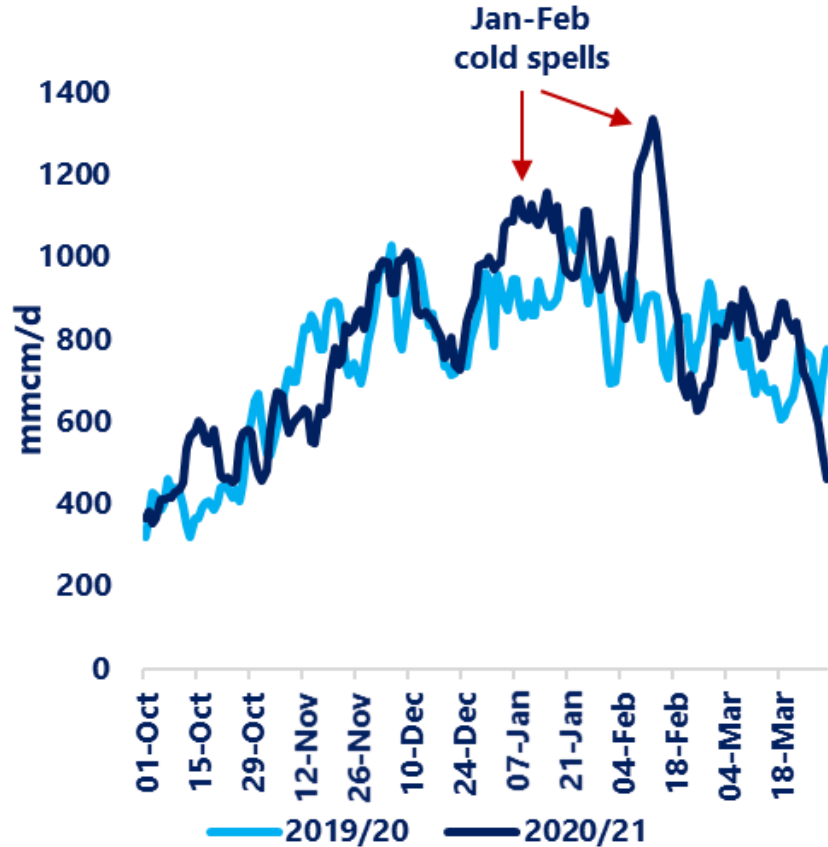
Source: EIA, NGX.

The short gas system led to a sharp increase in natural gas prices, climbing to historical records.

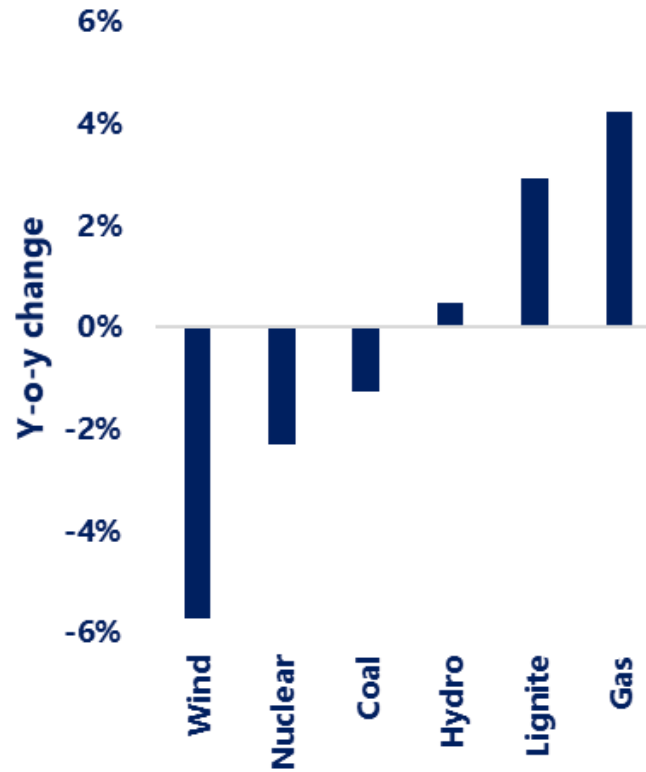
Focus on Europe

Turn the heat on: European gas demand grew by 5% over yoy through the heating season

