



Gas Market Report: highlights from 2020 and outlook for 2021

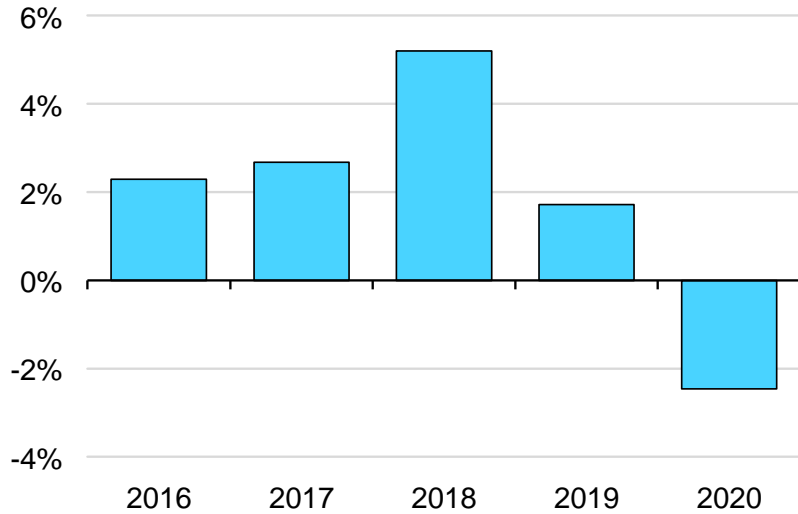
Jean-Baptiste DUBREUIL, Senior Natural Gas Analyst

Gergely MOLNAR, Gas Analyst

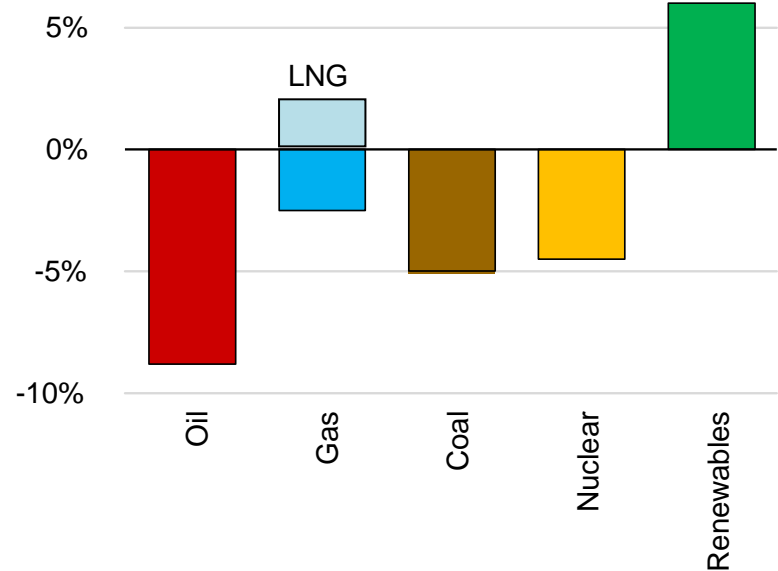
Indian Gas Exchange, 29 January 2021

A shock to the energy system

Change in global gas demand, 2016-2020



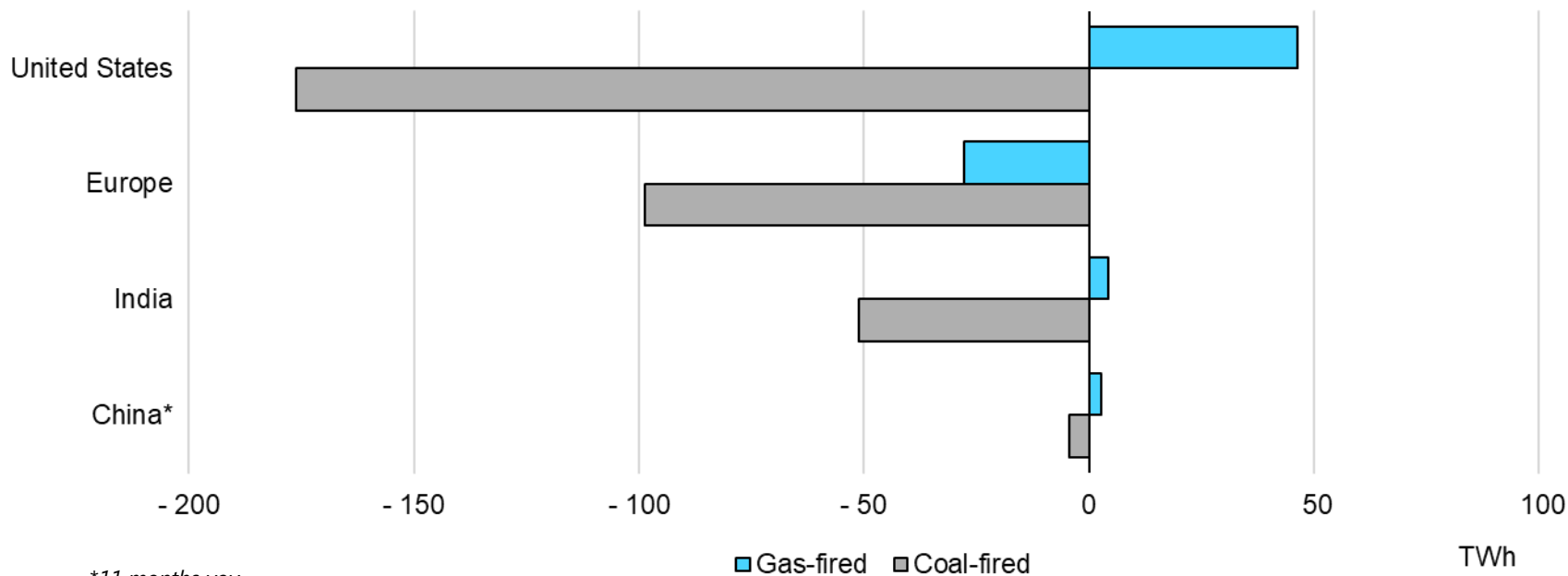
Change in primary energy demand, 2019-2020



Global gas markets experienced their largest recorded drop in 2020, with an estimated 100 bcm decrease in consumption, yet were more resilient than most other energy sources.

