



European Union Agency for the Cooperation
of Energy Regulators

Securing supplies in an integrated European energy market – a regulatory perspective

18th GCLG Annual Conference

20 April 2023, Brussels

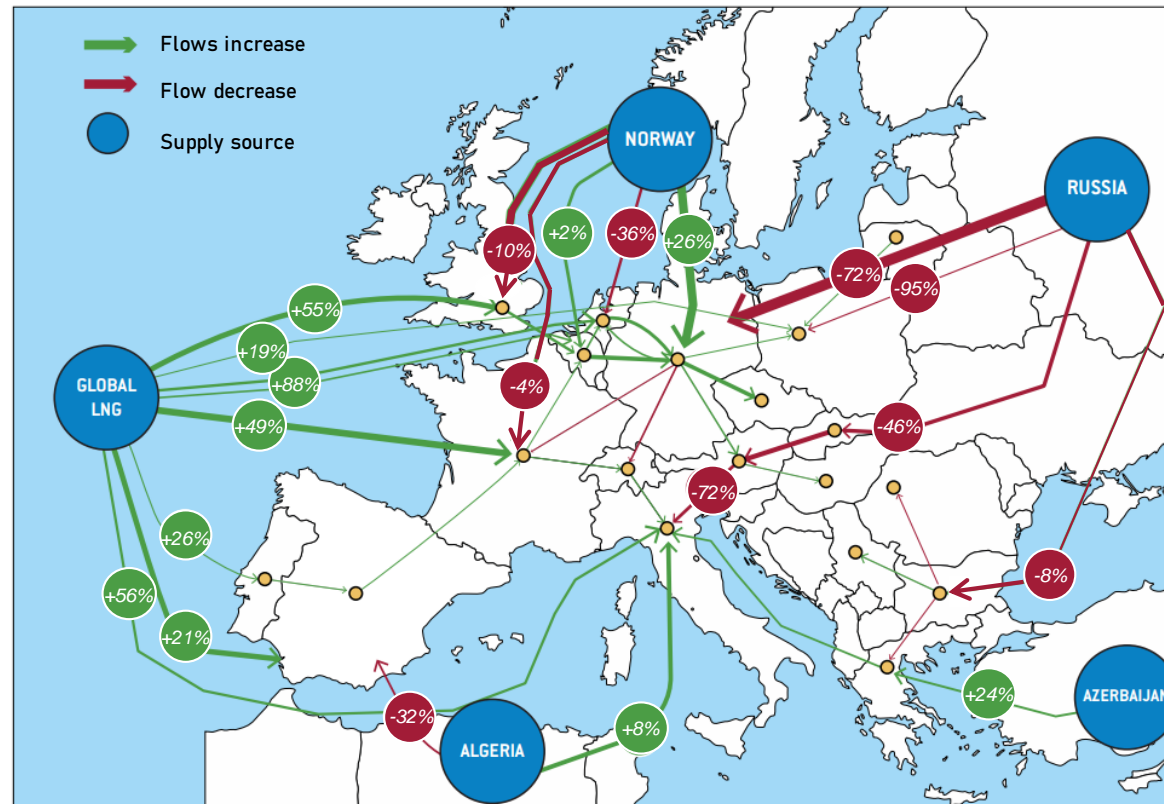
Dennis Hesseling, Head of Infrastructure, Gas & Retail, ACER



- Recent energy market developments & main factors
- Outlook & implications for areas of attention

Recent energy market developments & main factors

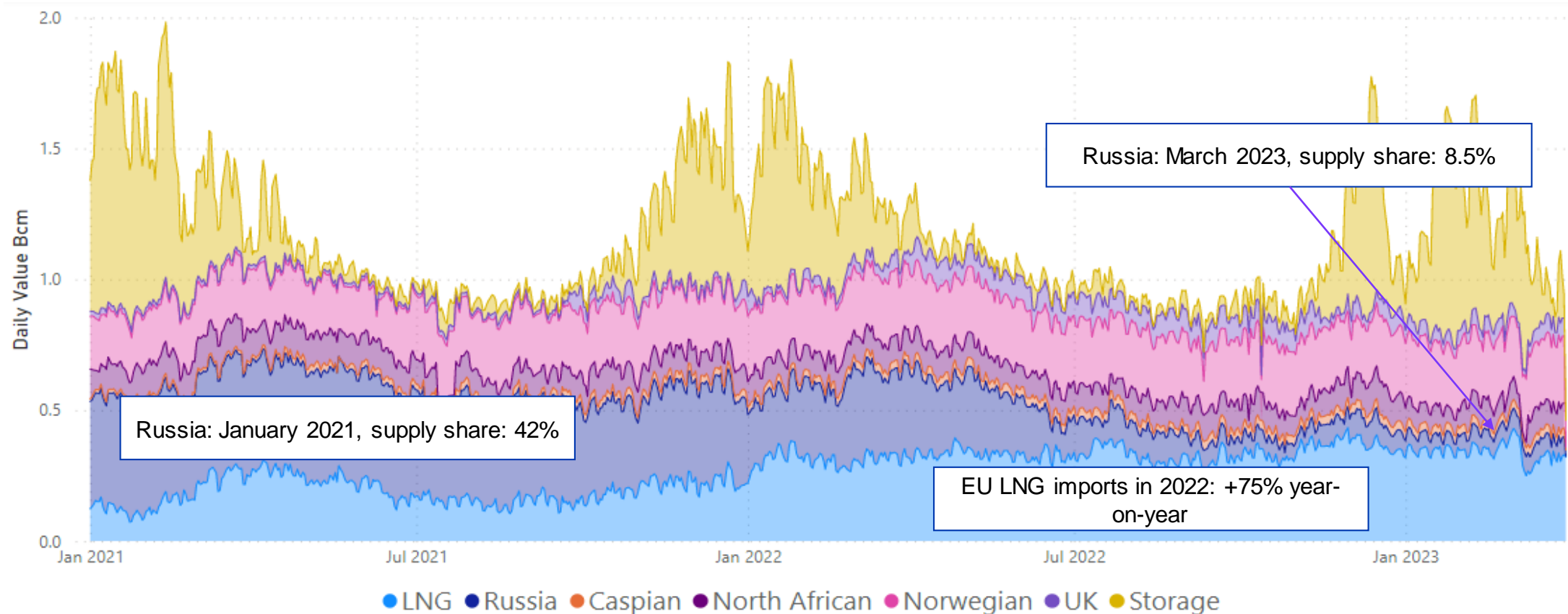
Natural gas flow changes: April 2022 - March 2023 vs. April 2021 - March 2022



The flow shifts were enabled by a uniform and flexible EU-wide transmission capacity booking system. They resulted in infrastructure congestion at North-West LNG terminals and at gas pipelines. This moved hub spreads above historical averages.

