Picture courtesy of Gas Connect Austria

Securing Europe's Energy Flow
Europe’s gas security landscape: regulation, risks and expectations

Roundtable on Energy Security in SE Europe - IENE

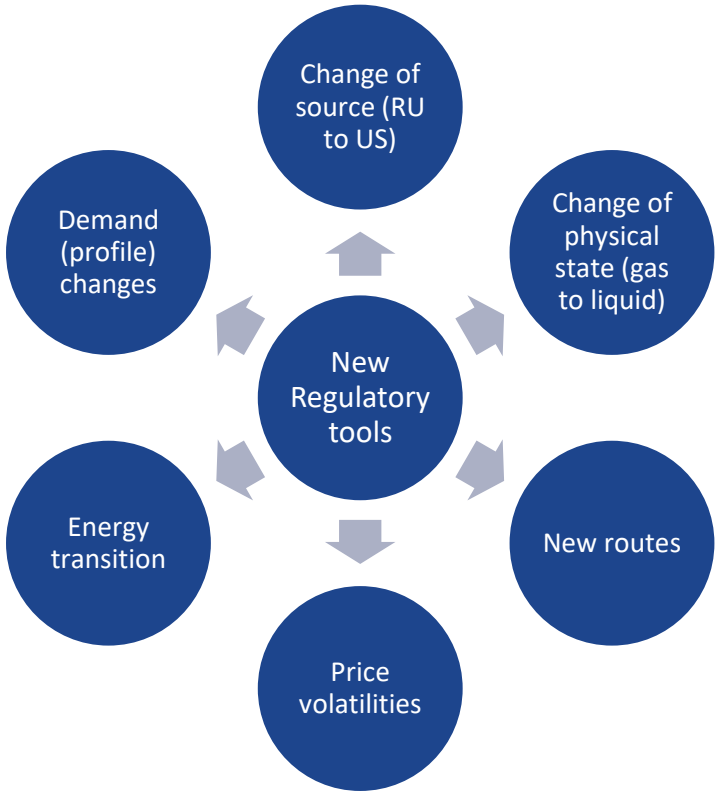
Panagiotis Panousos, Director, System Operation

Brussels, 19 Mar 2026

Introduction – a changing landscape

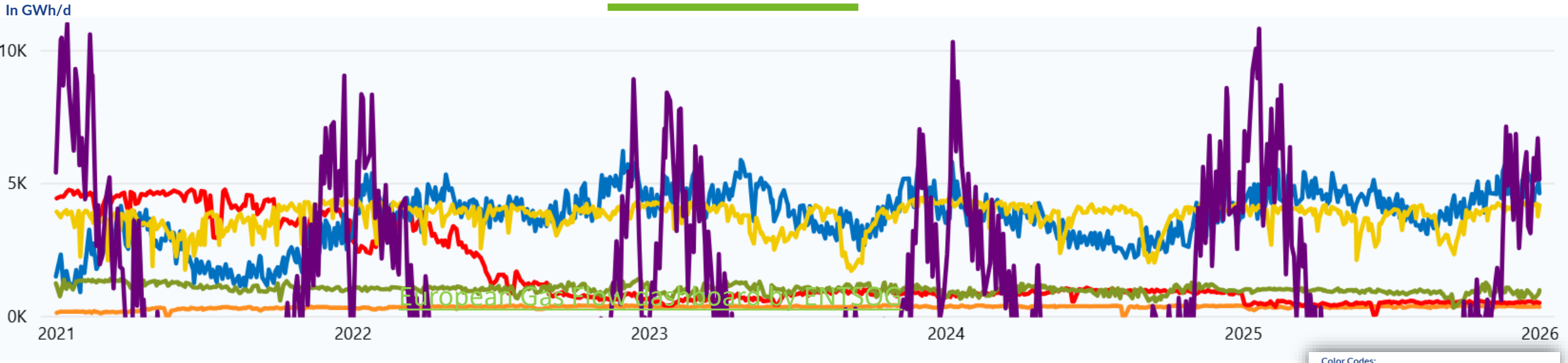
Europe's gas security is being rebuilt in last three years

- **RU's actions to Weaponize energy caused:**
  - Less RU pipeline to EU
  - Less transit through traditional pipeline routes
  - New and expanded LNG regasification capacities
  - Price volatilities
- **But, also energy transition:**
  - Increases interdependencies between E and gas
  - Changes demand profiles
  - Creates uncertainties for investments
- **Regulatory tools are used as a response**



Gas markets is becoming more resilient (?)

