



European Union Agency for the Cooperation
of Energy Regulators

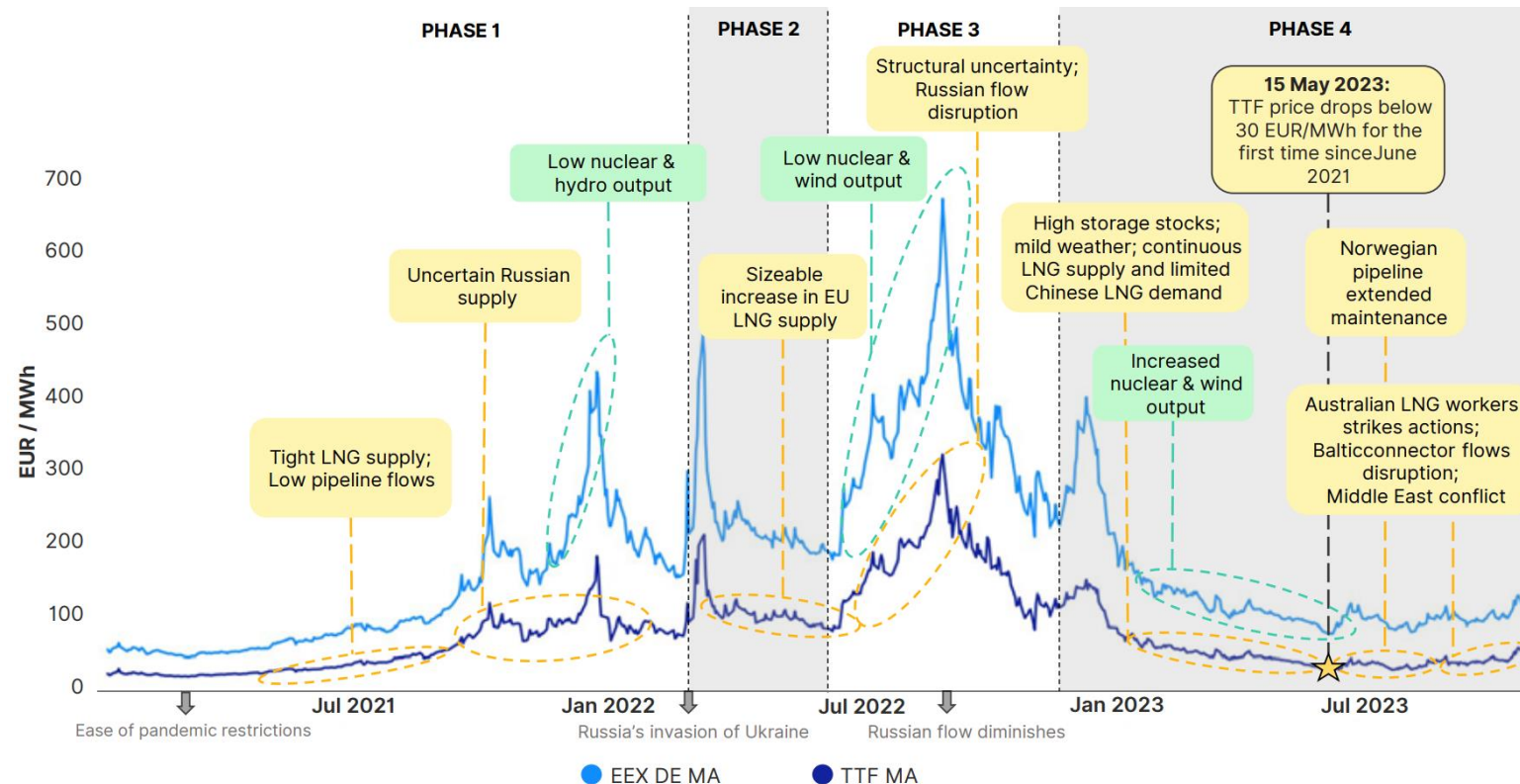
Current EU energy market situation & insights from the ACER- CEER Market Monitoring Reports

The European Parliament's ITRE Committee
Christian Zinglensen, ACER Director
28 November 2023 - Brussels

Key lessons from the energy crisis

A gas supply shock of unprecedented scale fuelled the energy crisis.

EU gas and electricity prices and relevant market fundamentals (EUR/MWh) - May 2021 - October 2023

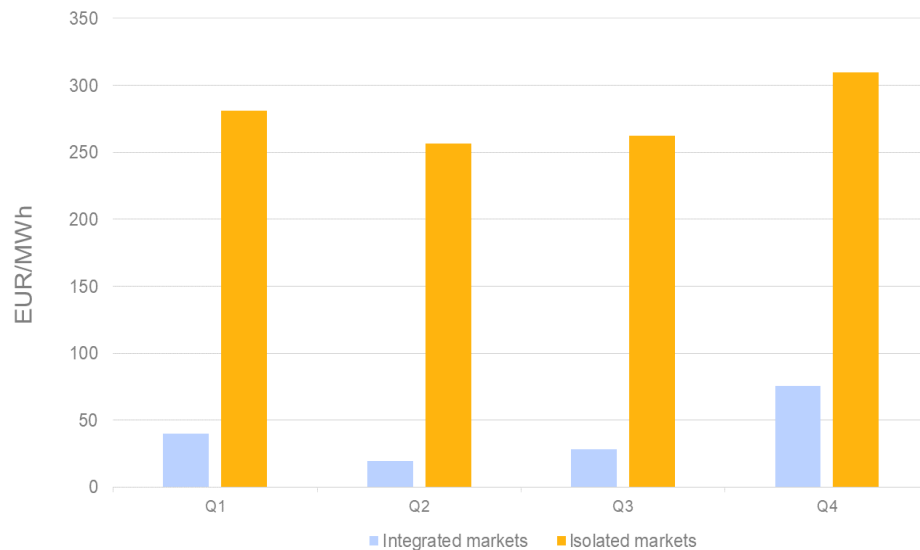


Misfortunes pile-up: a double supply shock, both in gas and in electricity generation, added stress to European energy markets, especially during Q3 and Q4 of 2022.