Supply alternatives to Russian gas coming strong

Daily evolution of gas imports by supply route from January 2021 to March 2023 (bcm/day)



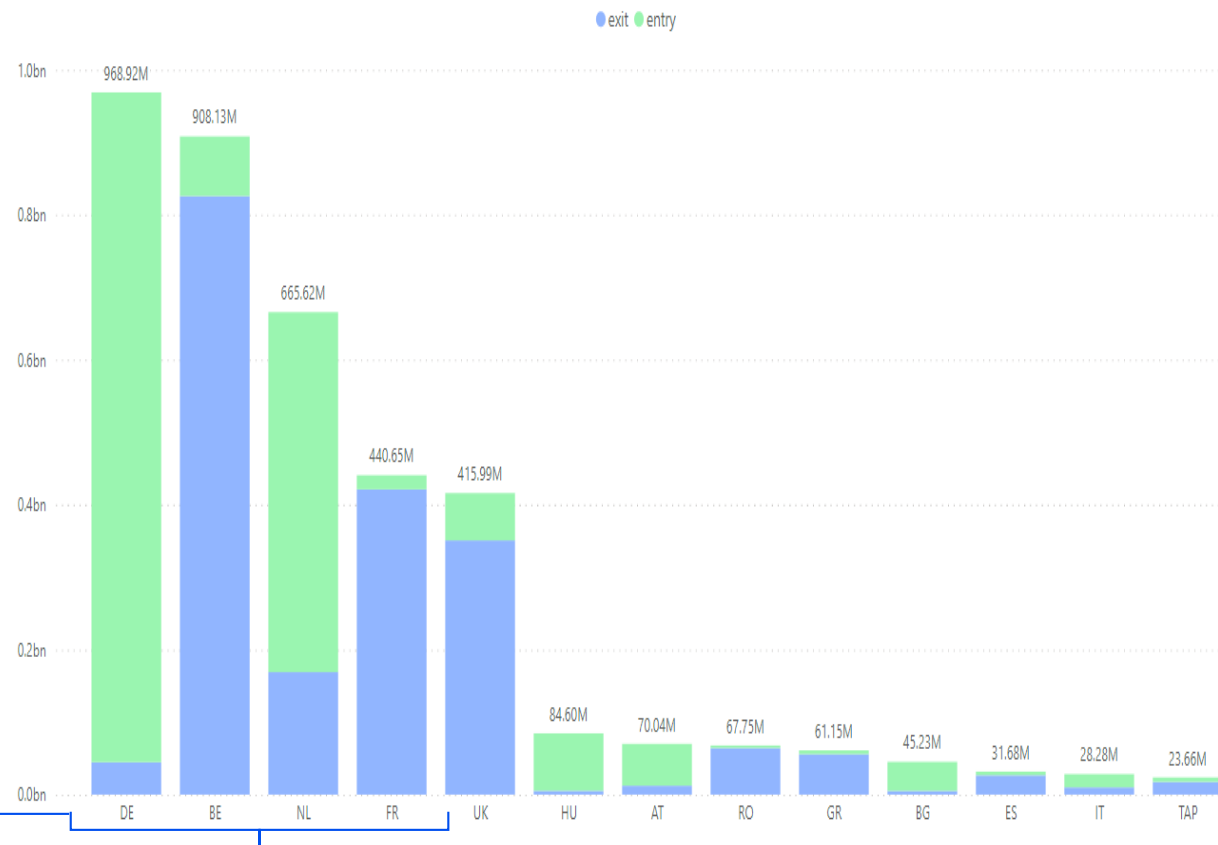
The drop in Russian pipeline supply continues to be offset by rising EU LNG imports and lower overall demand. As a result, gas storage outflows to meet demand were lower this winter.

Changed gas flows led to transportation bottlenecks

Utilisation ratio for selected Interconnection Points Jan. 2018 – Jan. 2023 (% of technical capacity)

Flow Direction	Interconnection Point	Average utilisation 2018-2021	Average utilisation 2022	Average utilisation 01/11/22 to 19/12/22	Average utilisation 20/12/22 to 11/01/23
AT to DE	VIP Oberkappel	10%	5%	30%	13%
AT to IT	Tarvisio-Arnoldstein	67%	26%	9%	3%
BE to DE	VIP THE-ZTP		138%	119%	145%
BE to FR	Virtualys	26%	0%	0%	0%
BE to NL	VIP-BENE	24%	79%	64%	93%
DE to AT	VIP Oberkappel	52%	79%	28%	22%
DE to BE	VIP THE-ZTP		0%	0%	0%
DE to FR	VIP France - Germany	45%	14%	0%	0%
DE to NL	VIP TTF H		46%	55%	49%
ES to FR	Vip Pirineos	3%	33%	52%	51%
FR to DE	VIP France - Germany	0%	44%	45%	64%
FR to ES	Vip Pirineos	41%	15%	5%	5%
IT to AT	Tarvisio-Arnoldstein	0%	3%	8%	12%
NL to DE	VIP TTF H		70%	117%	95%
NL to DE	VIP TTF L	44%	30%	36%	33%
NO to NL	Emden	2%	35%	25%	28%
PL to DE	Yamal	77%	1%	0%	0%
PT to ES	VIP Iberico	4%	12%	14%	8%
UK to BE	Zeebrugge IZT	18%	71%	56%	96%

Congestion revenues per country in 2022* (EUR)



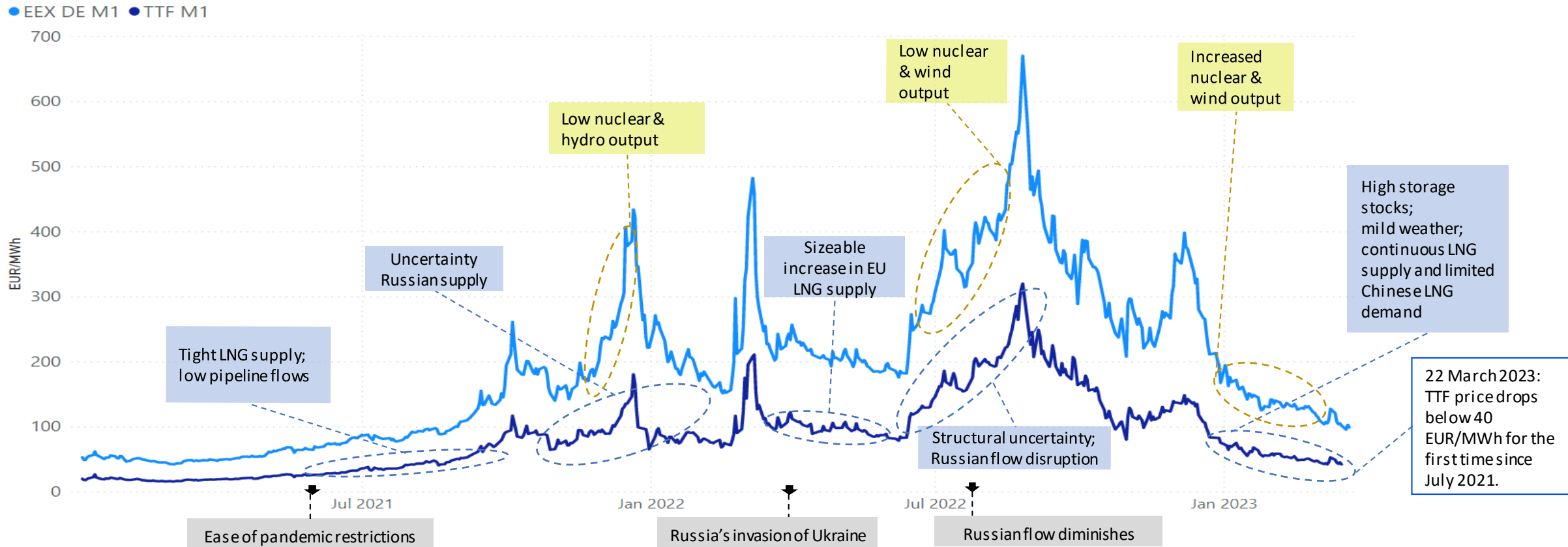
Congestion revenues increased drastically to EUR 4 billion in 2022 (compared to EUR 55 million in 2021). Most congested entries in Germany and the Netherlands, most congested exits in Belgium and France.