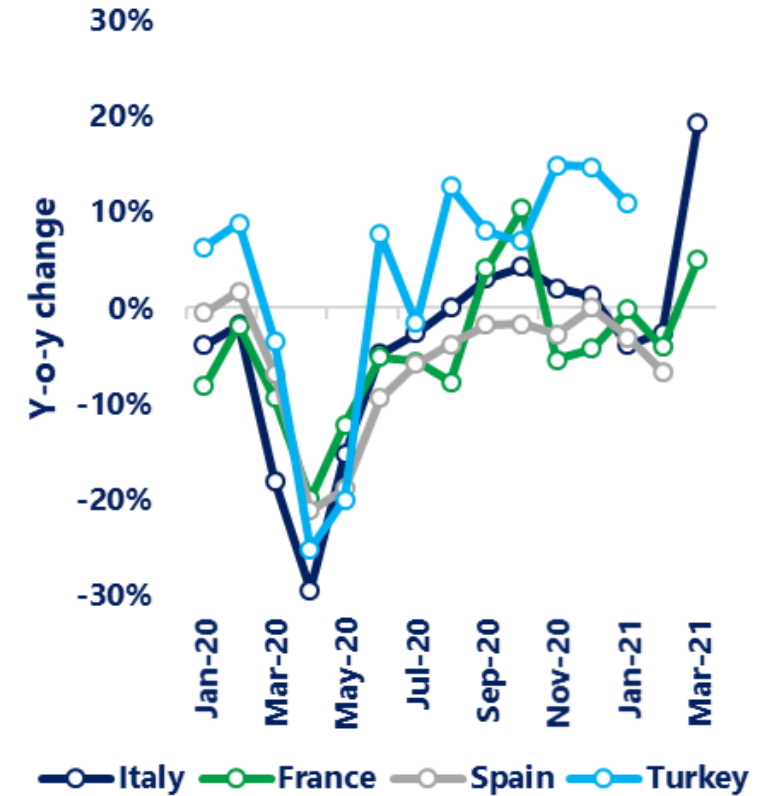
Estimated distribution network demand



Estimated power generation



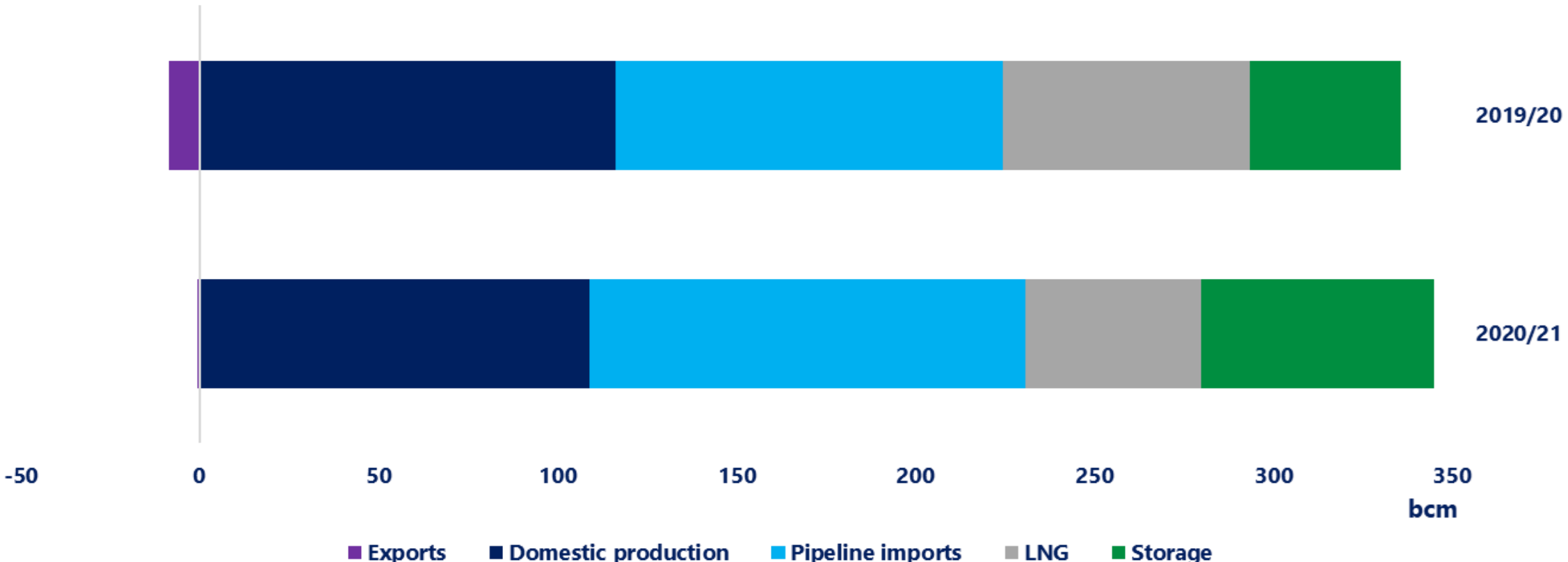
Estimated industrial gas demand



Colder winter temperatures and lower wind speeds provided support for gas demand through the heating season.