Demand side adjustment: coal-to-gas switching

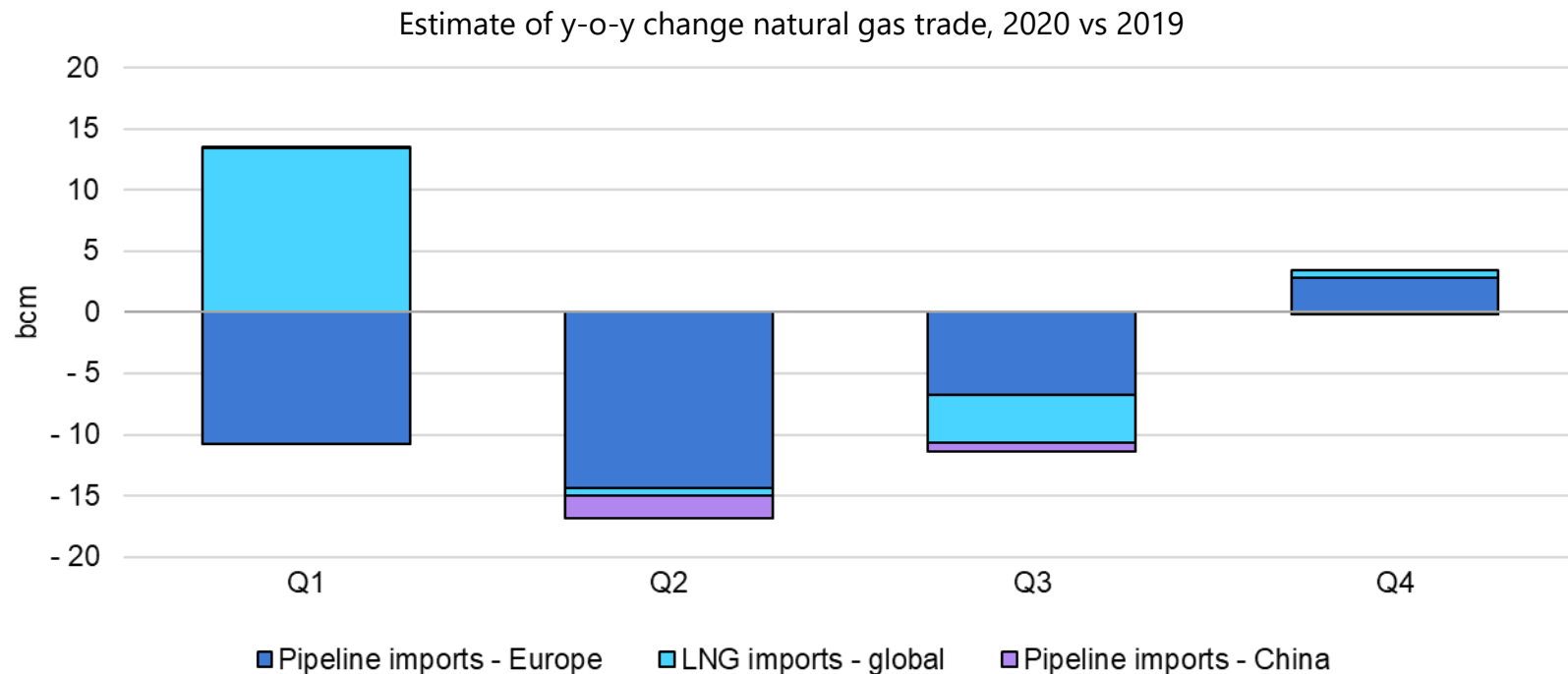
Estimate of y-o-y change in coal- and gas-fired power generation, 2020 vs 2019



*11 months yoy

Gas prices dropping to multi-decade lows across all major gas consuming regions improved the cost-competitiveness of gas-fired power generation, tampering the effects from the demand shock.

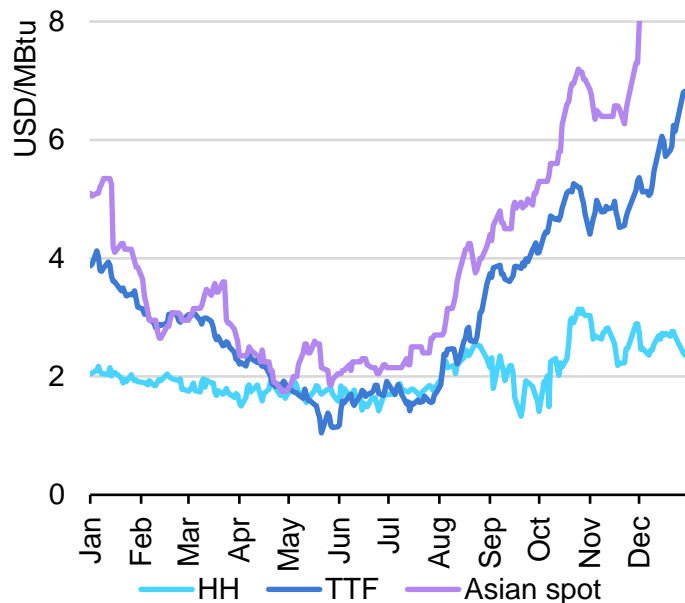
Supply side adjustment: a record drop in global gas trade