Source: ACER based on GSA, PRISMA and RBP - gas transportation cong. revenues calculation is based on auction time (in 2022), not on delivery time (i.e. includes prod. for delivery after 2022)

Note: *Mem. States & third count. with cong. reven. exceeding EUR 10 MM during auctions held in 2022. (Swiss cong. reven. for transit Wallbach-Passo Gries, estimated at EUR 245 MM, but not depicted.) **19**

Prices reacted to, and steered, flow developments

Electricity & natural gas price evolution, January 2021 - March 2023 (Month Ahead, EUR/MWh)



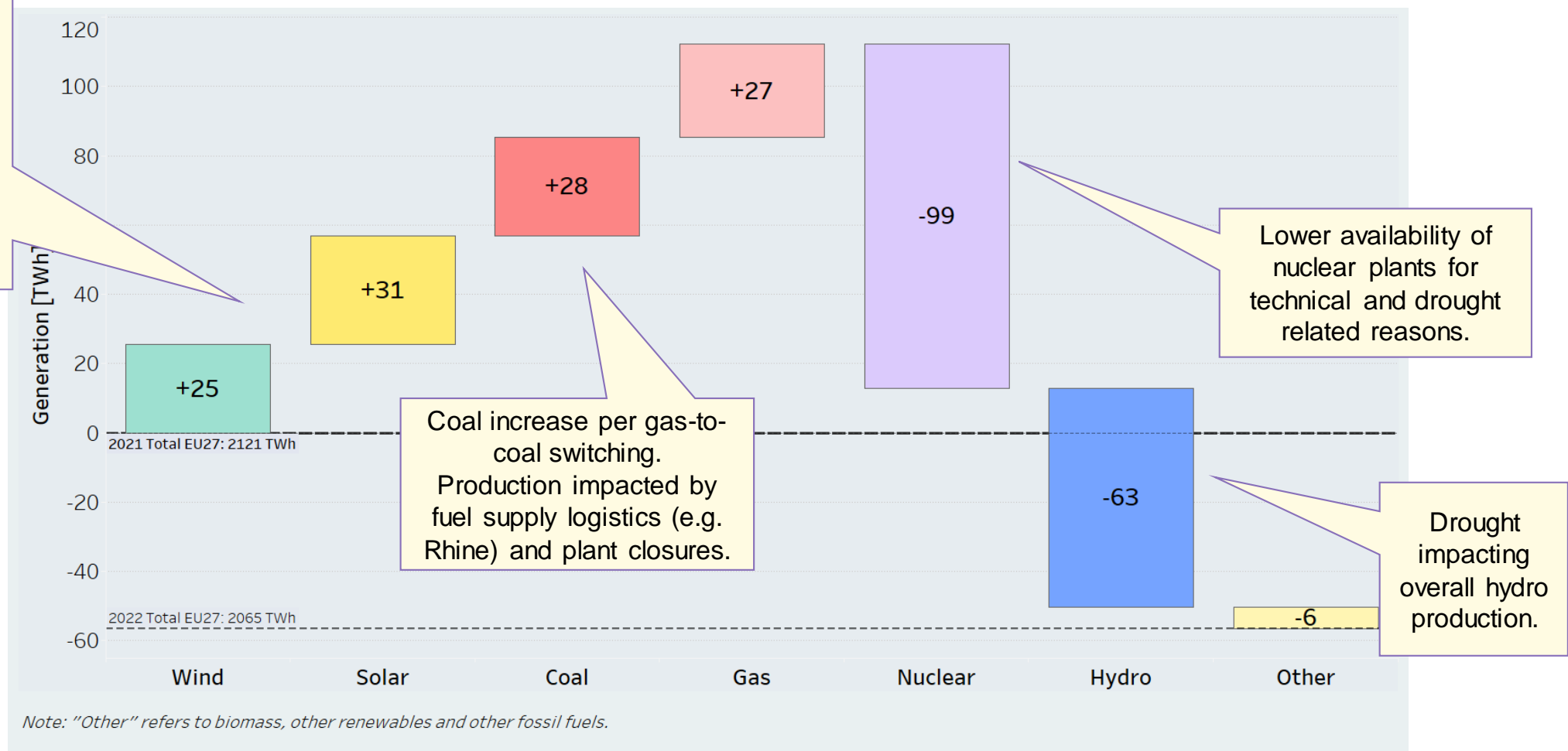
Better than expected demand-supply balance has driven energy prices further down during the last months. China's LNG demand remains an important factor for EU gas prices going forward.

Source: ACER based on Platts price data

Note: TTF Month-ahead and EEX Germany Month-ahead contracts are, respectively, the referential EU price benchmarks for gas and electricity delivery.

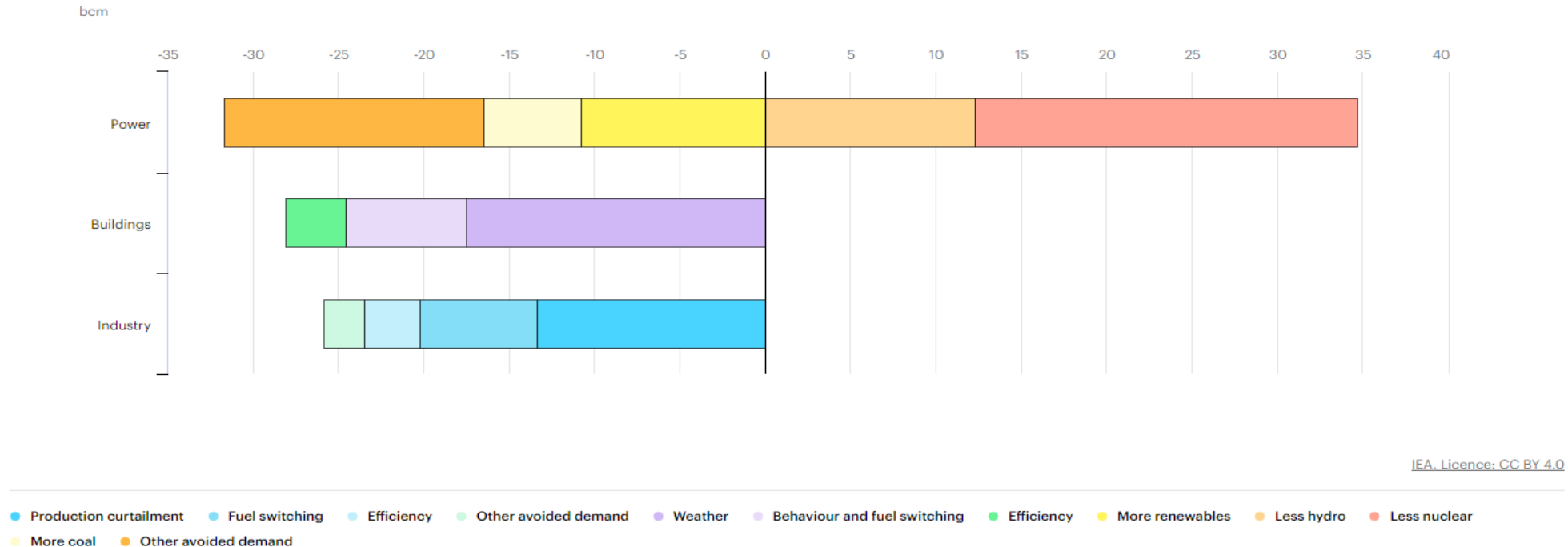
Electricity price spikes were not only driven by gas crisis

Year on year change in EU-27 electricity generation by fuel type – January to October 2022 - TWh