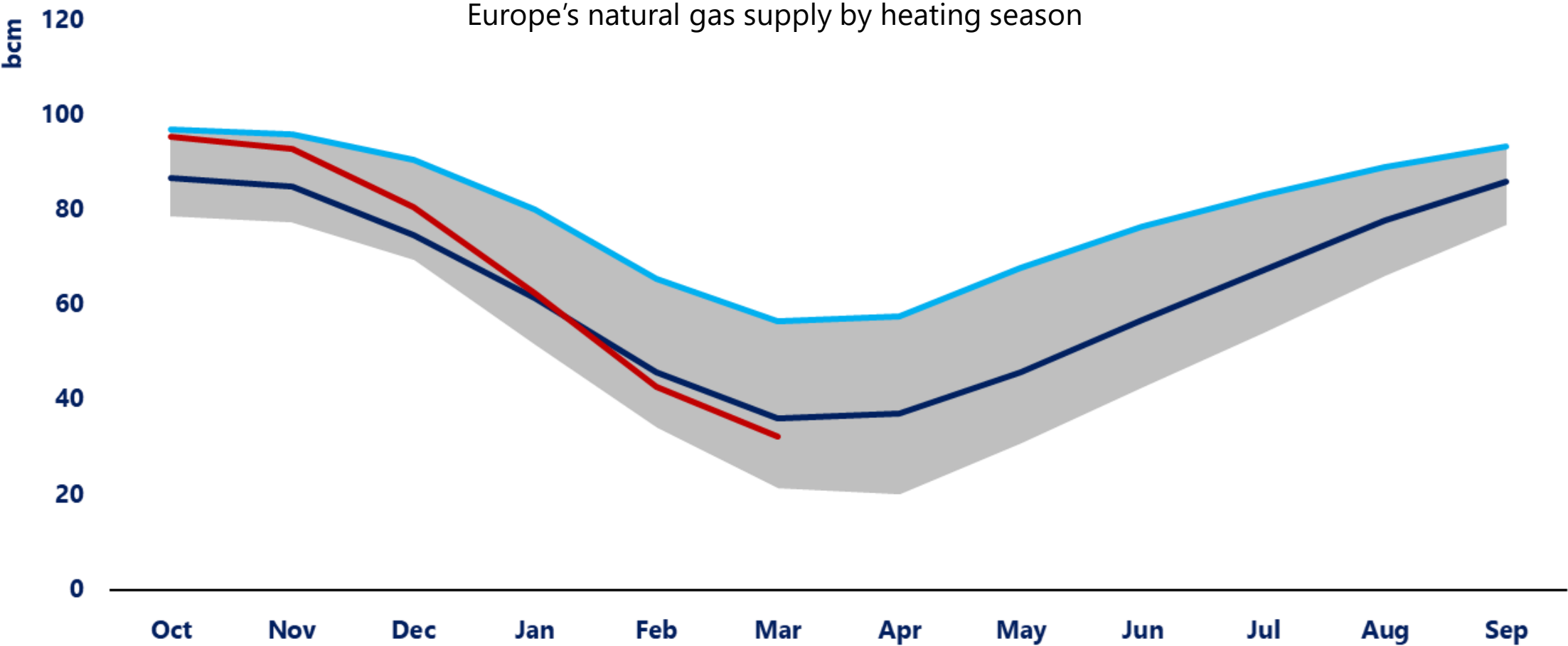
European gas supply: lower LNG supply and higher storage draws

Europe's natural gas supply by heating season



Lower LNG inflow was compensated by strong storage draws and the ramp-up of pipeline supplies.

Driving European storage levels below 5-year average



Below than average underground storage levels indicate stronger injection needs through the summer.

Conclusions

- **Natural gas demand** opened 2021 with a **strong recovery** in Europe and northeast Asia, largely supported by colder winter temperatures.
- **LNG exports remained below last year's levels** due to a combination of commissioning delays and unplanned outages.
- **Prices were volatile**, with sporadic cold spells and underperforming supply driving spot prices in northeast Asia and the United States to record highs.
- Both European and US **gas storage levels** are expected to close the heating season **below their 5-year average levels**, indicating higher injection demand for the summer 2021.
- Forward curves suggest **tight Asian spot LNG-TTF price spreads over the summer**, potentially leading to a recovery in LNG supplies into Europe.

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