



European Union Agency for the Cooperation
of Energy Regulators

Securing reliable utilities - Houston, do we have a problem?

VIII World Forum on Energy Regulation – Panel debate

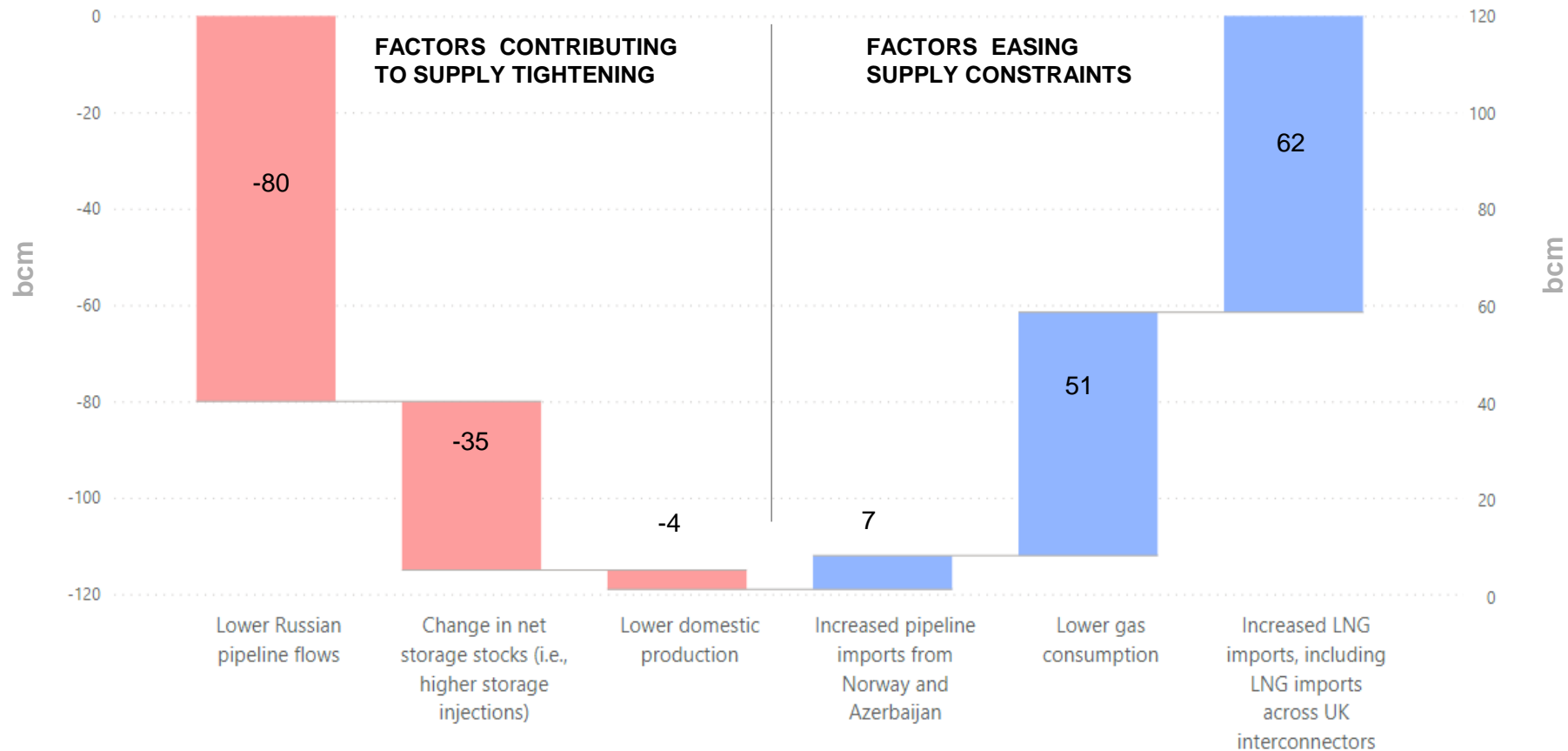
Lima, Peru, 24 August 2023

Christian Zinglensen, ACER Director

Recent learnings: *‘How did we pull that off ...’*

LNG imports and lower demand offset Russian flows

Estimated¹ EU supply and demand differences in 2022 in comparison to 2021 - bcm

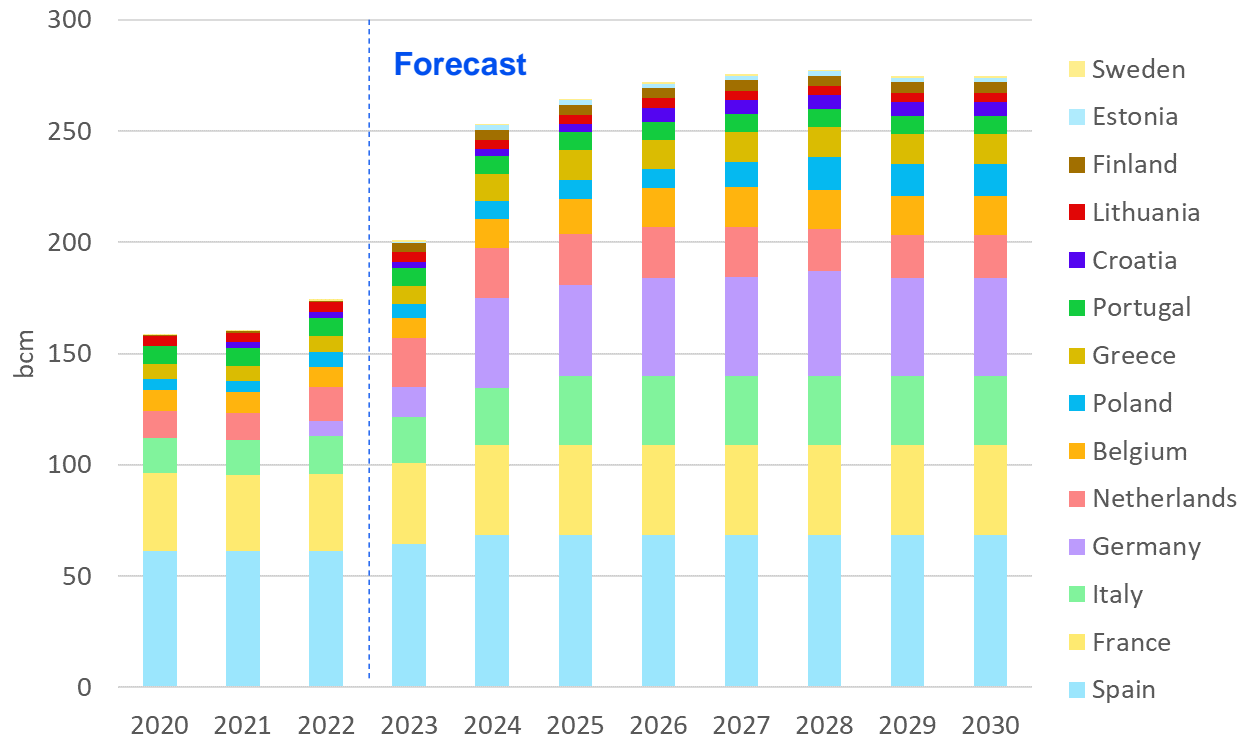