Gas demand reductions played a key role

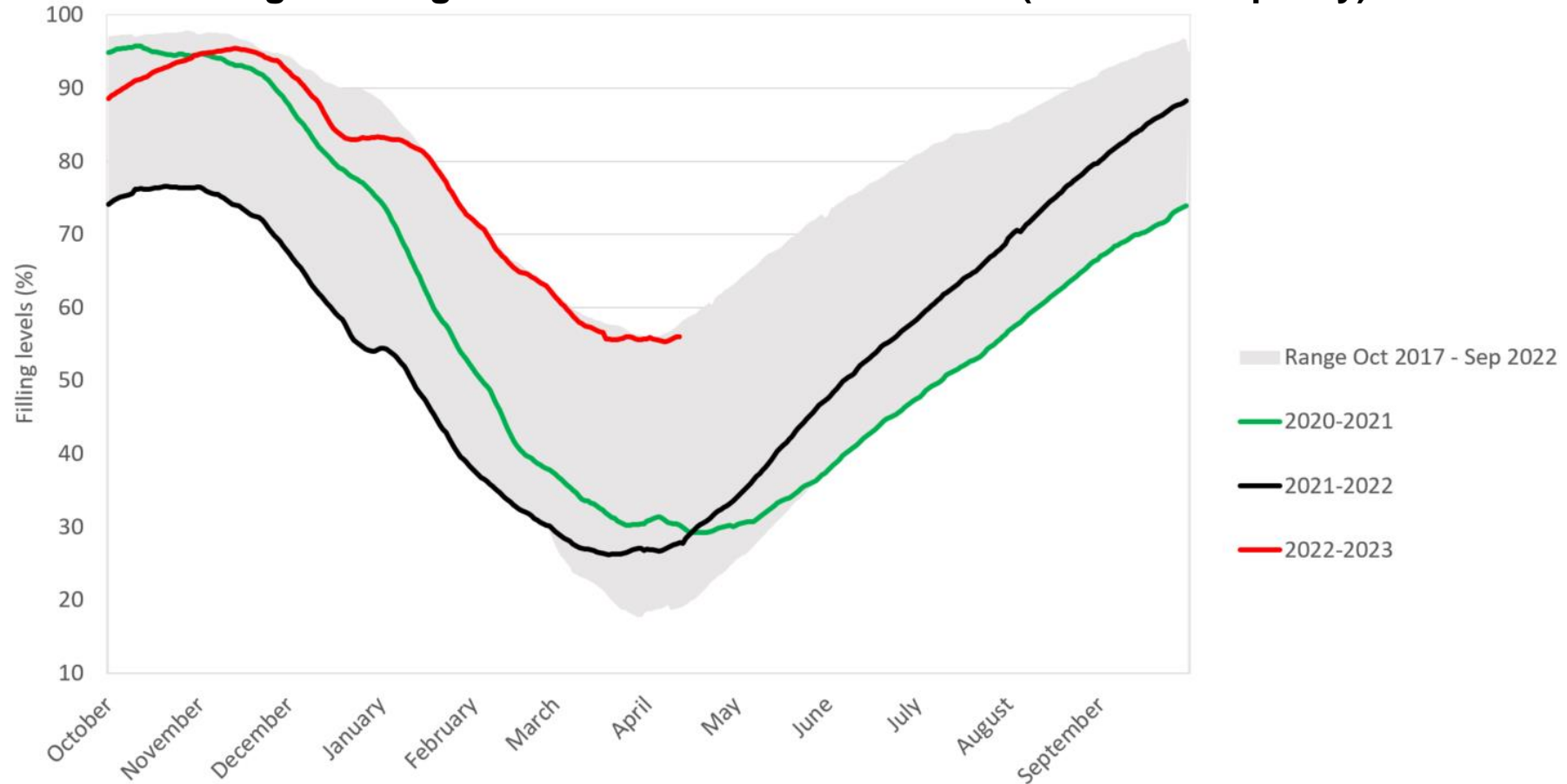
Drivers of change in EU natural gas demand, 2022 versus 2021 - bcm



Gas demand in the European Union fell by 55 bcm in 2022, a 13% drop year-on-year. Mild winter weather contributed to lower heating needs, next to overall demand reduction. Highest contributions came from industry (-26% YoY). Power sector contributions varied per Member State¹.

Gas storage remained high this winter

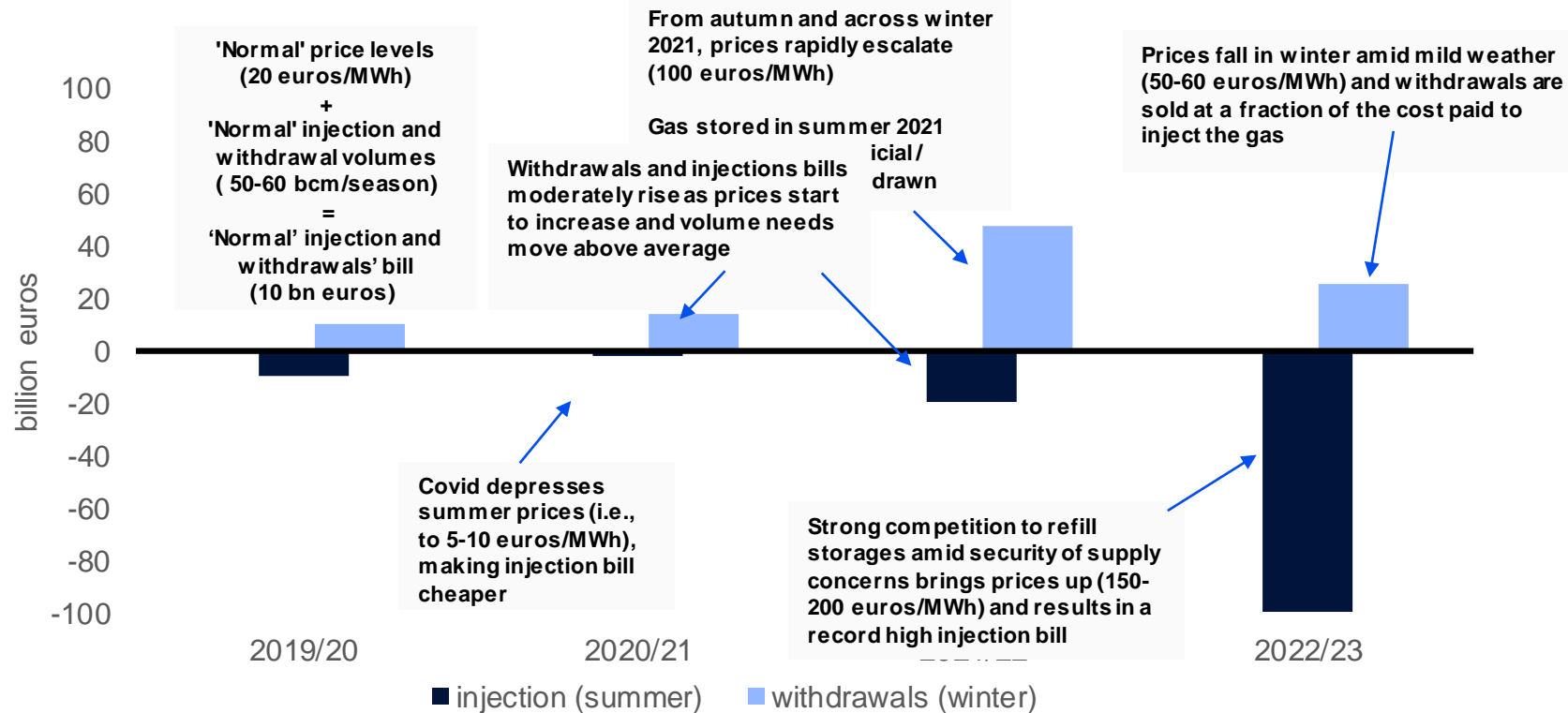
EU gas storage levels evolution – 2017 – 2023 (% of total capacity)



Storage filling levels are above last years' average and have contributed to driving prices down. Stocks to finish above 50% by the end of winter 2022-2023.