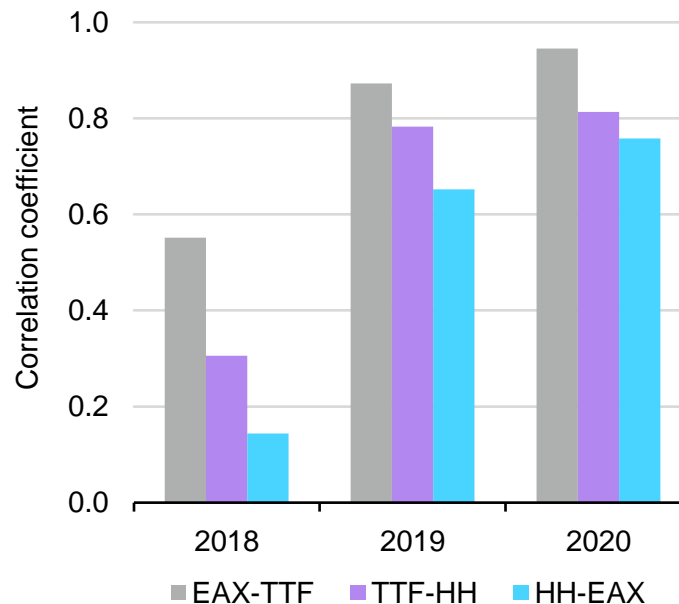
The sharp decline in natural gas demand through H1 2020 triggered supply-side adjustments along the whole value chain.

The price roller coaster: historical lows, recovery and volatility

Natural gas spot prices, 2020



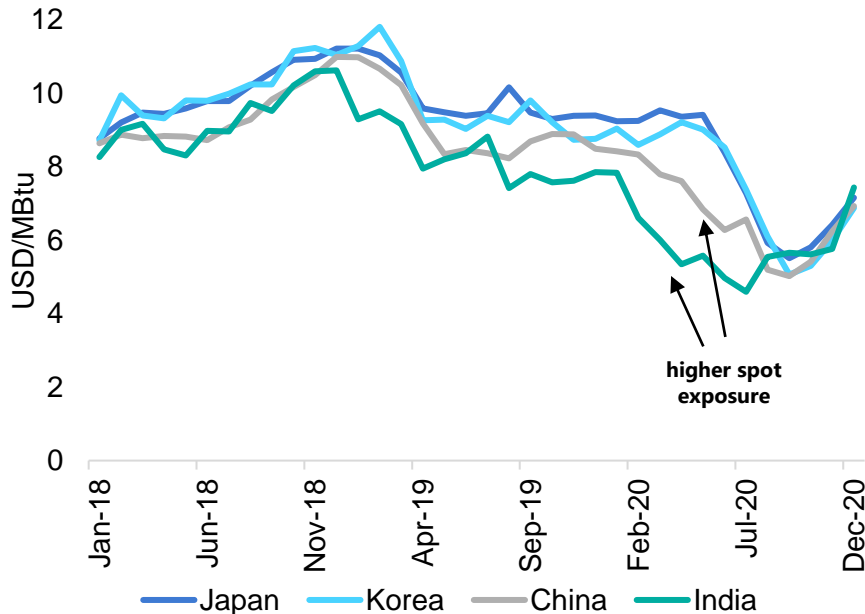
Natural gas spot prices, 2020



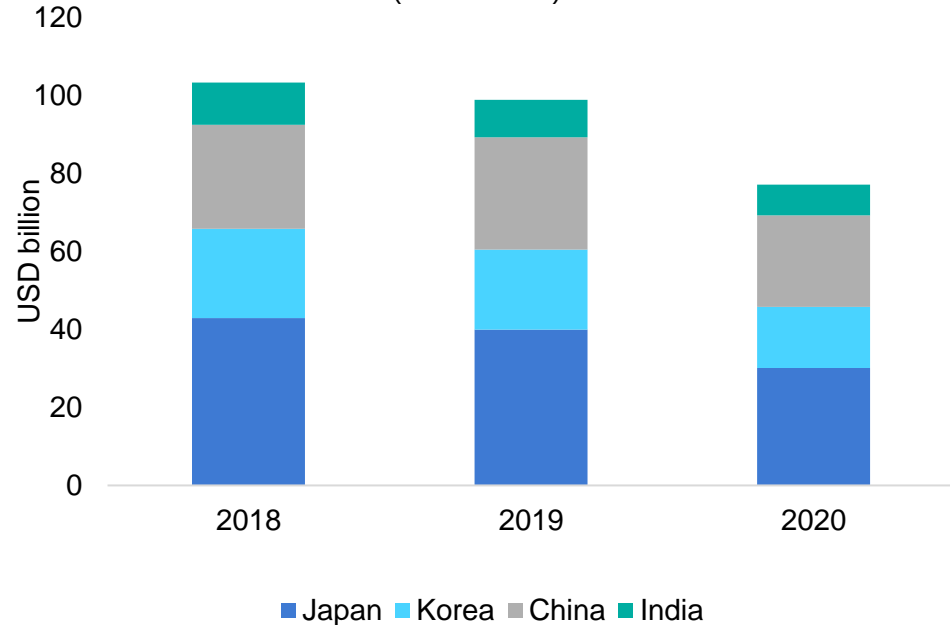
Spot prices across all major gas consuming regions displayed strong volatility, whilst the inter-influence between regional gas hubs continued to increase.