Since end-2022, an improved demand-supply balance is reducing the upward pressure on prices. Price volatility risk remains as the market is still exposed to unexpected developments.

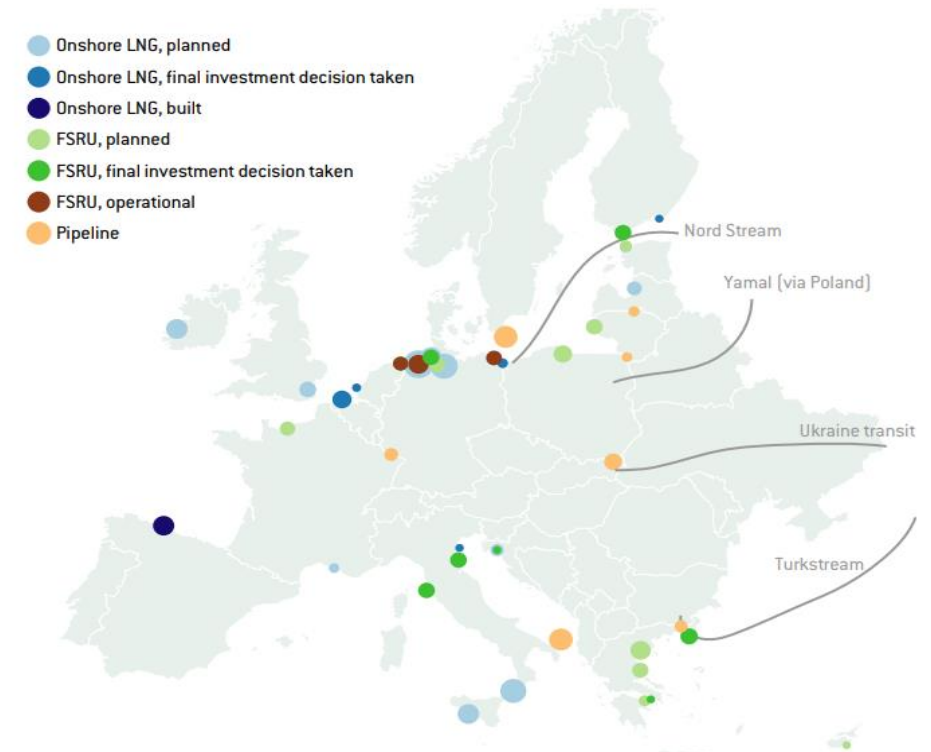
Source: ACER calculation based ENTSOG TP, THE, Enagas, and GIE and Platts. ¹Note, the assessment does not include the EU exports to third-countries, nor losses.

Past 'LNG receiving bottlenecks' have improved

Regasification capacity by import market and estimated start date
2020 to 2030 (bcm)