Gas storage injections came at a price

Volatile value of gas impacting EU storage – 2019 - 2023 (bn euros)



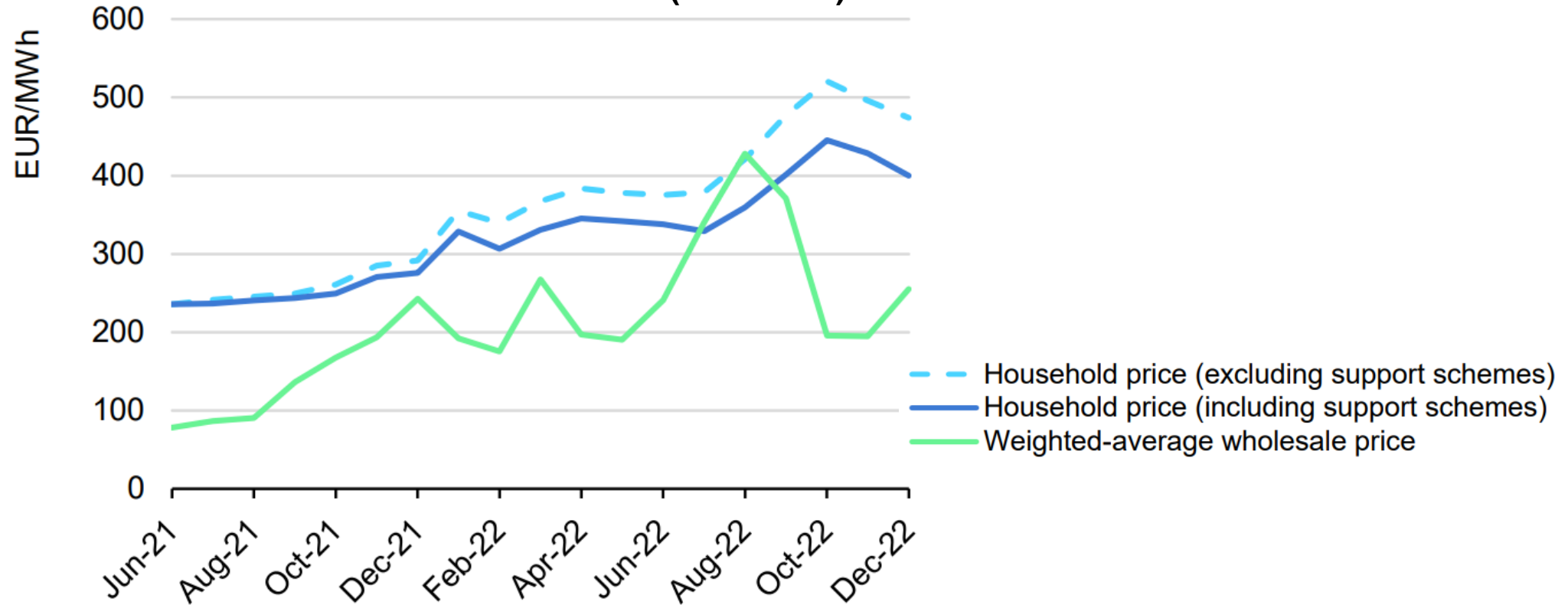
EU successfully filled gas storages for the winter 2022/20223, but at a cost of approx. 100 billion, contributing to very high gas prices over the summer. More gradual replenishment trajectories, adding cost incentives, should be considered.

Source: ACER based on IEA

Note: Injection assessed as the average prompt prices across summer months and withdrawals as the average prompt prices across winter months

Retail prices followed lower wholesale prices, with delay

Representative household prices including and excluding support schemes in the EU,
 June 2021 – December 2022 (EUR/MWh)

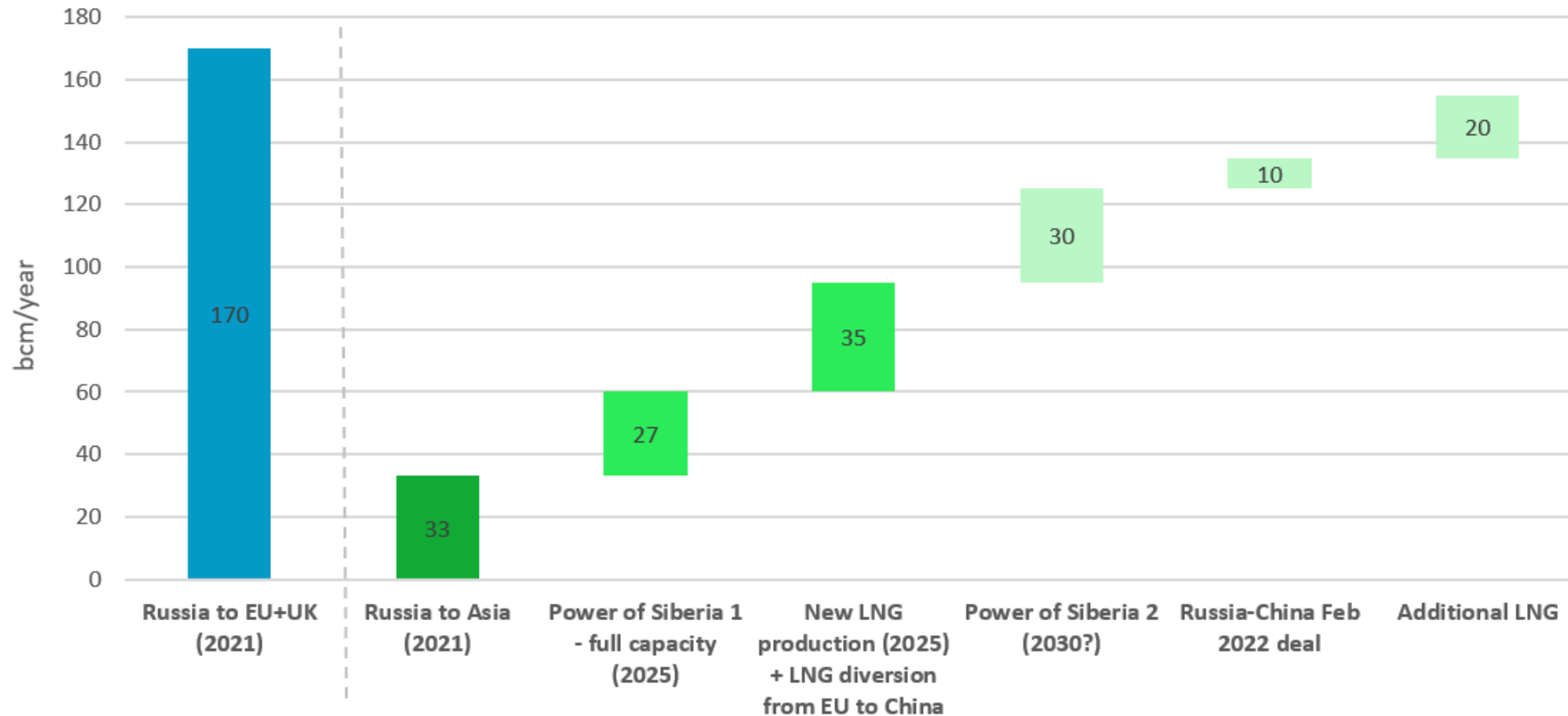


Retail energy prices often fall more slowly than they rise. Several factors are at play, e.g. some suppliers incurring significant losses in 2022 seeing opportunity to recoup parts of those losses, plus some consumers having signed fixed price contracts.