Change of EU supply sources' significance



Source: European Gas Flow dashboard by ENTSOG

- The **RU pipeline gas** to EU is decreasing (from 5,000 GWh/d in 2021 to 0,5 GWh/d in 2025 to 0 (?) GWh/d in 2027)
- The **role of LNG is increasing** (from 2,400 GWh/d in 2021 to 3,500 GWh/d to 4,427GWh/d in 2025 (daily average) depending on weather and how storages were used
- **Storages' usage depend on price**s, weather and RES (peak 11,000 GWh/d in 2021)
- Supplies **from Norway and Caspian remain stable** (3,800 GWh/d and 350 GWh/d) while **from Africa were decreased** (1,140 GWh/d in 2021 to 910 GWh/d in 2025)

Color Codes:

East gas supply – pipeline gas flows from Russia, Belarus, Turkey to the EU Members States and Ukraine.

North Sea gas supply – pipeline gas flows from Norway to the EU Member States, and gas flows both from Norway and the UK to the UK via IPs Easington and St.Fergus.

North African gas supply – pipeline gas flows from Algeria (including flows via Tunisia and Morocco) and Libya to the EU Member States, and gas flows to Marocco.

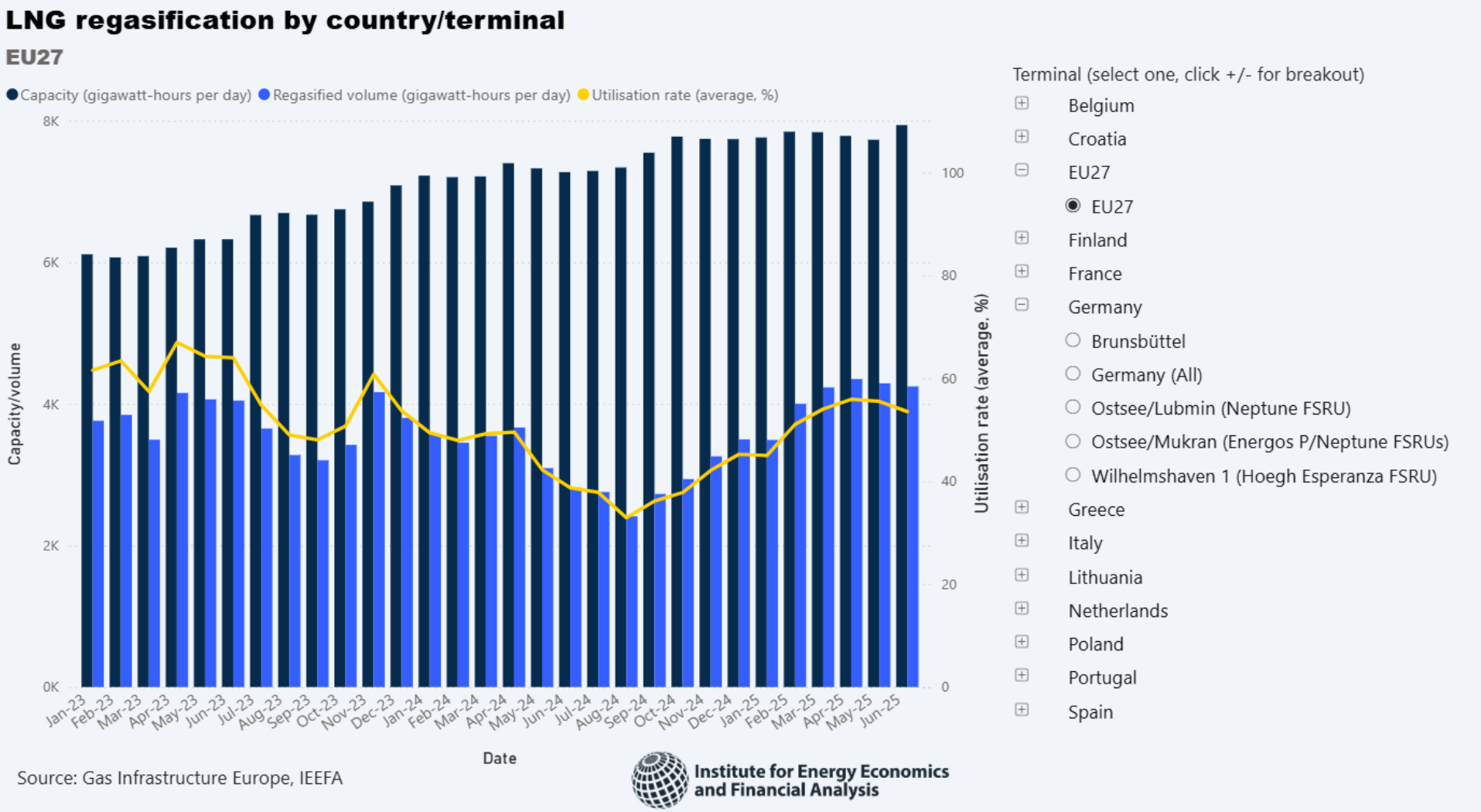
LNG gas supply – gas flows from LNG terminals in the EU and UK.