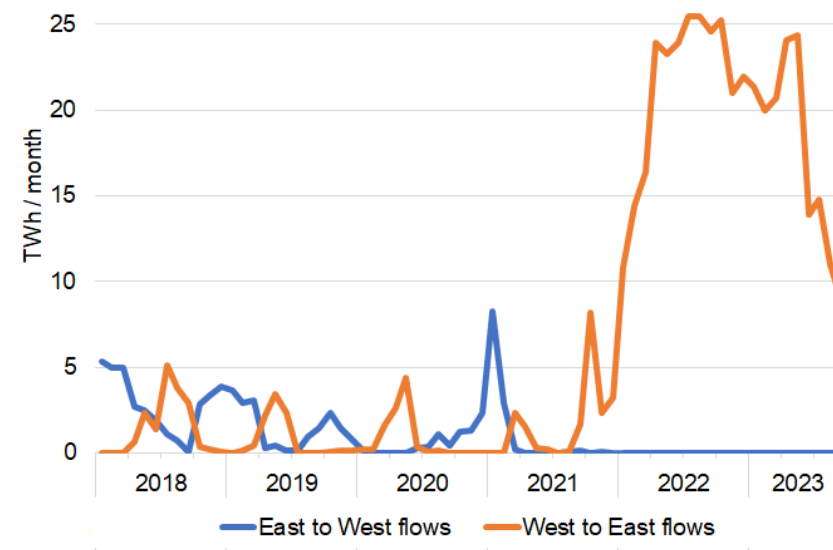
... Integrated markets helped mitigate shocks

Europe's integrated energy markets proved resilient during the crisis, bringing multiple benefits.

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



Gas flows between Germany and Belgium, 2018 – Q3 2023 (TWh/month)



Integrated markets enable the integration of renewables, help ensure security of supply, facilitate needed changes in gas flows, mitigate price volatility and provide flexibility to the system.

Source: ACER based on NEMOs' simulations. Volatility was estimated by using the standard deviation of day-ahead wholesale prices. The standard deviation was calculated per bidding zone for the whole year, then averaged out across the EU.

See: [ACER's Final Assessment of the EU Wholesale Electricity Market Design](#), April 2022.

Emergency measures shielded end-consumers



Wholesale electricity prices peaked, but emergency measures mitigated the increase in retail prices.




Targeted measures: Less than a quarter (**23%**) of costs associated with emergency measures were targeted.



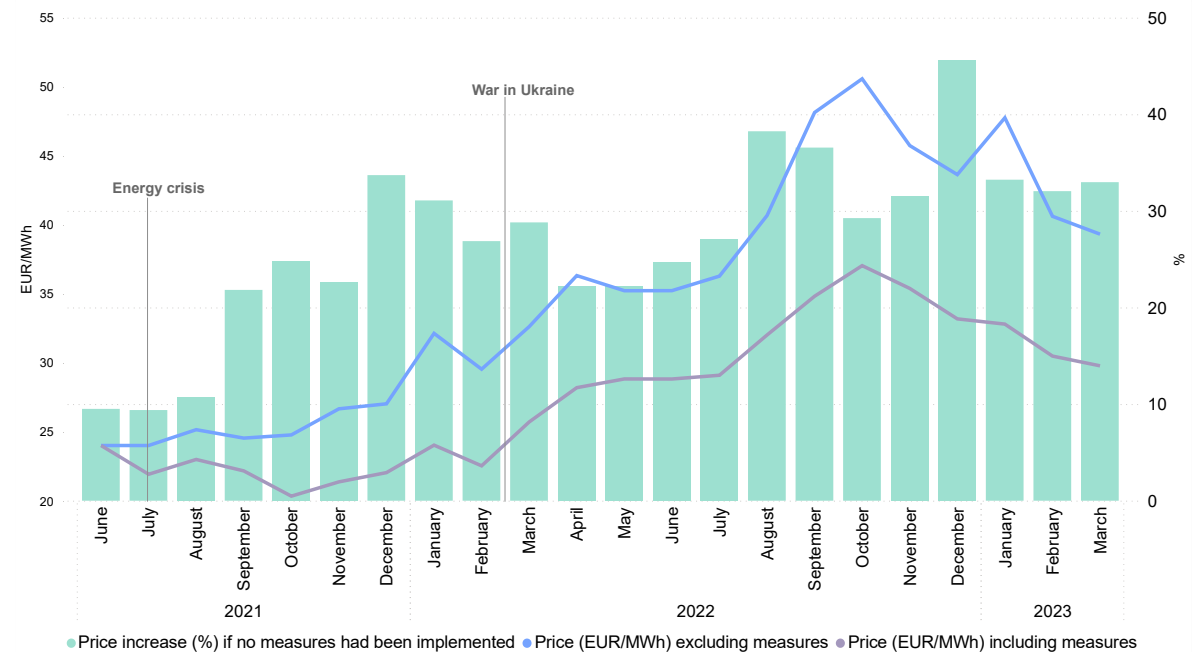
Attention needed going forward: Household electricity prices drop at a slower rate than the wholesale prices.

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.