Outlook & implications for areas of attention

Current Russian gas supply cannot just ‘go elsewhere’

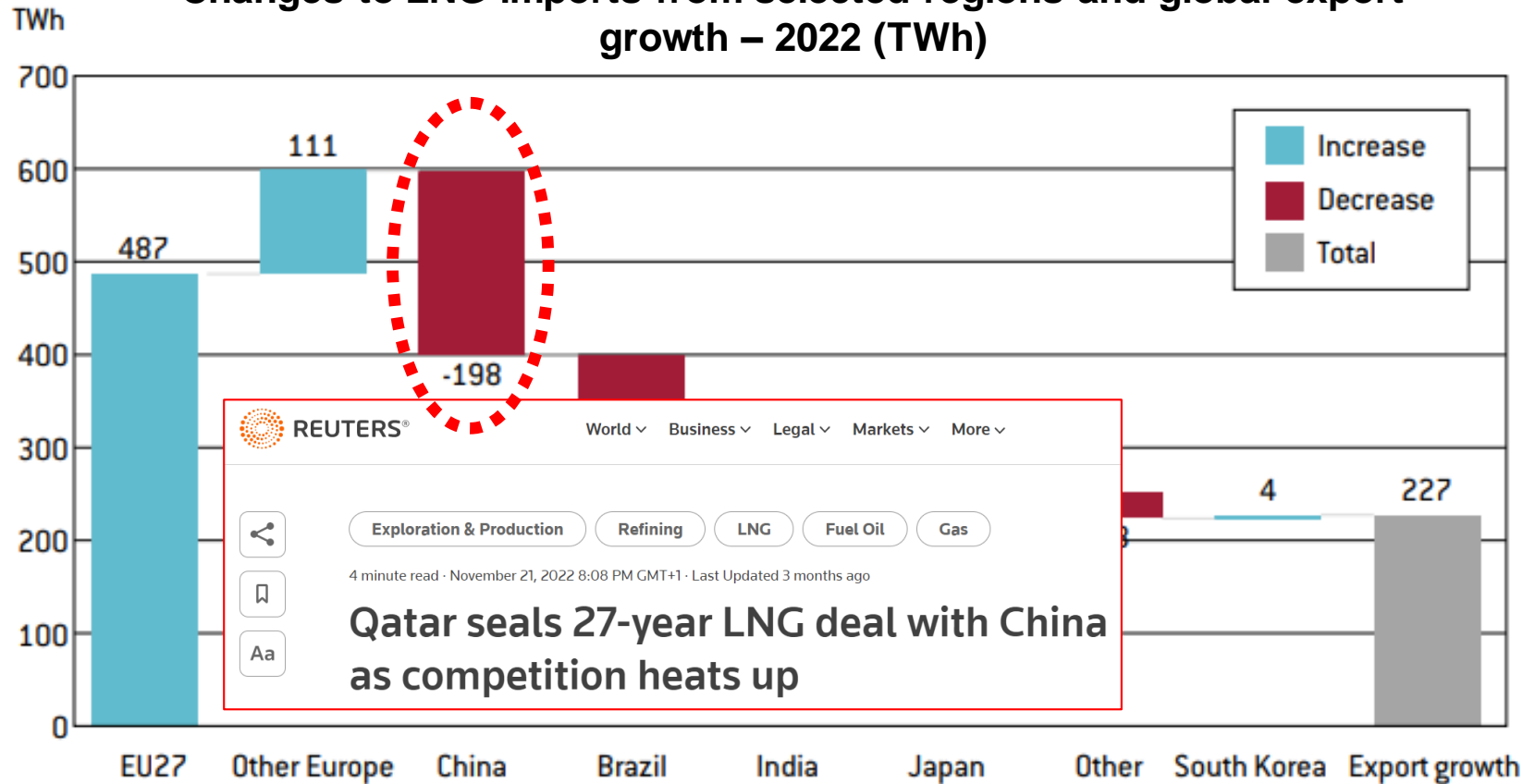
Existing and potential Russian gas exports to Asia vs Russian export to EU + UK



Russia expected to prioritise new export capacity, in particular towards China. This involves significant investment and price concessions. Volumes are highly unlikely to make up for current EU + UK exports.

Chinese LNG demand expected to bounce back

Changes to LNG imports from selected regions and global export growth – 2022 (TWh)



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Exploration & Production Refining LNG Fuel Oil Gas

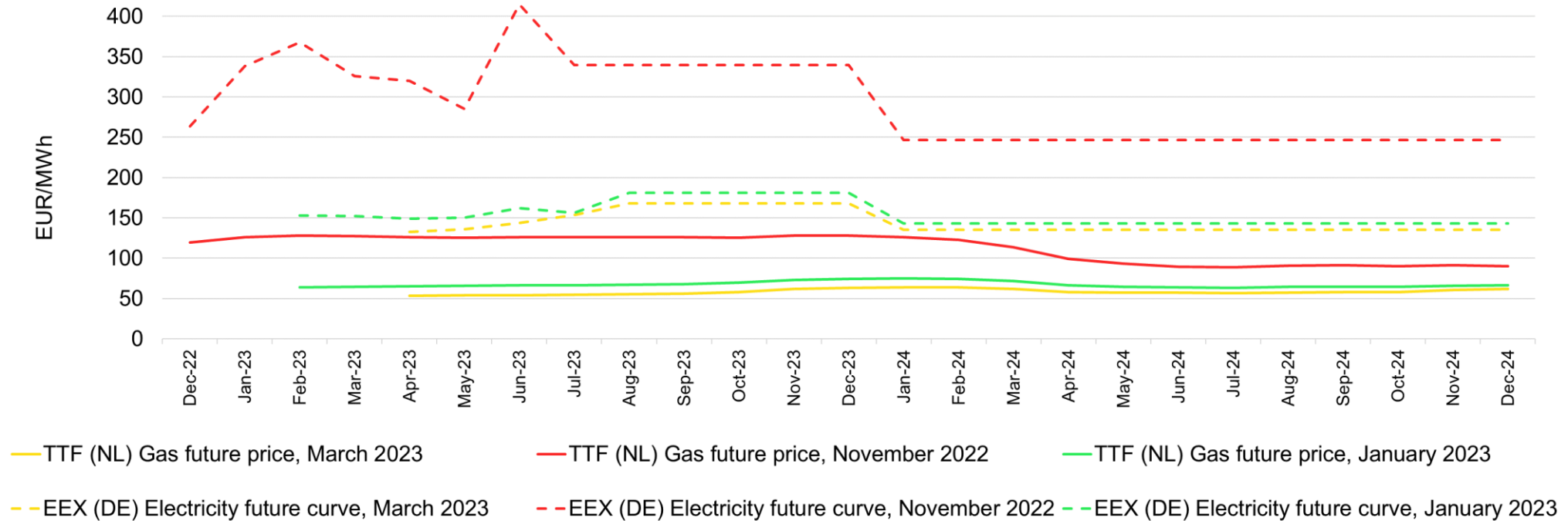
4 minute read · November 21, 2022 8:08 PM GMT+1 · Last Updated 3 months ago

Qatar seals 27-year LNG deal with China as competition heats up

China's COVID-19 restrictions driven demand decline in LNG volumes was absorbed by Europe. However, in 2023, in line with the increase in its economic growth, China's LNG demand is expected to rise, intensifying competition for LNG resources.

Gas price expectations remain higher than pre-crisis

Two-year evolution of TTF and EEX future prices - November 2022 and Jan. + March 2023 (EUR/MWh)