Asian buyers have benefitted from the low price environment

Estimated LNG import prices in major Asian gas markets (2016-2020)



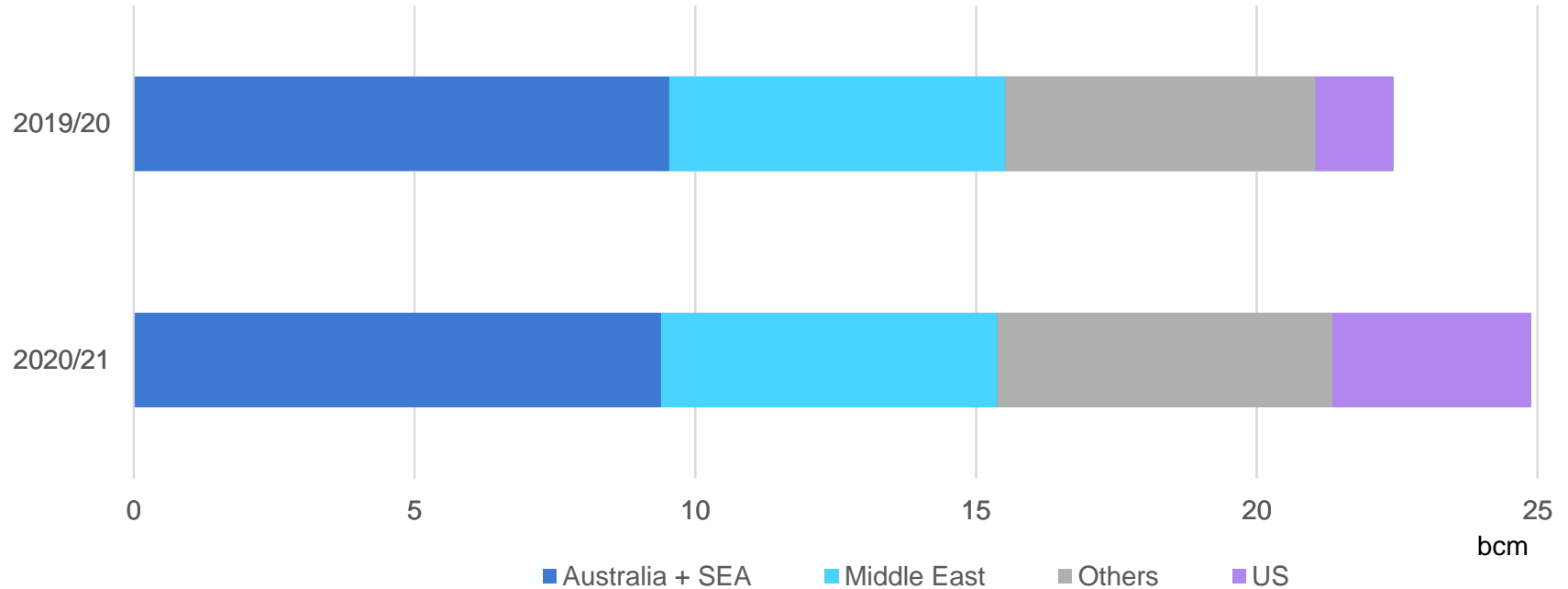
Estimated LNG bill of major Asian gas markets (2016-2020)



The LNG import bill of the major Asian LNG importers fell by an approximately one-fifth, lowering the import price in a range of 20-30%. Buyers with higher spot exposure benefitted the most.

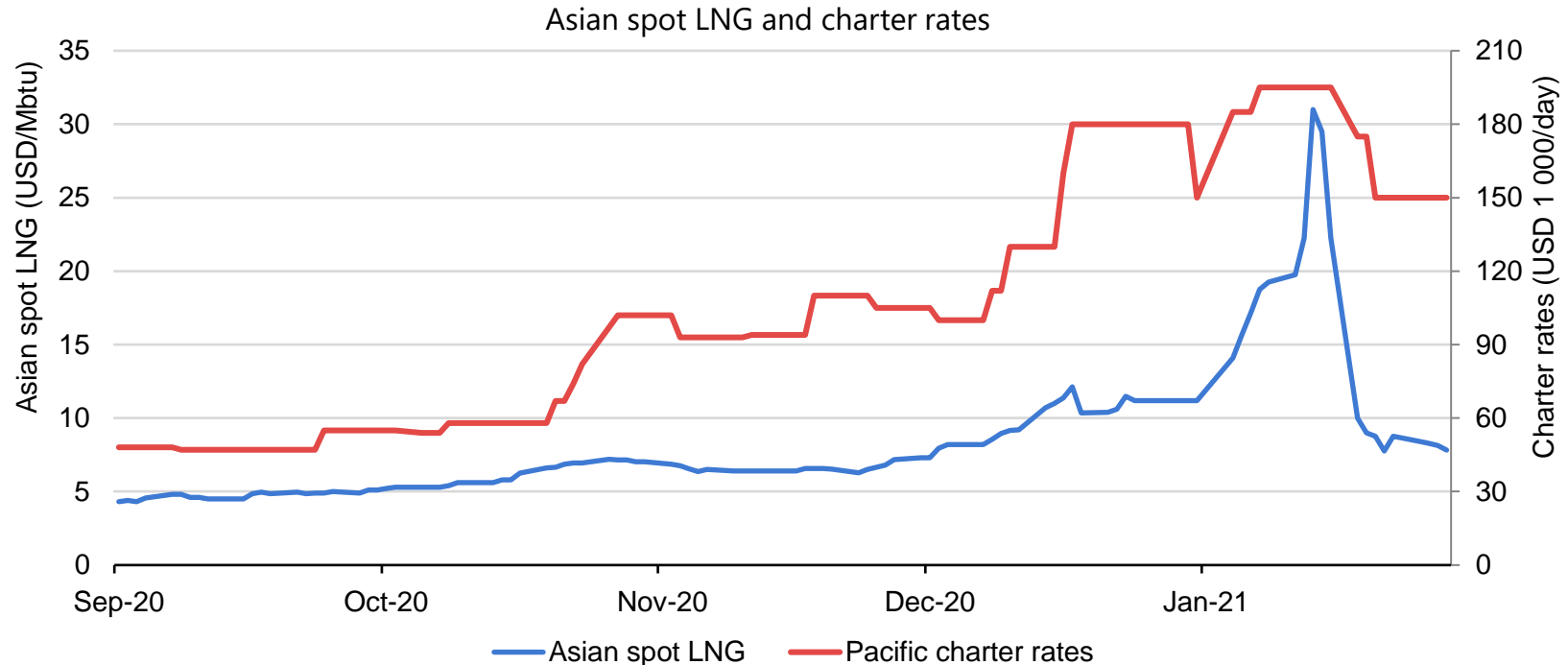
Strong demand growth in northeast Asia at the end of 2020...