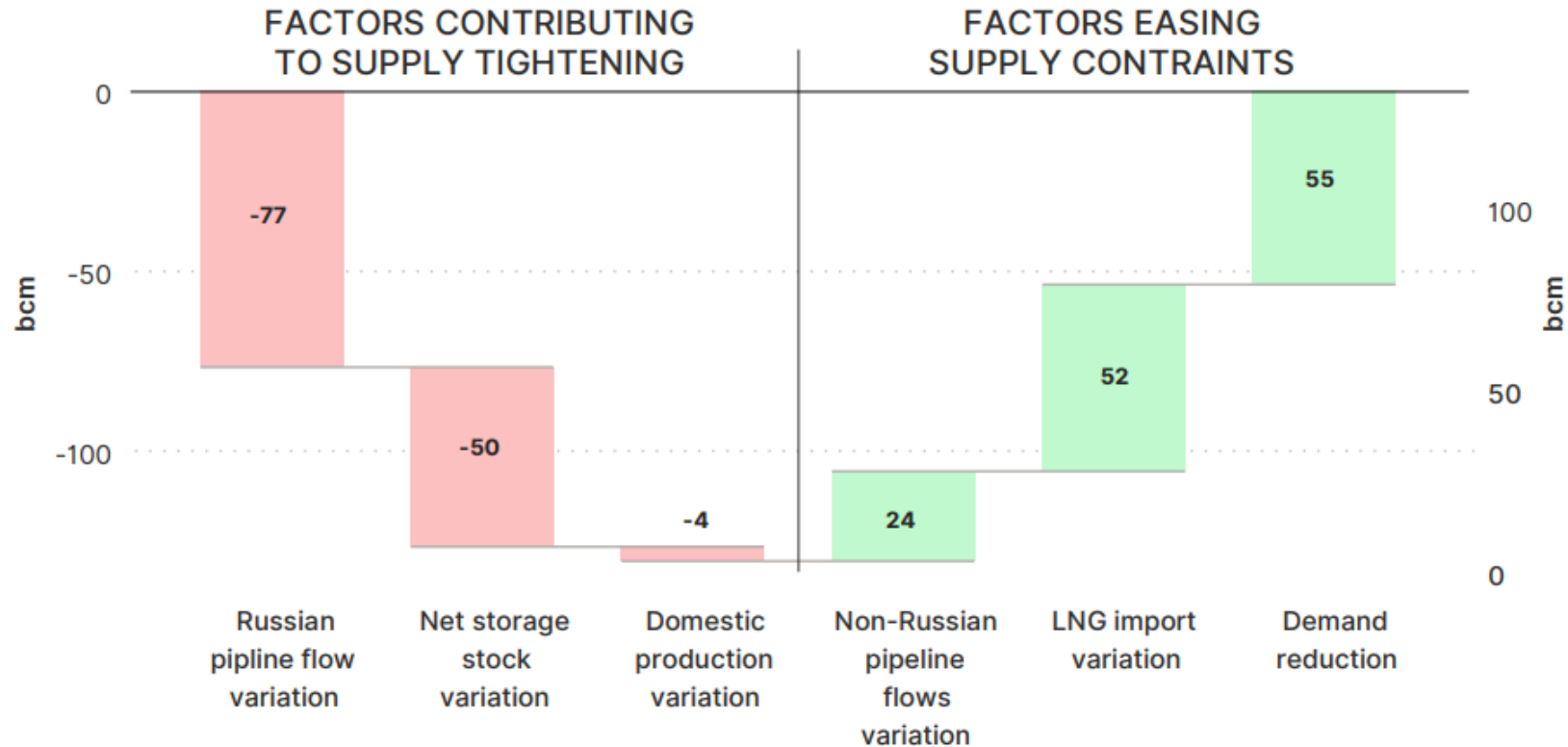
Effect of emergency measures on retail prices – EU-27, June 2021 – April 2023 (% and EUR/MWh)



Reduction of retail prices was achieved, though at high costs.

Contributors to a new supply-demand balance

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



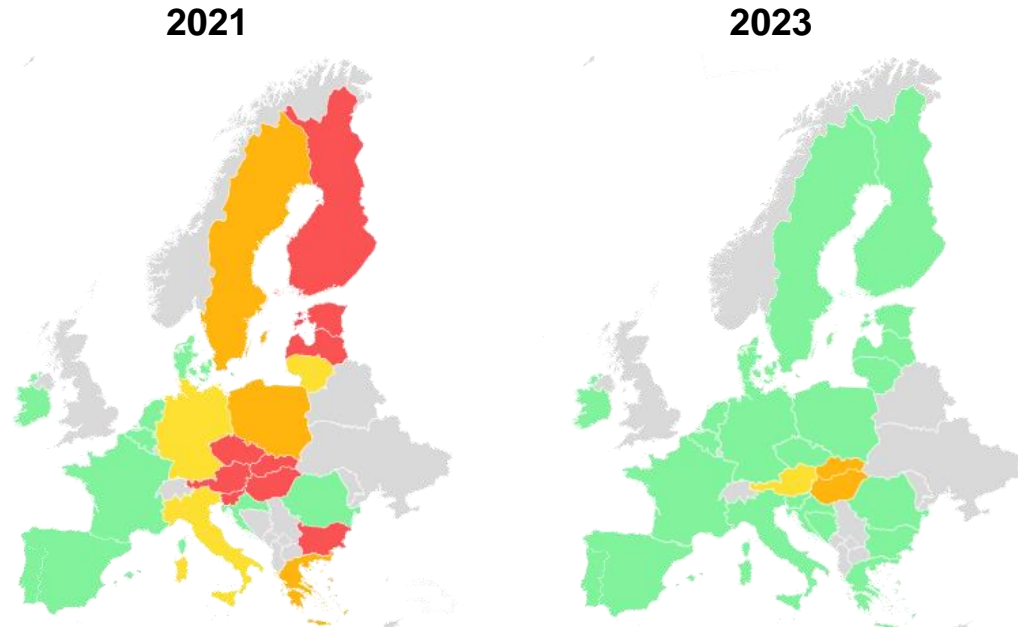
A combination of enhanced LNG supply, gas infrastructure investments (mostly in LNG regasification) and sharply reduced gas consumption brought a new supply-demand balance.

Source: ACER calculation based ENTSOG TP, THE, Enagas, and GIE and Platts.

See: [ACER's European Gas Markets Market Monitoring Report](#), October 2023.