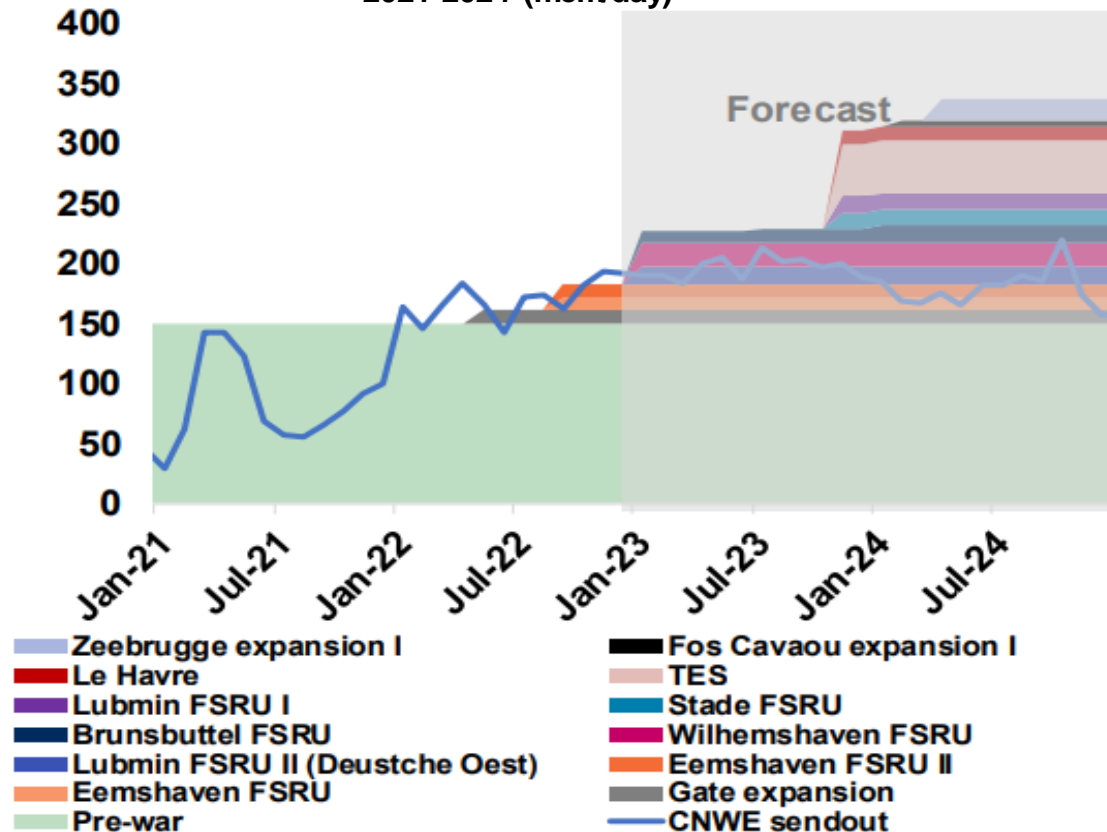
Although gas and power futures' prices have substantially dropped in the last months, they remain almost three times above recent historical averages.

Source: ACER based on ICE Endex and European Energy Exchange (EEX)

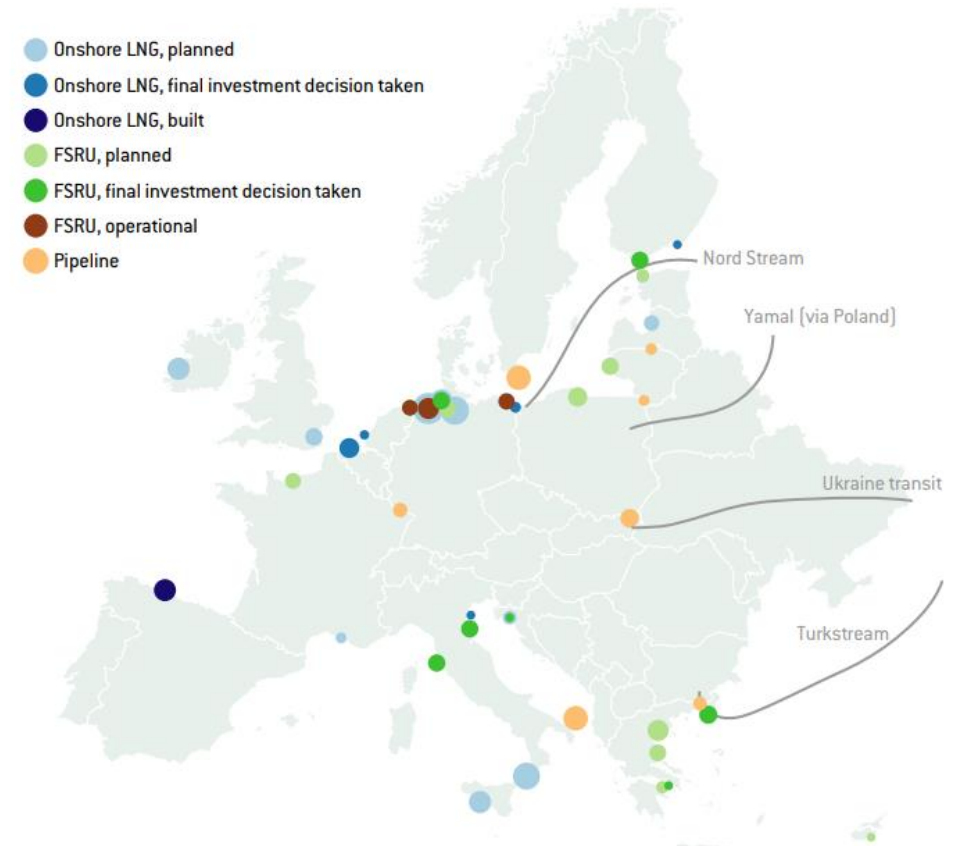
Note: EEX Power and TTF gas average prices are shown for comparison and are based on the front-month products traded in the period 2017-2021 (i.e., they are not future prices for delivery in 2023-2024).

Past 'LNG receiving bottlenecks' improving

Central and North-West LNG import capacity and flows – 2021-2024 (mcm/day)



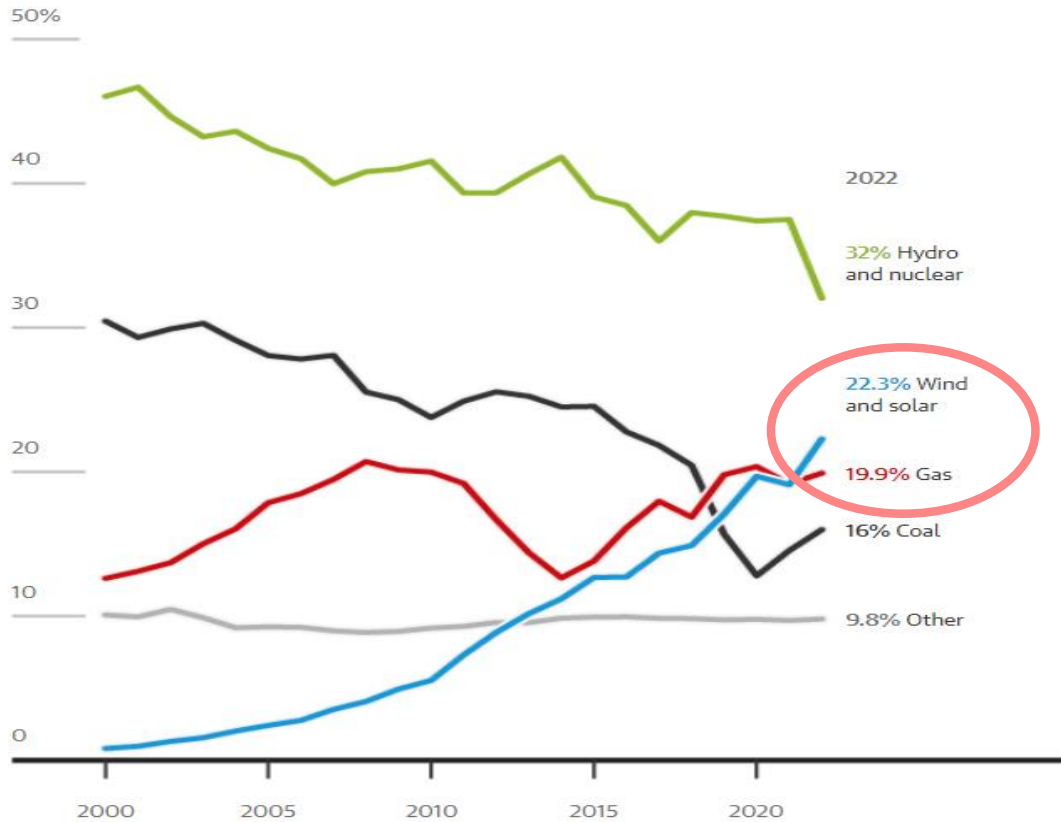
Overview of new EU LNG planned capacity – October 2022



