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

The European Parliament’s ITRE Committee
Christian Zinglersen, 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.

Source: ACER based on Platts’. The Dutch Title Transfer Facility gas hub (TTF) and the German European Energy Exchange (EEX) month-ahead contract prices are used as benchmarks for gas and electricity pricing respectively.

See: ACER’s electricity and gas Key Developments reports (& data dashboards). 2023.
Europe’s integrated energy markets proved resilient during the crisis, bringing multiple benefits.

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.
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.

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

-77

FACTORs CONTRIBUTING TO SUPPLY TIGHTENING

-50

Russian pipeline flow variation

Net storage stock variation

Domestic production variation

FACTORs EASING SUPPLY CONTRAINTs

55

52

Non-Russian pipeline flows variation

LNG import variation

Demand reduction

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

LNG largely filled the gap left by lower Russian supply

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

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

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.

Source: EMBER data.
See: ACER’s electricity Key Developments report, February 2023.
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)

---

<table>
<thead>
<tr>
<th>Platform</th>
<th>PICASSO</th>
<th>MARI</th>
<th>TERRE</th>
<th>IGCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational members (TSOs)</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>Operational members (Member states)</td>
<td>AT, CZ, DE, IT</td>
<td>AT, CZ, DE</td>
<td>CH, CZ, ES, FR, IT, PT</td>
<td>AT, BE, HR, CZ, FR, DE, GR, HU, IT, NL, PL, PT, RO, SL, SI, ES, CH</td>
</tr>
</tbody>
</table>

Source: NEMOs. Note: *Gross benefits.
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.

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

Source: ENTSO-E transparency platform and REMIT.
See: [ACER's Final Assessment of the EU Wholesale Electricity Market Design](https://www.acer.europa.eu), April 2022.
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.

Source: ACER report on cross-zonal capacities and the 70% margin available for cross-zonal electricity trade, July 2023.
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

Source: ACER’s *Progress of EU electricity wholesale market integration*, November 2023.
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 | IE | IT | LT | LU | 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 to demand response are often ‘hiding in plain sight’. The sum of many smaller obstacles adds up to significant barriers, impeding system flexibility.

Multiple efforts at EU level ongoing to enhance power system flexibility

- **NEW EU RULES ON DEMAND RESPONSE**
  - Set clearer technical rules for distributed energy resources
- **ACER REPORT ON BARRIERS TO DEMAND RESPONSE**
  - Delineate regulatory barriers and restrictions in market design
- **NEW "TAKE ELECTRICITY MARKET DESIGN"**
  - Assess flexibility needs at national and EU level
- **REVISE EU GRID CONNECTION CODES**
  - Connect to the grid new players, such as electric vehicles, storers and heat pumps in a harmonised way to reduce costs and ensures system stability

Source: Upcoming ACER report on barriers to demand response and other new entrants and small actors, December 2023.
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.

Source: ACER's *Progress of EU electricity wholesale market integration*, November 2023.
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, deterring 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.