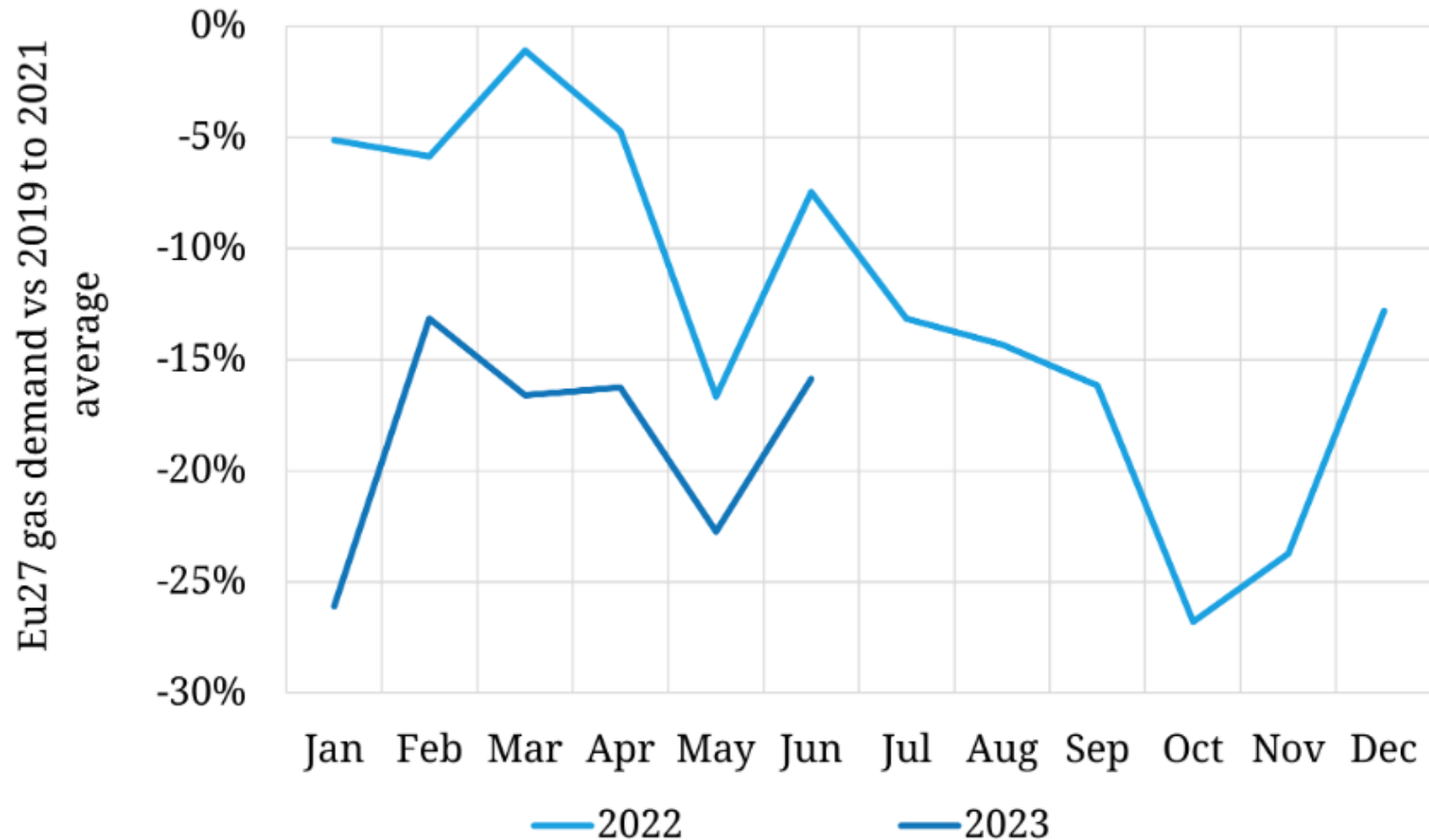
Overview of new EU LNG planned capacity – October 2022



More LNG terminals are coming online, with 15 bcm of extra capacity in 2022 and 27 bcm more targeted until December 2023. Quicker planning, permitting and building for what normally takes several years has already had a positive impact.

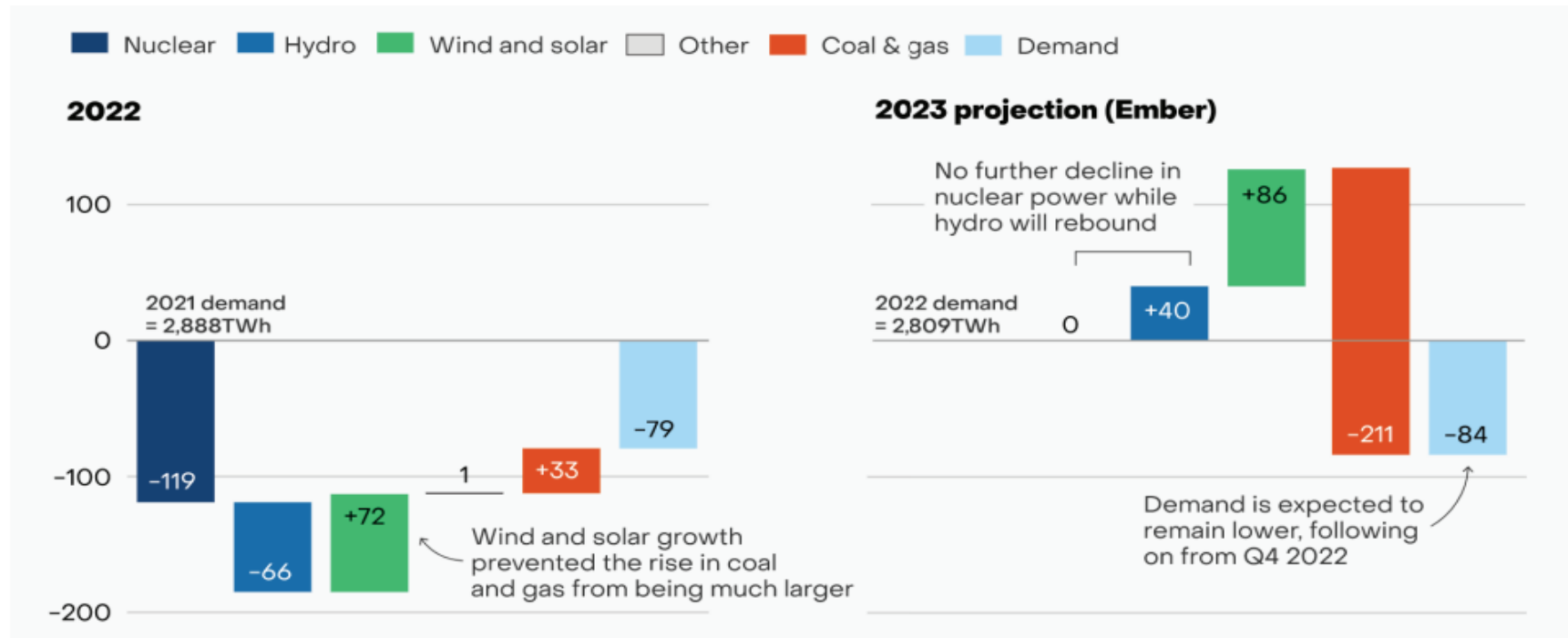
Is (much) lower gas demand here to stay?