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.

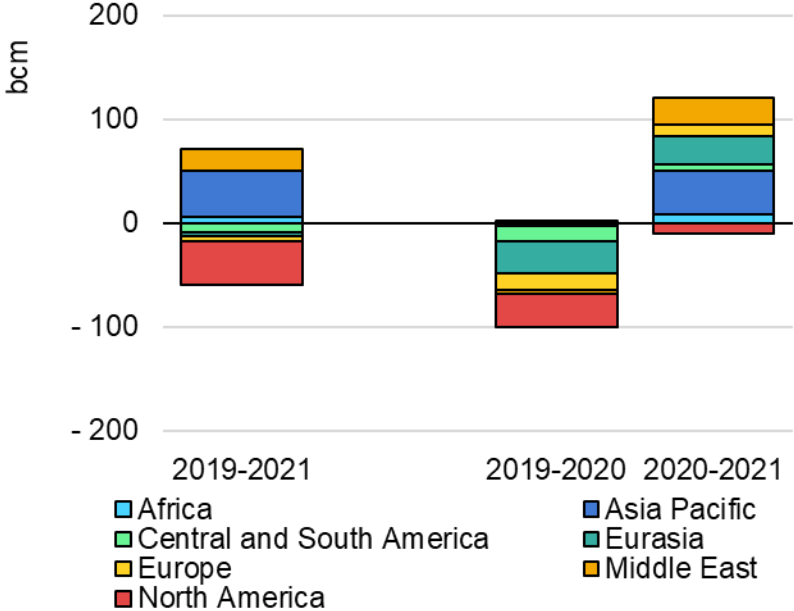
...led to an unprecedented price rally for Asian LNG spot prices



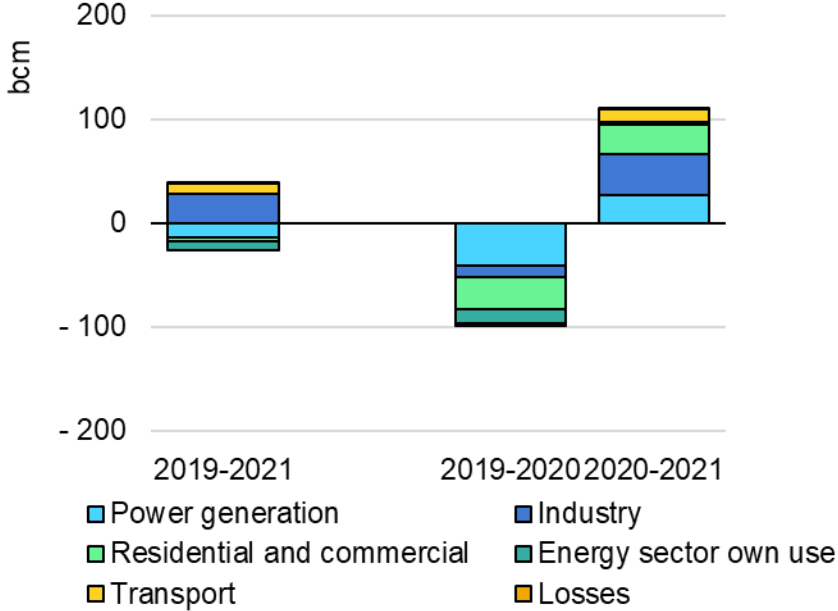
Asian spot LNG prices more than quadrupled between the start of December 2020 and mid-January 2021, climbing above USD 30/MBtu.