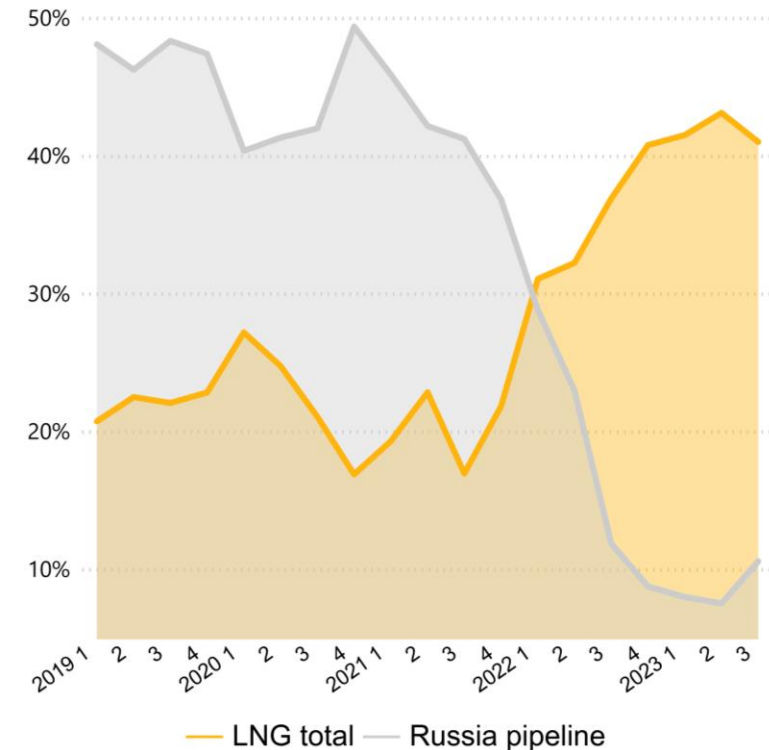
LNG largely filled the gap left by lower Russian supply

Share of gas supply with Russian pipeline origin per MS (estimate), 2021 and Q3 2023 (%)



MSs share of gas supply with Russian origin: ■ 0-25% ■ 25-50% ■ 50-75% ■ 75-100%

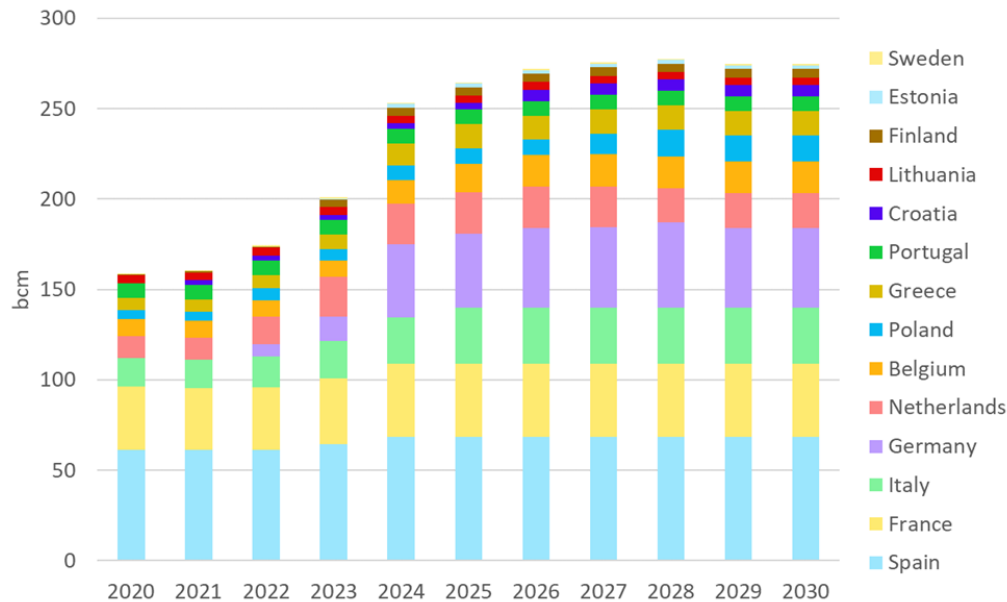
Share of EU gas imports per quarter - LNG and Russian pipeline imports (estimate): 2019 - Q3 2023 (%)



Russian (pipeline) supply drop has been largely offset by rising LNG imports to the EU and reduced gas demand. Select Member States in South-East Europe where long-term contracts are maintained are still highly exposed to risks of full disruption of Russian supply.

Expanded LNG capacity alleviated supply congestion

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



Day-ahead hub spread between Germany and Belgium and cost of day-ahead transmission capacity – EUR/MWh



New LNG terminals gradually helped alleviate gas supply congestion in North-West and Central Europe, bringing hub price spreads closer. Quicker planning, permitting and building, as well as reliance on faster and more dynamic floating LNG regasification units proved key.

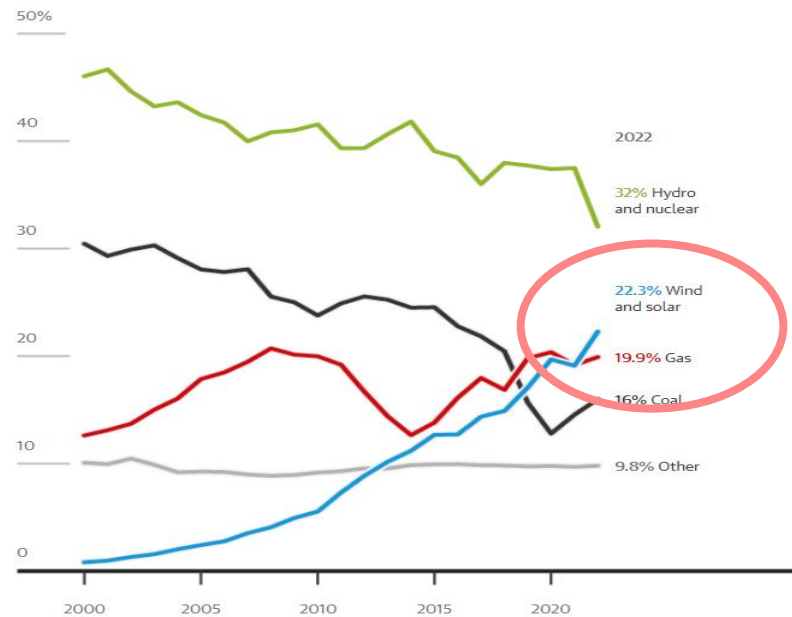
Source: Platts and PRISMA.