Evolution of European gas demand relative to pre-crisis average



Electricity supply likely ‘turning a corner’

Year-on-year change in electricity generation in 2022 and prospects in 2023 (TWh)



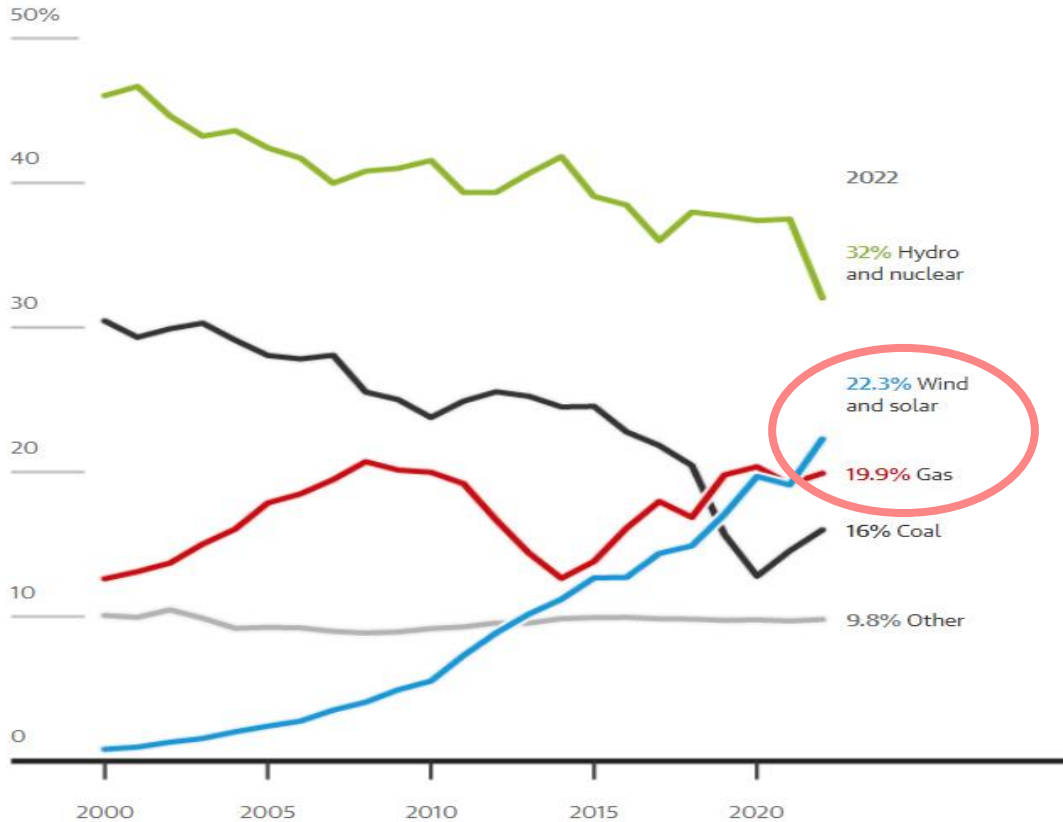
EU power consumption fell by -3% year-on-year in 2022 (in contrast to -21% overall reduction of EU gas demand), with most of the drop occurring in winter. Renewable and nuclear power generation is anticipated to rise in 2023 (for nuclear, from its historical low in 2022), whilst total EU power demand is expected to remain low. As a result, coal & gas fired generation is projected to sizeably drop this year*.

Source: EMBER [European Electricity Review 2023](#). Note: Other include bioenergy, other renewables, other fossil fuels and net imports.

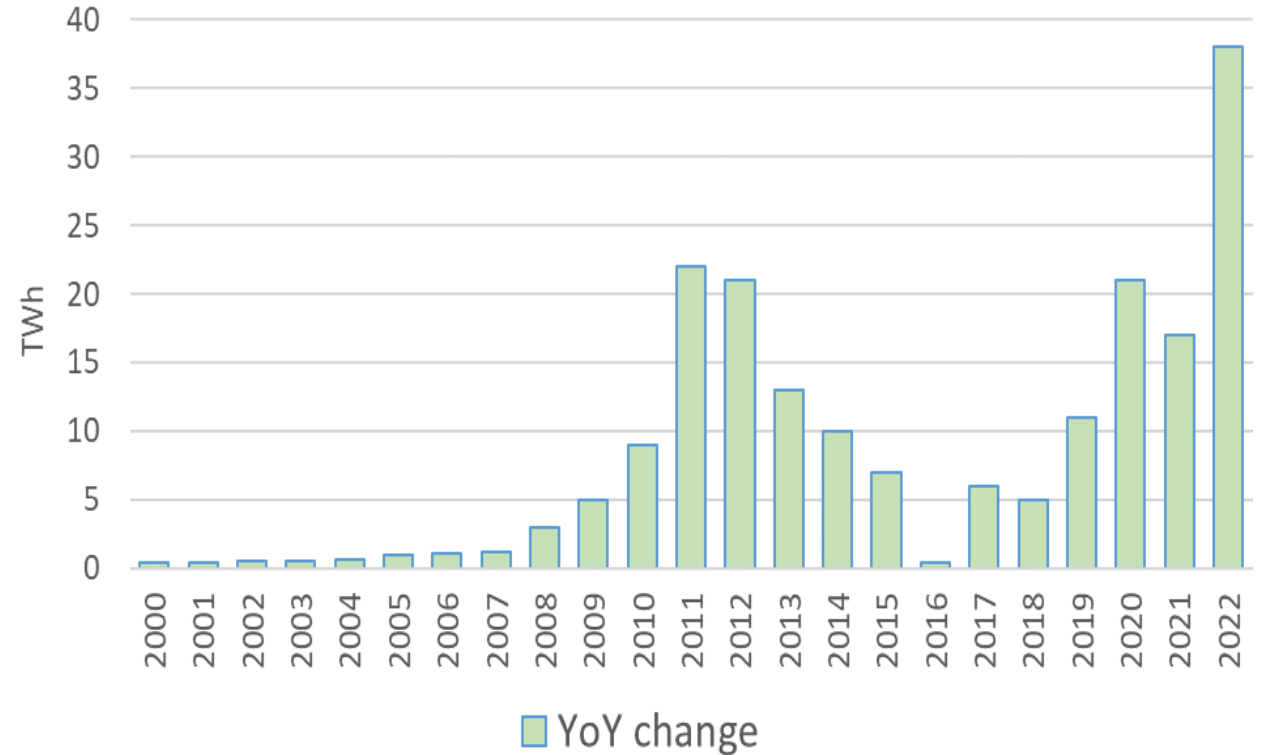
Note: Gas-fired power generation rose slightly year-on-year in 2022 (+ 5 TWh, approx. 1-2%), with summer and early autumn accounting for most of rise, whilst winter dropped back again.