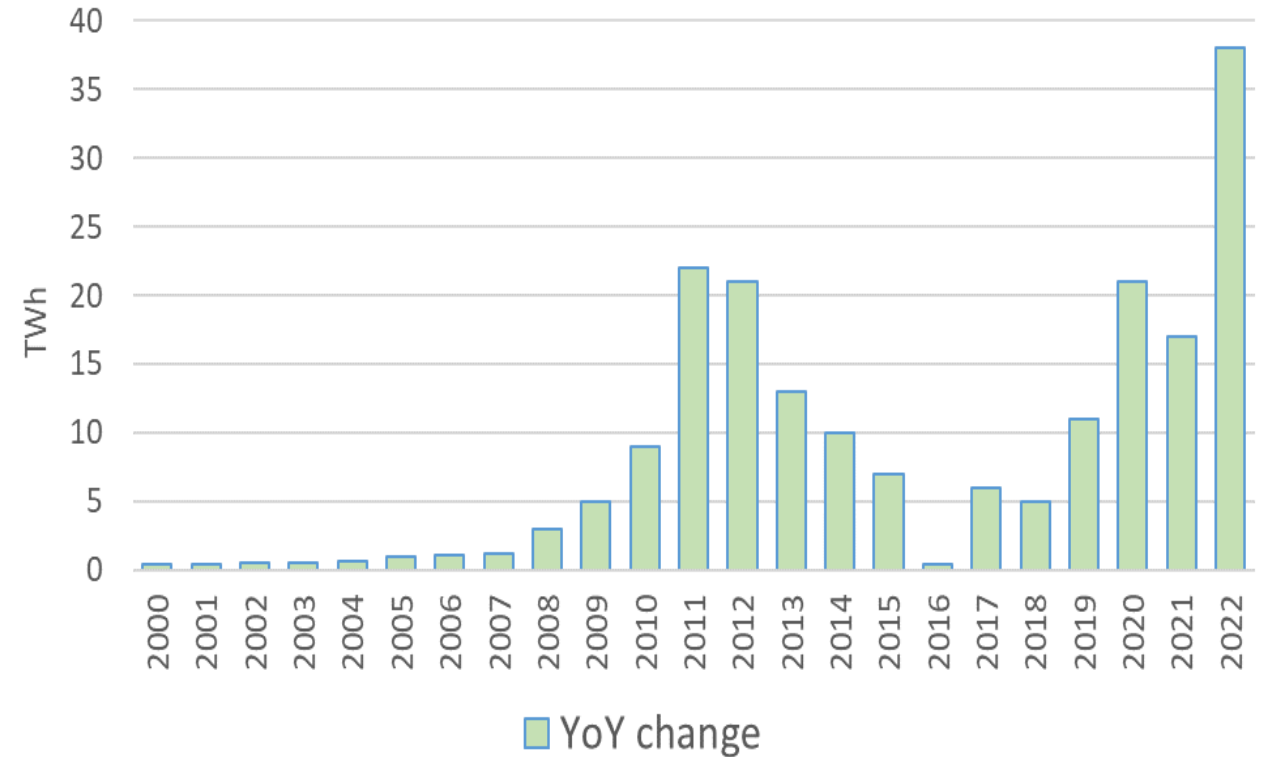
More LNG terminals coming online make for greater LNG import capacity. Quicker planning, permitting and building for what normally takes several years.

Accelerating electricity new-build needs to continue

Share of EU power generation per technology – 2022 (%)



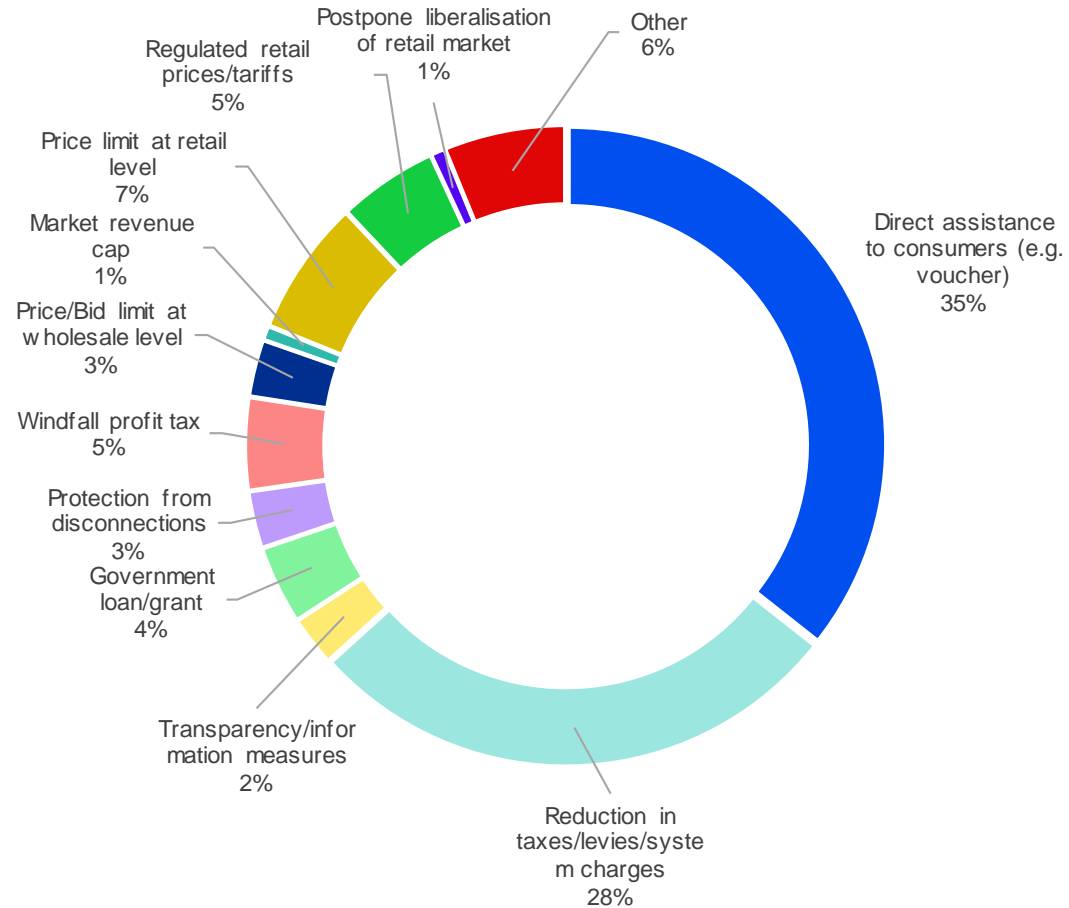
Annual change in solar electricity generation – 2000 – 2022 (TWh)



For the first time in the EU, wind and solar generation produced more electricity in 2022 than gas. New solar capacity additions - a particularly low-lead time generation source - doubled in 2022.

Measures to tackle affordability may need to be scaled down and/or be more targeted

Breakdown of measures targeting affordability



Countries that introduced at least one measure in each category

Direct support - income



Direct support - price



Retail market interventions



Wholesale market interventions



The EU holds advantages; will they be leveraged?

“... whilst increased energy independence vis-à-vis (particular) third-countries is a policy objective of growing importance, realising this may well depend on enhanced energy inter-dependence amongst EU Member States.”



Further strengthening a ‘shared resources’ model across the EU requires investment; in infrastructure, rules, institutions and governance. Importantly, it also requires political investment in the ‘comfort levels’ of being more (inter-)dependent on other Member States for one’s energy needs.

*Thank you for your attention.
Looking forward to the discussion.*



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✉ info@acer.europa.eu
🖱 acer.europa.eu

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- **Supporting the integration of energy markets in the EU** (by common rules at EU level). Primarily directed towards transmission system operators and power exchanges.
- **Contributing to efficient trans-European energy infrastructure**, ensuring alignment with EU priorities.
- Monitoring the well-functioning and transparency of energy markets, **detering market manipulation and abusive behaviour**.
- Where necessary, **coordinating cross-national regulatory action**.
- Governance: **Regulatory oversight is shared** with national regulators. **Decision-making** within ACER is collaborative and joint (formal decisions requiring 2/3 majority of national regulators). **Decentralised enforcement** at national level.