Source: ACER's [Congestion Monitoring Report](#), May 2023.

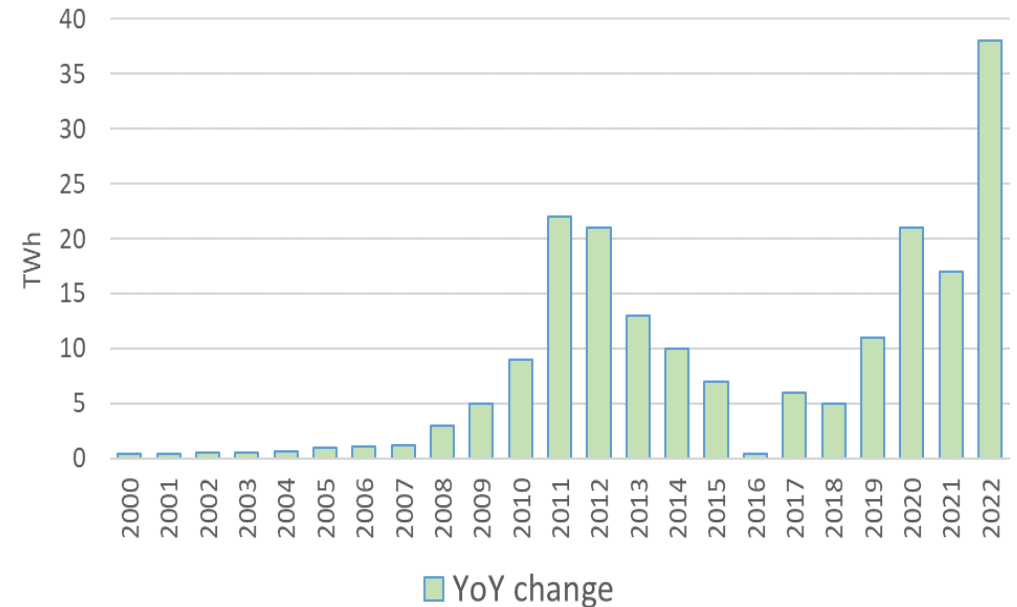
Developments pointing further ahead

In 2022, the generation from renewable energy sources remained almost constant, despite a decline in hydropower and the context of the crisis.

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



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



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

Integrated EU energy markets ~ some progress, some recurrent challenges

Despite the crisis, some progress



June 2022: a decisive milestone with the go-live of Core FB market coupling.



Long-term, day ahead and Intraday markets are now coupled across the EU with a Pan-European platform for the allocation of cross-border capacities, ensuring that the best offer meets demand at all times.

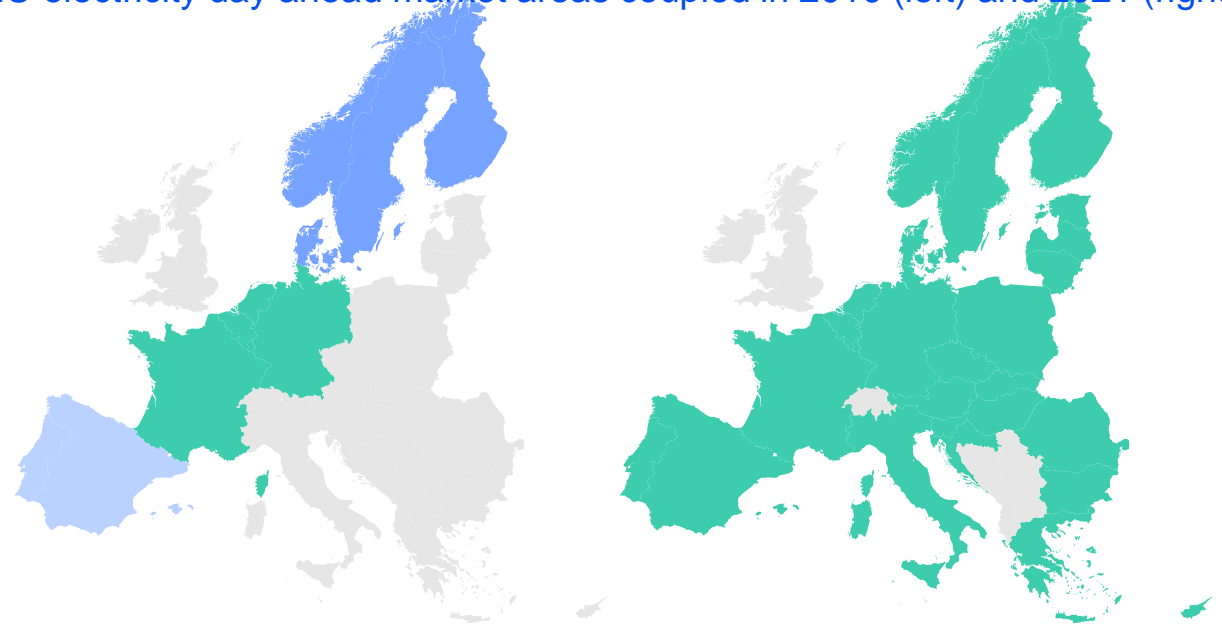
- *Social welfare gains are estimated at more than 30 billion euros per year*, and continued efforts could deliver more.*



4 Pan-European balancing allocation platforms (IGCC, TERRE, MARI, PICASSO) have also been established.

- *still need to be deployed across Europe.*

EU electricity day ahead market areas coupled in 2010 (left) and 2021 (right)