Recovery remains under pressure

Gas demand growth by region, 2019-2021



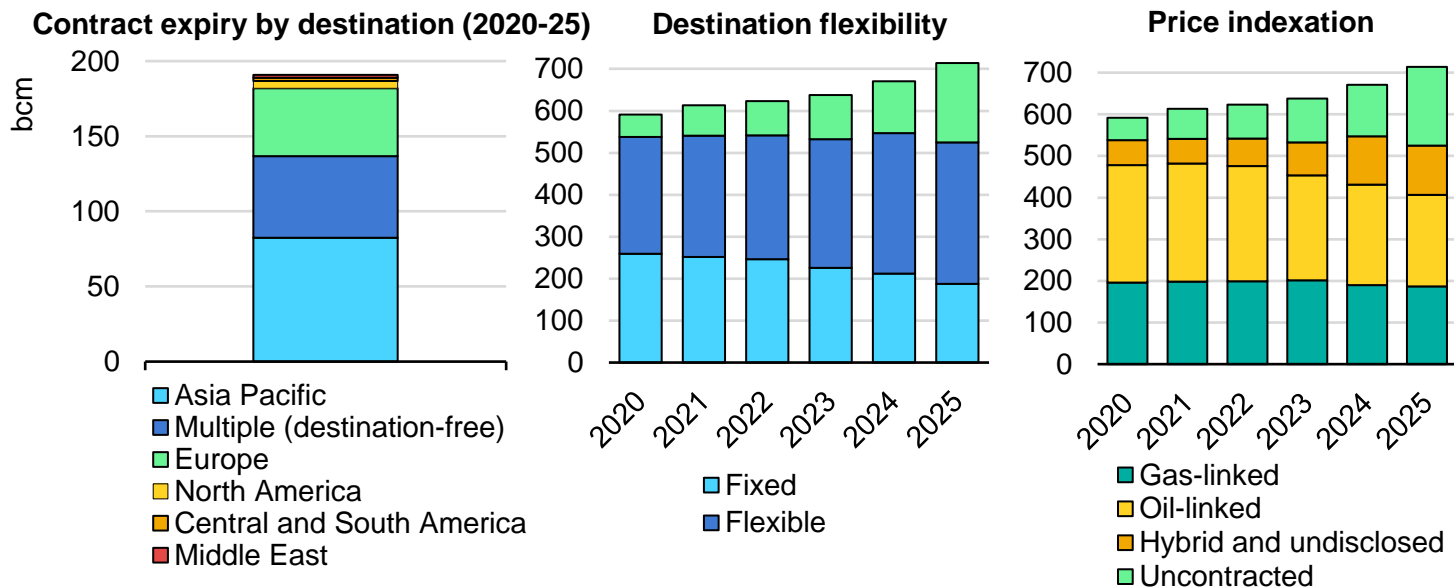
Gas demand growth by sector, 2019-2021



All regions are not equal when it comes to gas market recovery, while the sectoral pillars of growth are all subject to major uncertainties.

Contract turnover presents further market opportunity & challenge

Evolution of contracted LNG volumes, 2020-25



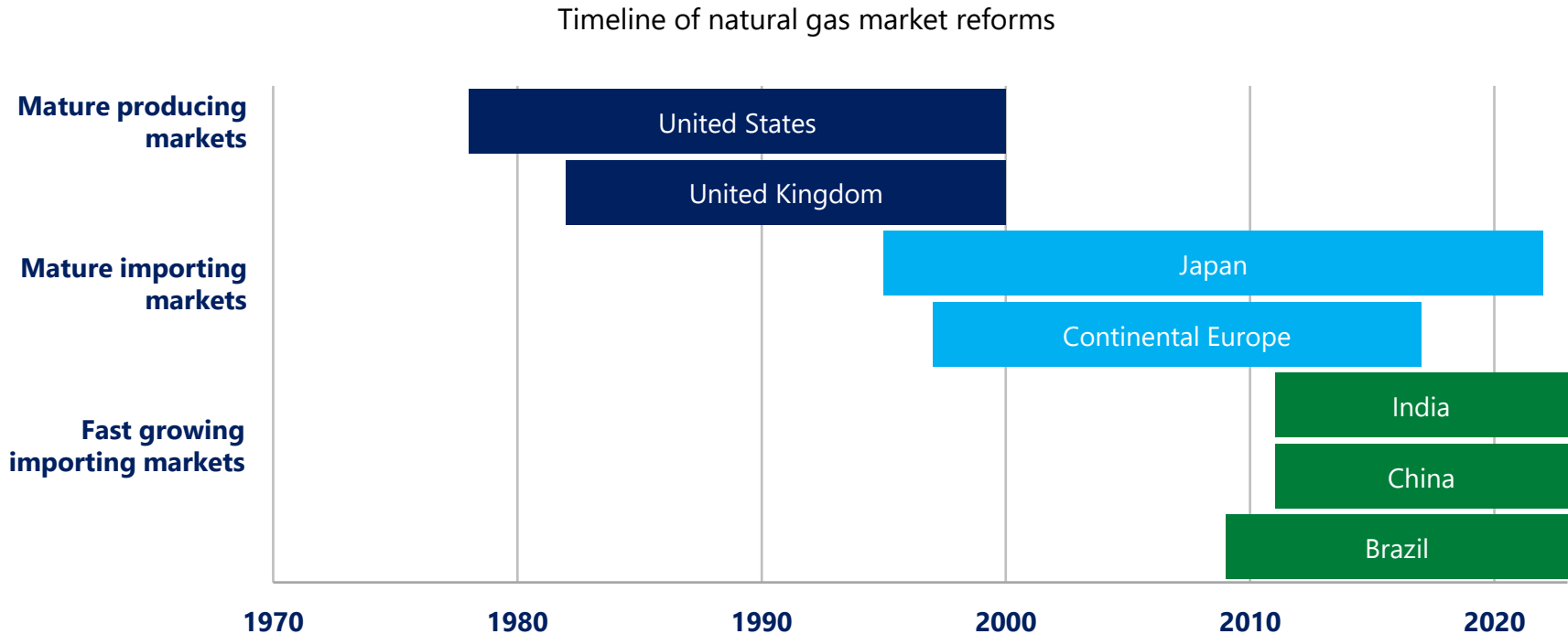
About one-third of active contracts are due to expire between 2020 and 2025, while liquefaction capacity is set to grow by 20%, thus quadrupling the amount of currently uncontracted volumes.