Accelerating electricity new-build (esp. low-lead time)

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 compared to the year before.

Twin challenges up ahead: Volatility & flexibility needs

Diverging views on how to tackle price volatility

'Volatility needs to be avoided' (e.g. new pricing rules)

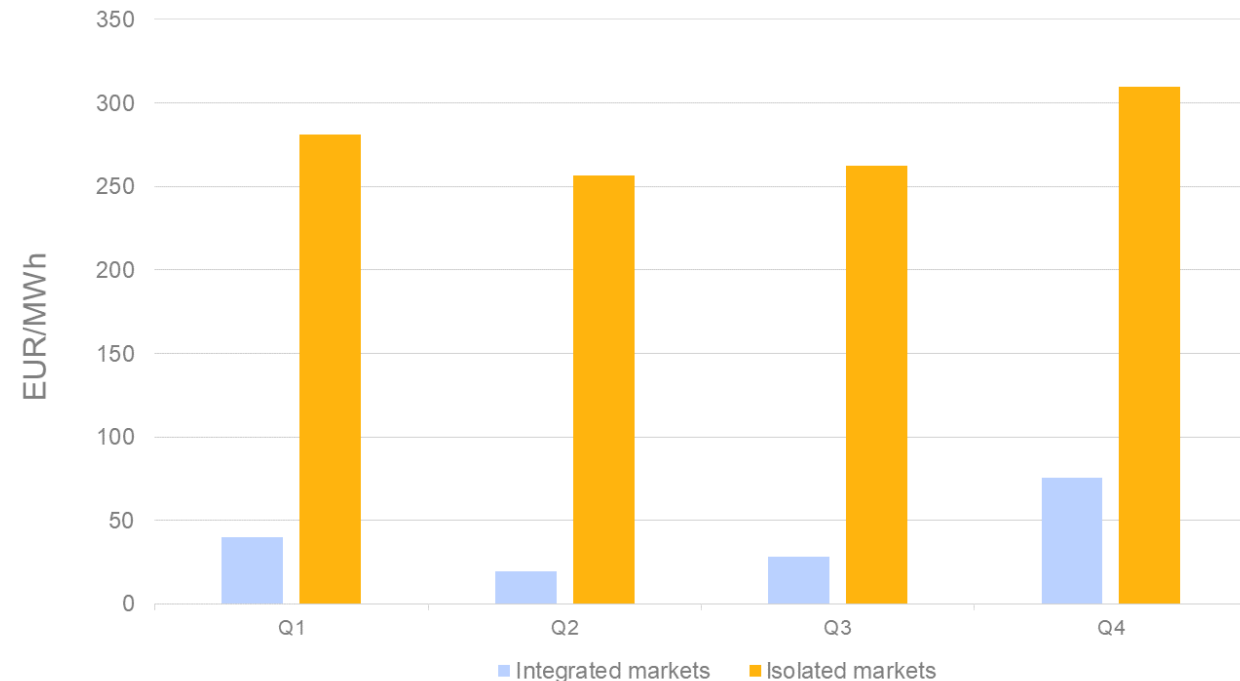
VS

'Volatility needs to be managed'

What are the **tools to tackle price volatility** in ACER's view?

- Preserve price signals: today's volatility triggers tomorrow's flexibility (technologies)
- Strengthened EU market integration
- Improved forward markets
- Consumer protection remains key
- Longer-term contracting may play a role (if done well, avoiding distortive effects)

Price volatility (EUR/MWh) in integrated and isolated electricity markets in the EU in 2021



Negative prices: indicators trying to ‘tell us something’

Day-Ahead Price, North West Europe (EUR/MWh)