TSOs operational on European balancing platforms - September 2023

Platform	PICASSO	MARI	TERRE	IGCC
Operational members (TSOs)	7	6	6	21
Operational members (Member states)	AT, CZ, DE, IT	AT, CZ, DE	CH, CZ, ES, FR, IT, PT	AT, BE, HR, CZ, FR, DE, GR, HU, IT, NL, PL, PT, RO, SL, SI, ES, CH

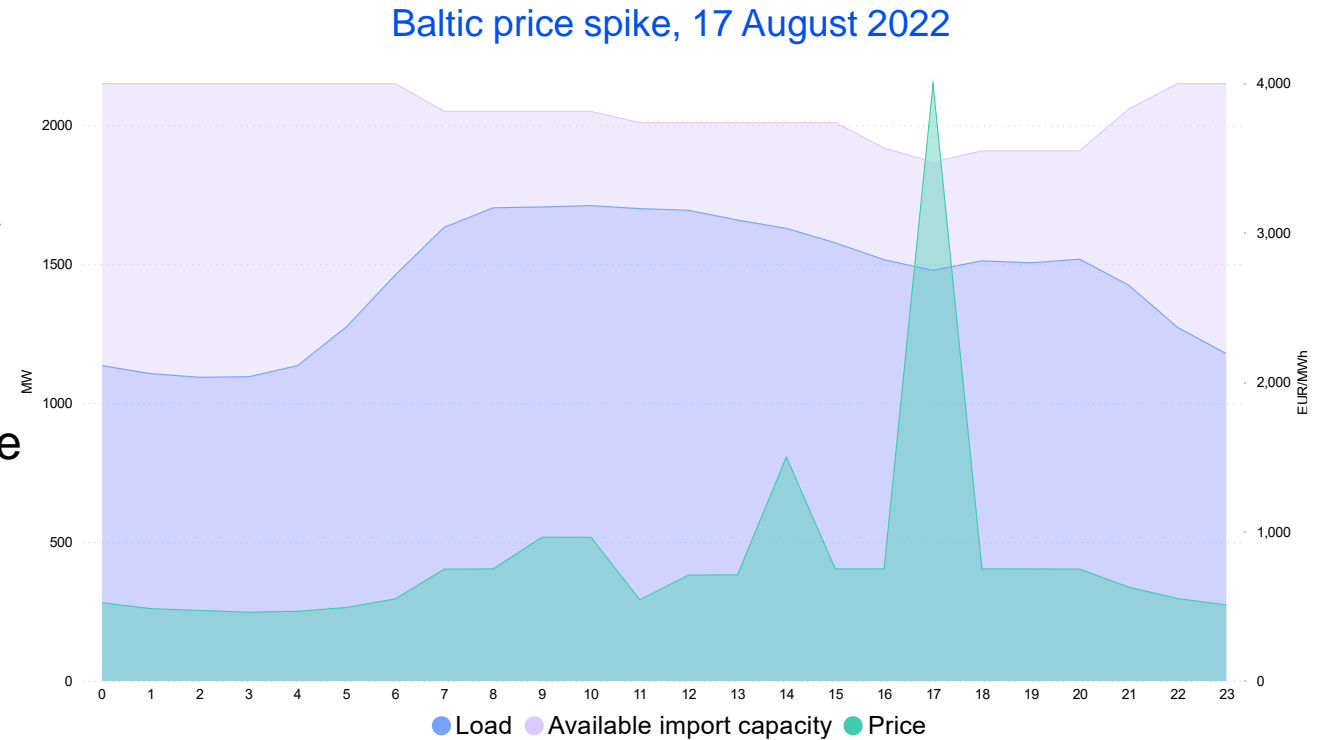


Maximising cross-zonal capacities is a **prerequisite** for a **well-functioning** European **electricity market**.



This has been emphasised by the energy **crisis of 2022**, where **cross-zonal trade** played a fundamental role in:

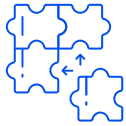
- Mitigating price volatility across the EU.
- Ensuring security of supply.
- Enhancing the integration of renewables.
- Providing flexibility to the market.



Hourly variations in load, import capacity and day-ahead price in the Baltic region on 17 August 2022 (MW, MW and EUR/MWh, respectively)

The 'minimum 70% requirement' enables the most efficient use of the available physical interconnection capacity.

Few Member States reach the 70% requirement



Across the EU, the **picture of the fulfilment of the minimum 70% requirement varies significantly:**

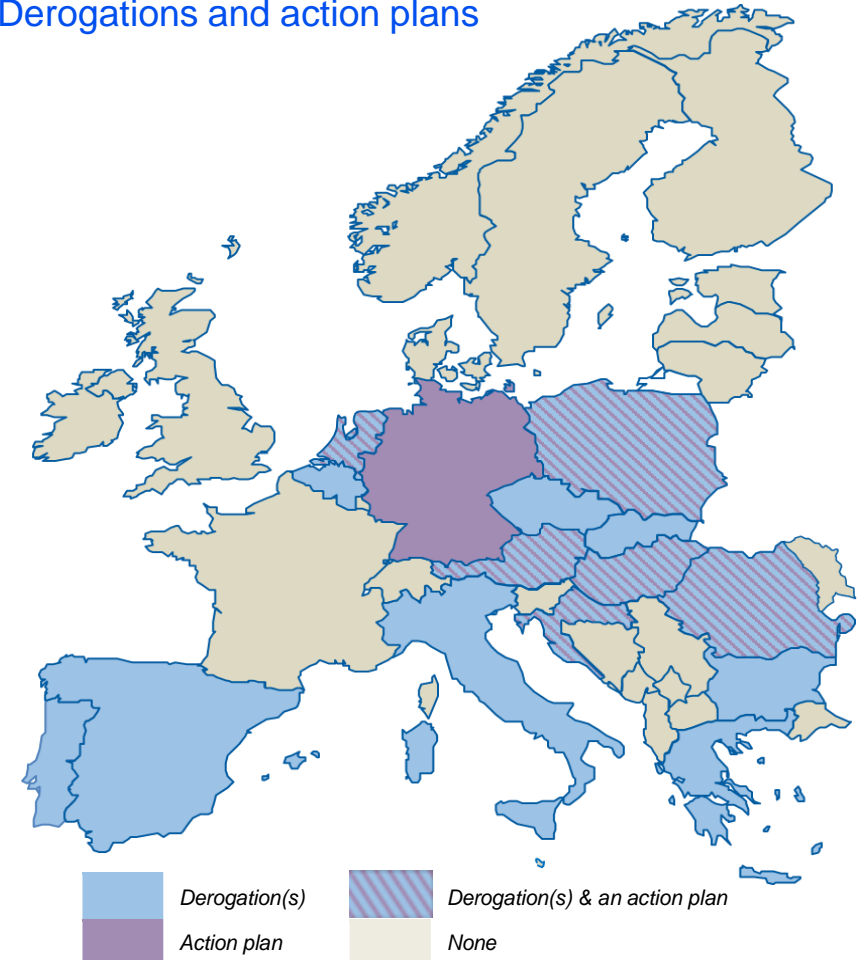
- Large number of action plans and/or derogations still apply.
- Different stages of implementation of regional methodologies (such as capacity calculation and ROSC).