Some takeaways

- Flexible LNG has been a strong contributor to supply-side adjustments in the first half of 2020 when global gas demand was hit by the Covid-19 pandemic
- Gas demand rebound in the second half of 2020 and unplanned liquefaction outages have led to a tighter LNG market and price spikes in early 2021
- Global gas demand is to recover in 2021 but no major rebound expected. The more mature markets should see gradual recovery, some may not reach their 2019 level in 2021
- LNG contract expiry and export capacity increase create new opportunities and challenges in an uncertain medium-term LNG demand context
- The IEA is closely monitoring natural gas market developments and will provide quarterly revisions on latest market analysis and short term projections

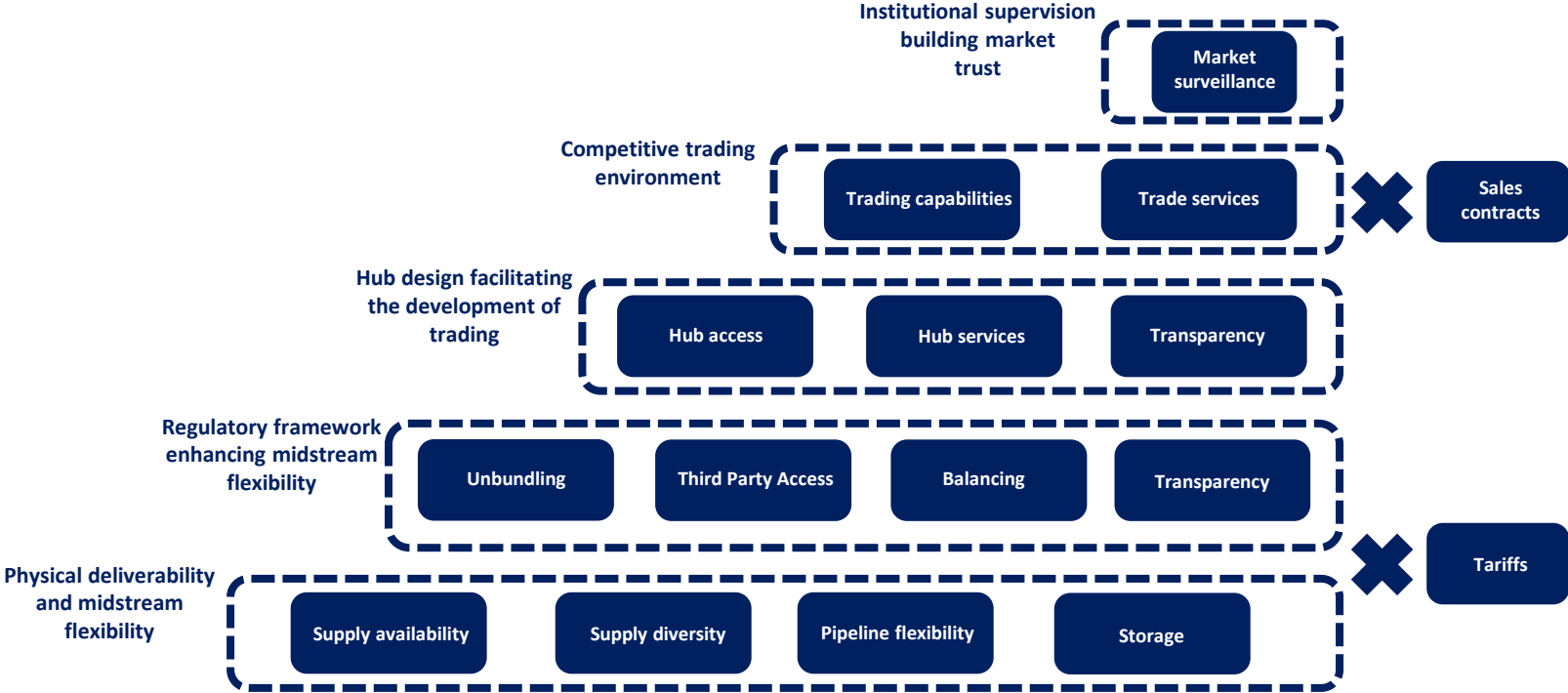
Gas hub development: Insights from European experience

Gas market reforms are a lengthy and complex process...



Historical experiences show that it takes at least 10 years to establish well-functioning, competitive wholesale gas markets. International experience-sharing can facilitate and fast-track the process.