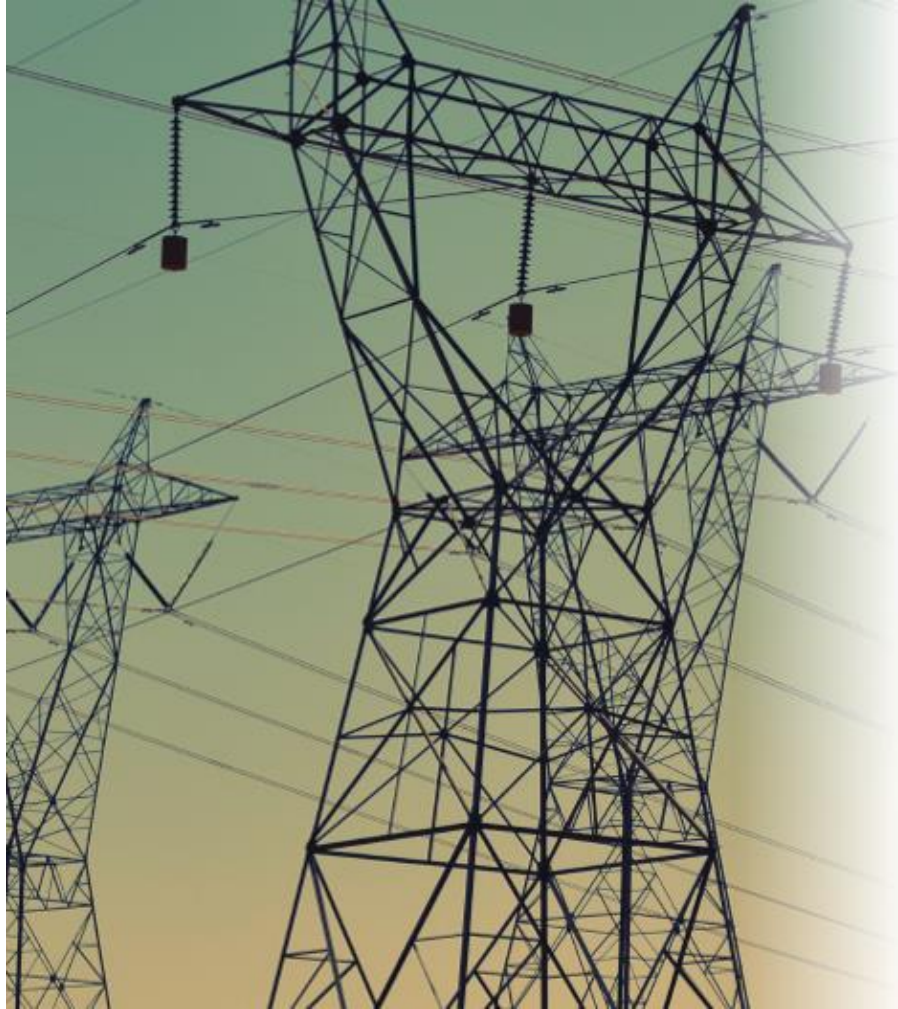


John Doe, place unknown



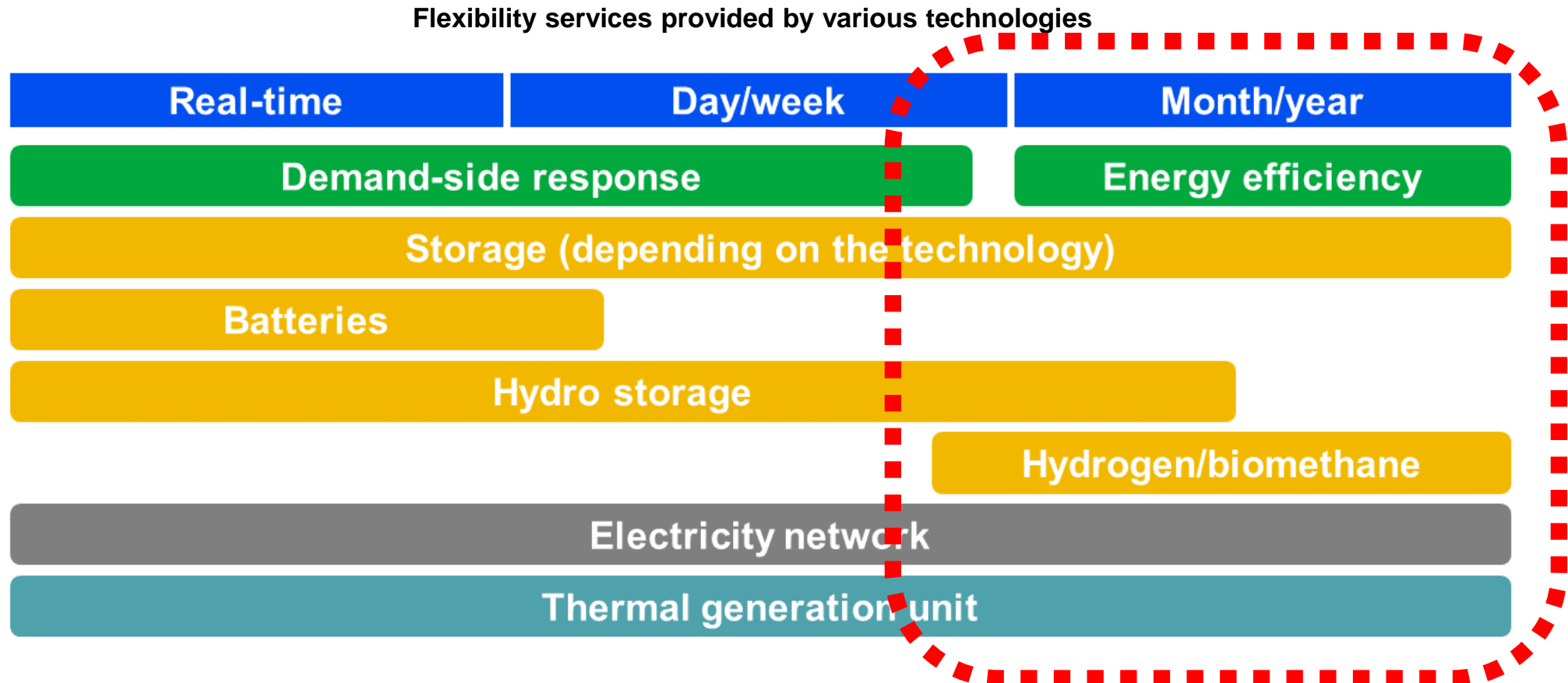
High/low wholesale prices send signals to generators (*where to invest / when to produce*), to traders (*where to trade*), to consumers (*if/when to consume*). Consistently low or high prices call for attention - and require system responsiveness all around.