Lifting both internal and cross-zonal congestion is key to achieving the minimum 70% requirement. 'All tools in the toolbox' need to be exploited:

- Enable the use of all available **remedial actions**; and
- Implement **flow-based** to large, meshed, coordination areas; and
- Expedite **grid investment**; and
- Where not sufficient (or cost-efficient), take on an ambitious **bidding zone review**.

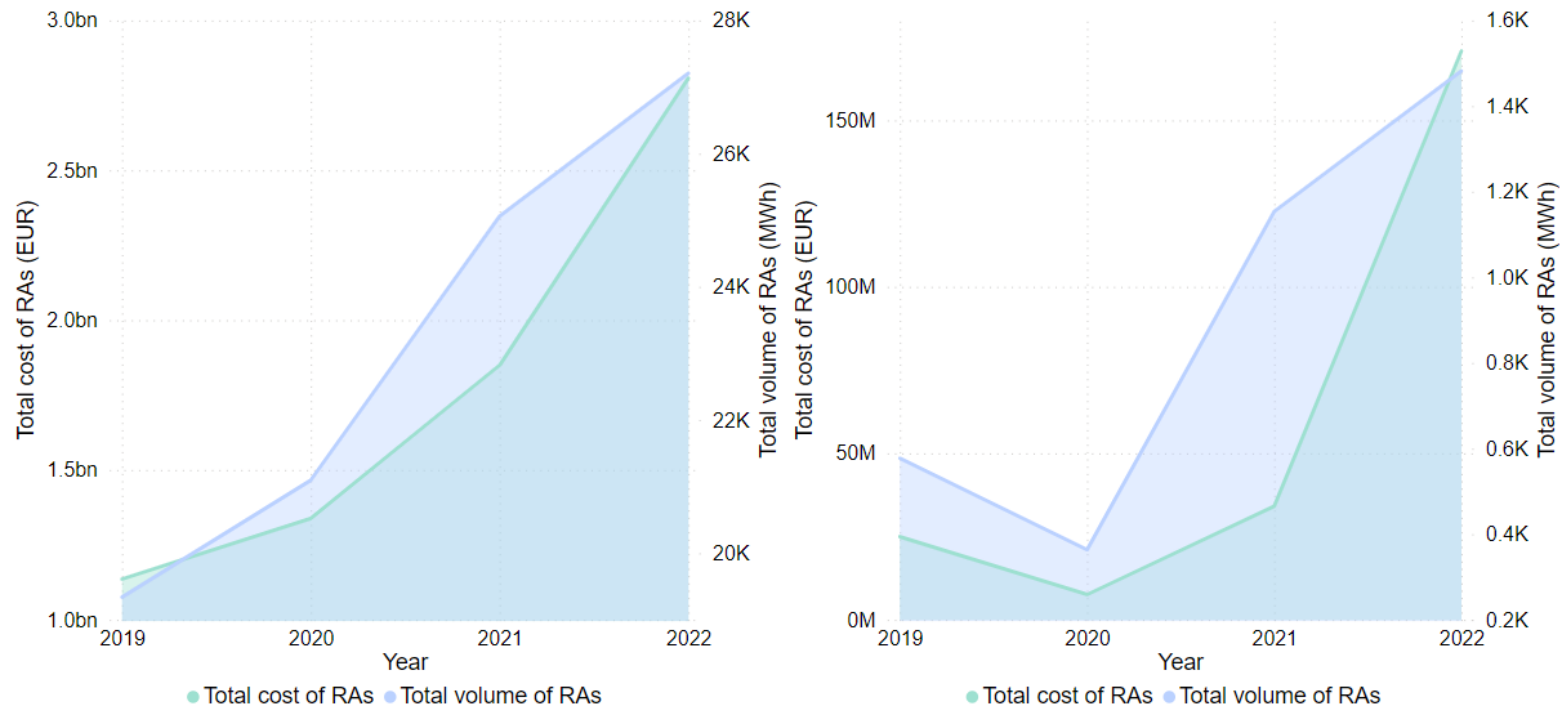
Derogations and action plans



Rising cost of re-dispatching across the EU

Pressure on guaranteeing the **cross-zonal capacity requirements** has significantly increased re-dispatching costs and volumes. This trend will only accrue in coming years.

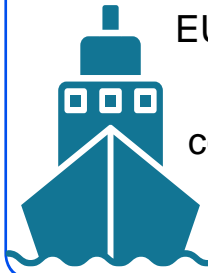
Evolution of the total cost and volume of activated remedial actions in Germany (left) and France (right) - 2019-2022



Adjustments underway for EU gas markets

The Russian gas supply shock prompted a major rebalancing of the EU gas markets that will have lasting impacts. There are forward-looking implications and specific policy actions to be considered.