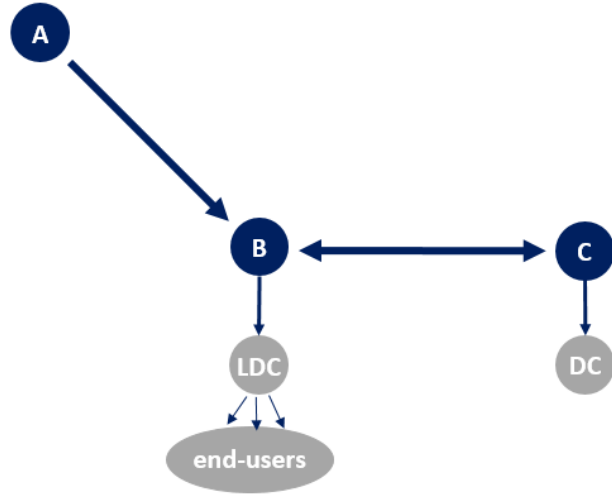
Building bricks of a successful gas hub



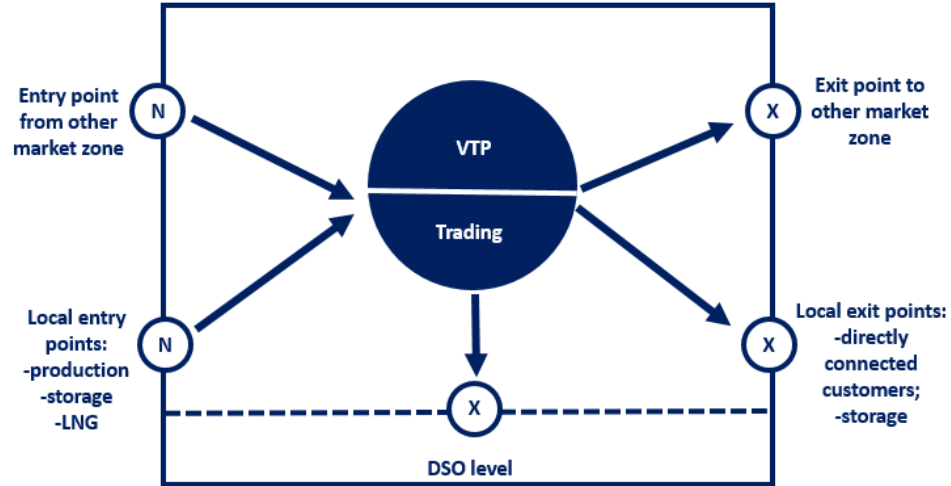
A competitive gas market is based on a transmission system providing firm physical deliverability, a regulatory framework enhancing midstream flexibility and a hub design facilitating trade.

Gas hubs are at the heart of competitive wholesale markets

Point-to-point system



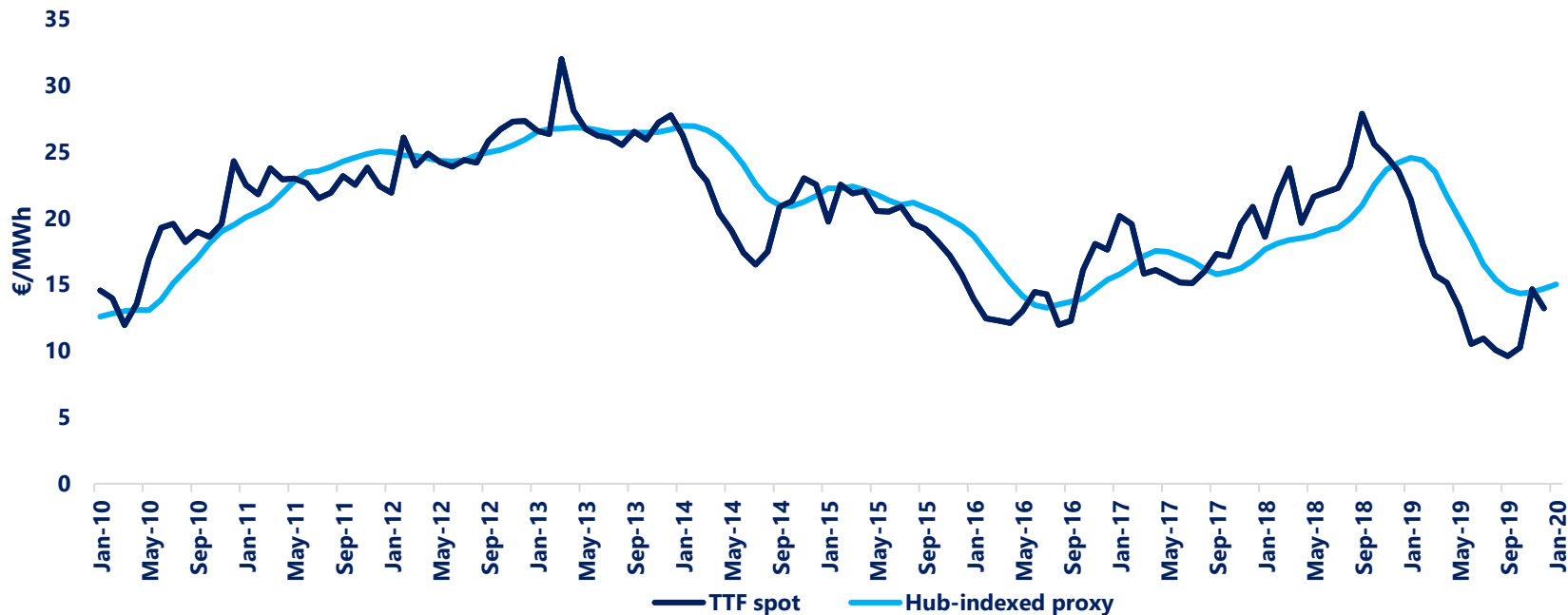
Entry-exit model



A liquid gas hub is an open marketplace where market participants can exchange gas in a time- and cost-efficient manner. It improves allocation efficiency, supply security and ensures price discovery.

A liquid hub allows for price discovery

Illustrative example of contractual hub-pricing



Hub prices are reflective of the underlying market fundamentals and can serve as benchmarks for long-term gas sales contracts, serving as an alternative to oil-indexation or cost-plus formulae.

iea