Interconnectors & future flexibility needs



- ... *Interconnectors identified as one of the main sources offering flexibility, mainly as imports and exports vary according to Member State specific flexibility needs.*
- ... *Relative contribution increases for the EU from 15% for the daily requirements to 33% for the monthly requirements, **signalling the important role of interconnectors in dealing with longer duration flexibility.***
- ... ***Short-term storage technologies like batteries also offer a considerable contribution to relieve the daily flexibility requirements, but much less to neglectable for the weekly and monthly requirements.***

Driving sufficient investment in flexibility & capacity

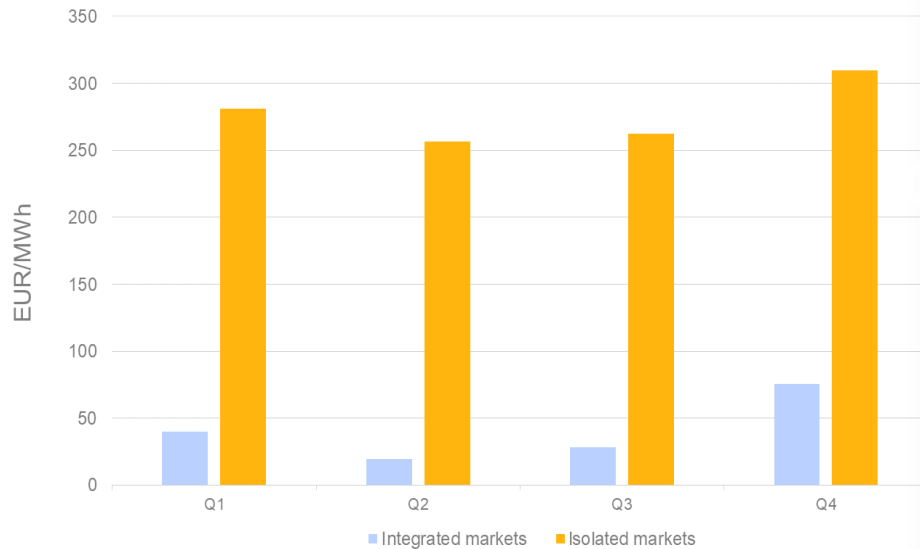


The power system will need significant and diverse flexible resources across multiple time frames (with seasonal flexibility a key challenge). Price volatility sends a clear signal of the need for flexible resources. In the absence of such signals, innovation in new solutions will be hampered.

Possible lessons from the energy crisis for the road ahead

Interconnections: The energy crisis carries lessons

Price volatility in integrated and isolated electricity markets in the EU, 2021 (EUR/MWh)

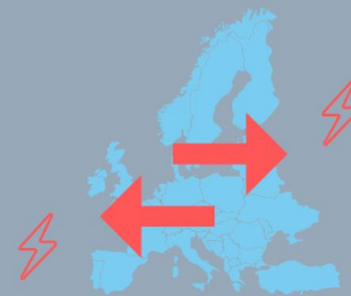


Every EU country adopted emergency measures to mitigate the energy crisis. In total, EU Member States spent up to

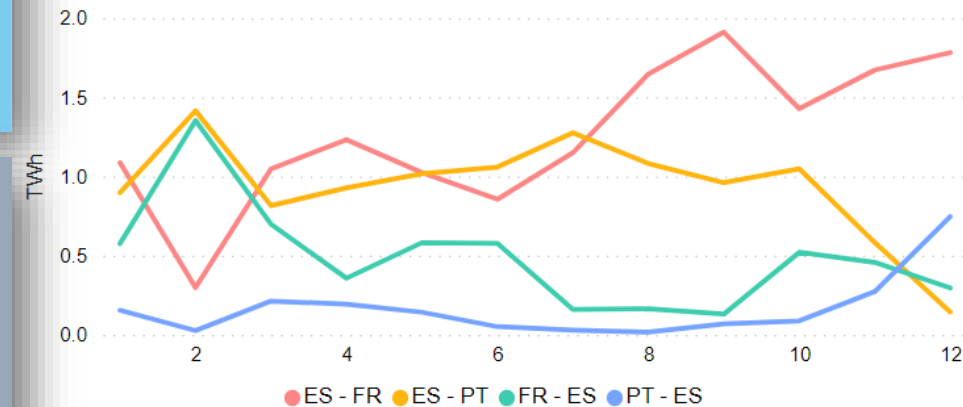
€ 646 BILLION 

on emergency measures in 2022, based on the Bruegel dataset.

Sufficient capacity for cross-border trading ensures the resilience of the energy system during crises, supporting efficient energy flows.



Evolution of total monthly commercial exchange on the borders of Spain, 2022 (TWh)



Europe's integrated electricity market proved resilient during the crisis, bringing multiple benefits – e.g. enabling renewables, ensuring security of supply, mitigating price volatility and providing flexibility.

Bold visionary statements on the rise ...

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EU's Baltic Sea countries agree offshore wind power capacity

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📅 31 Aug 2022

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Malta and 8 EU countries agree to collaborate in acknowledging the Mediterranean as green energy hub