1. Higher dependence on LNG supply:



EU gas prices will be more exposed to global competition and turn more volatile. To ensure sustained competitiveness, it is imperative to safeguard fair access to LNG terminals and promote market transparency.

2. Emergency measures and well-functioning markets:

The challenges and opportunities that emerged in the summer of 2022 underscore the need for effective redistributive and price shielding measures. A thorough policy reflection is essential to navigate similar scenarios, protecting final consumers while preserving market functioning.



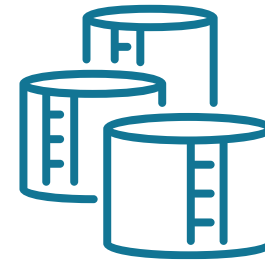
3. Evolution of gas demand:

There is a need to reduce conventional gas demand to adjust to a tight supply market and assist EU decarbonisation goals. Policy action should promote this and at the same time preserve the economic activity and security of supply that gas offers.



4. The role of underground storages:

Storages' dual role, securing mid-term supply and aiding short-term system flexibility, will be made more evident. Policy formulations should apply the lessons learned from the summer of 2022, limiting public support interventions and further engaging market response.



Flexibility needs are on the rise



Unleashing system flexibility: the new frontier

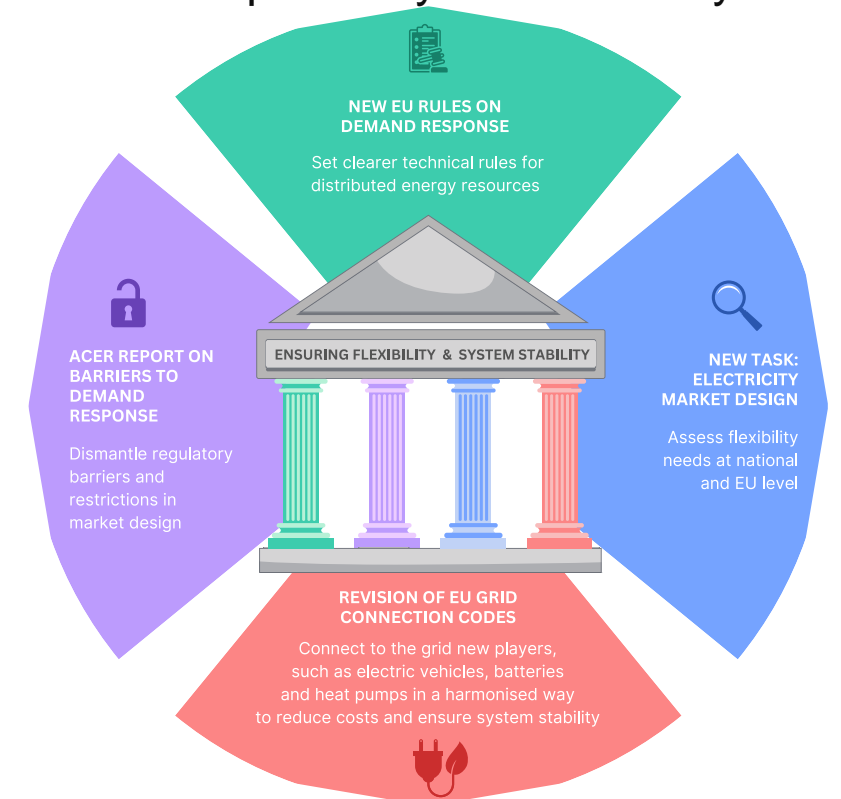
Barriers come in ‘many sizes and shapes’ ...

Overview of barriers to distributed energy resources and other new entrants and smaller actors per Member State

Barrier	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	
Lack of a proper legal framework to allow market access	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Unavailability or lack of incentives by end-users to provide flexibility	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Restrictions to provide balancing services	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Restrictions to provide congestion management services	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Restrictions to participate in capacity mechanisms	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Restrictions to participate in interruptibility schemes	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Limited competitive pressure in the retail market	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Retail price interventions	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Barriers exist / no data on barriers
 Not (too) restrictive
 NAP

Multiple efforts at EU level ongoing to enhance power system flexibility



Barriers to demand response are often ‘hiding in plain sight’. The sum of many smaller obstacles adds up to significant barriers, impeding system flexibility.

Implications going forward



The common European framework and integrated markets were essential to help Member States shoulder several risks during the energy crisis.

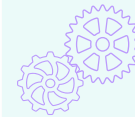
- **Sector interconnectivity** key in overcoming uncertain gas supplies and increased outages.
- **Multi-level coordination** essential for secure supply of electricity.



Any emergency necessarily calls for trade-offs and compromises; yet some approaches outperform others.

- Some measures come with **adverse effects** (e.g. affordability measures may hinder demand reduction, requiring nuanced solutions).
- **No-regret measures** (e.g. energy efficiency, renewables uptake) should be prioritised.

Recommendations



Accelerate and strengthen the integration of the European electricity market.



Further reinforce inter-institutional and cross-border cooperation in security of supply.



Prepare well-balanced and coordinated emergency measures sufficiently in advance, prioritising measures that contribute to the decarbonisation objectives.

Closing with ACER's draft Single Programming Document 2024-2026

Drivers

Energy systems undergoing **massive changes**

Changes in the **regulatory landscape**

Unprecedented **high energy prices**



Challenges

Network Codes; Guidelines

REMIT

TEN-E

Security of supply

Clean Energy for All Europeans

EU's energy crisis response, decarbonisation and the EU Green Deal



Strategic goals

01

Contribute to the completion of the Internal Energy Market and the monitoring of its functioning



02

Contribute to the Infrastructure and Security of Supply Challenges



03

Increasing integrity and transparency of wholesale energy markets



04

Contribute to address longer-term regulatory challenges



05

Ensure the resilience, efficiency and agility of the Agency



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

Annex



- **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.