📅 Thursday, 18 May 2023, 17:03

🔄 Last update: about 1 day ago



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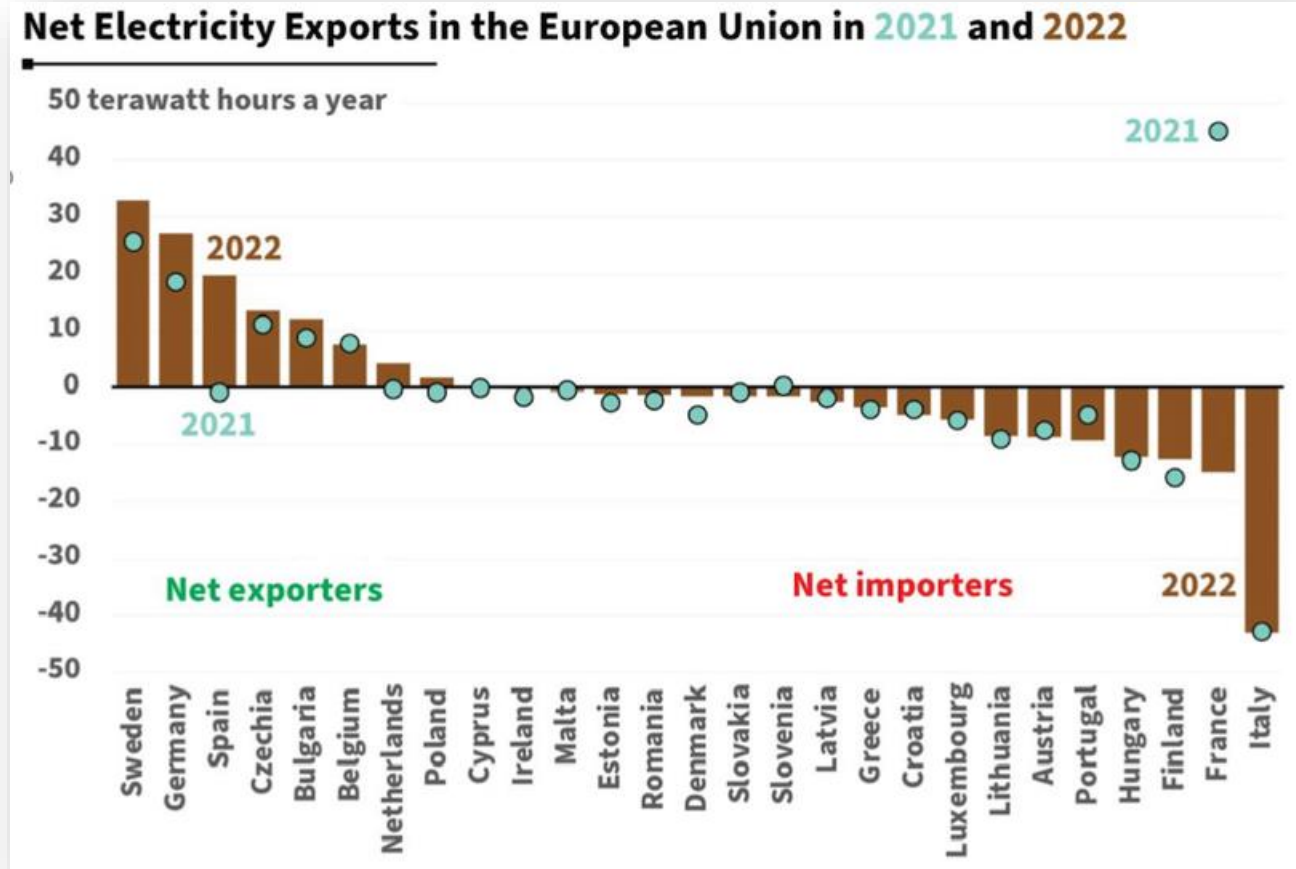
 ENGLISH ▾

Nine European countries meet in Ostend to increase wind energy in the North Sea

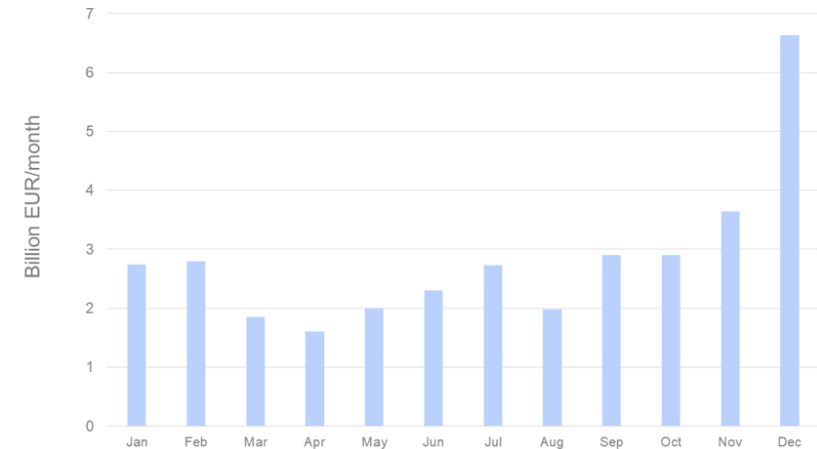
Nine European countries have come together to accelerate the decarbonization of the continent by increasing their North Sea wind power

to 120 GW in 2030 and 300 GW in 2050, with significant political and industrial

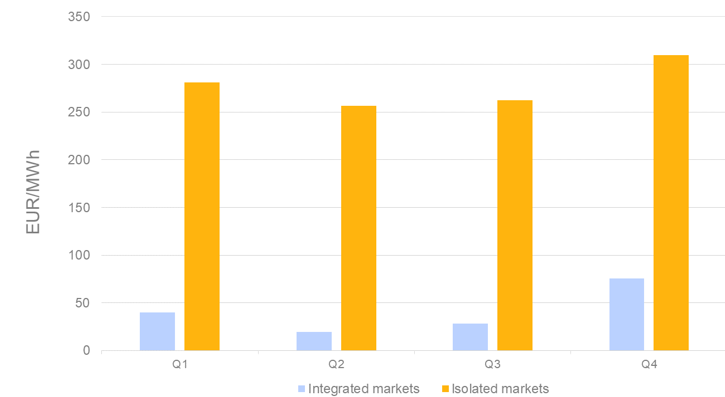
‘Doing the math’ is one thing ...



Estimated monthly welfare benefits (Billion EUR) from cross-border electricity trade in 2021



Price volatility (EUR/MWh) in integrated and isolated electricity markets in the EU in 2021



In 2021, electricity cross-border trade delivered an estimated EUR 34 billion of benefits. Plus, price volatility would have been around seven times as high if national markets were isolated.

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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- **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.