Caspian gas supply – gas flows via TANAP and TAP pipelines (gas originated in Azerbaijan) to the EU Members States.

Our seasonal flexibility comes only from storages

Change of physical state's importance

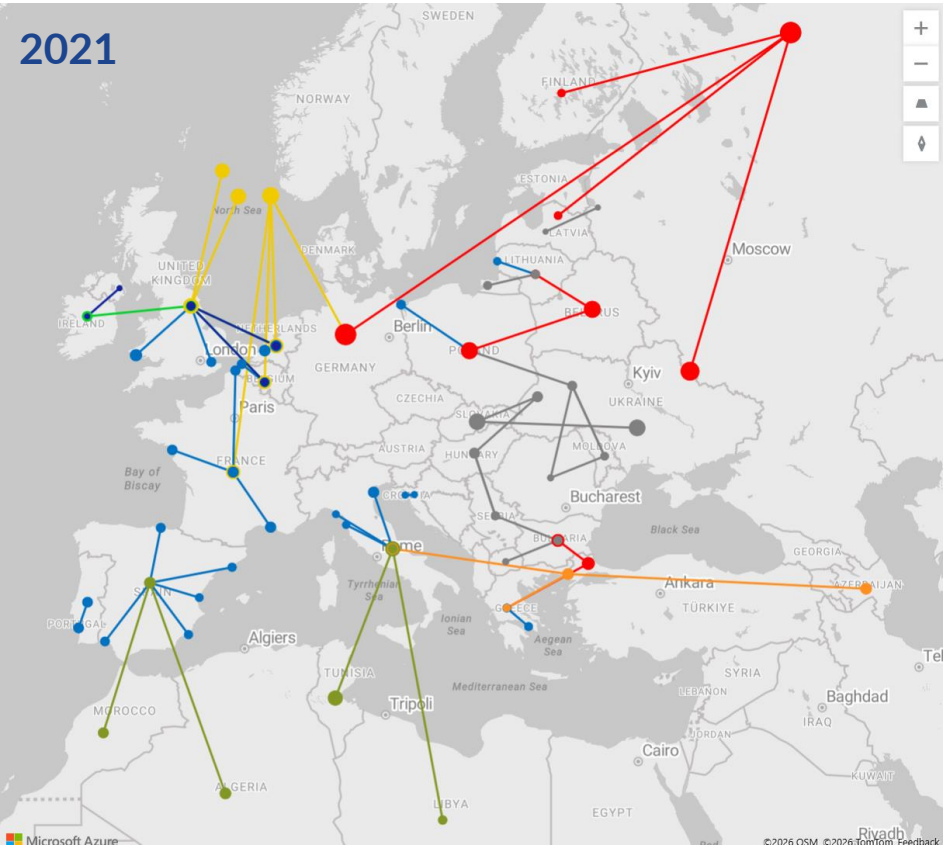
- **Investments** towards infra related **to LNG**
- **Regasification capacities increased** (from 5,500 GWh/d in 2021 to 8,000 GWh/d in 2025)
- **We still utilize only half of the capacities**



But around 50% of the LNG comes from US (increasing trend)

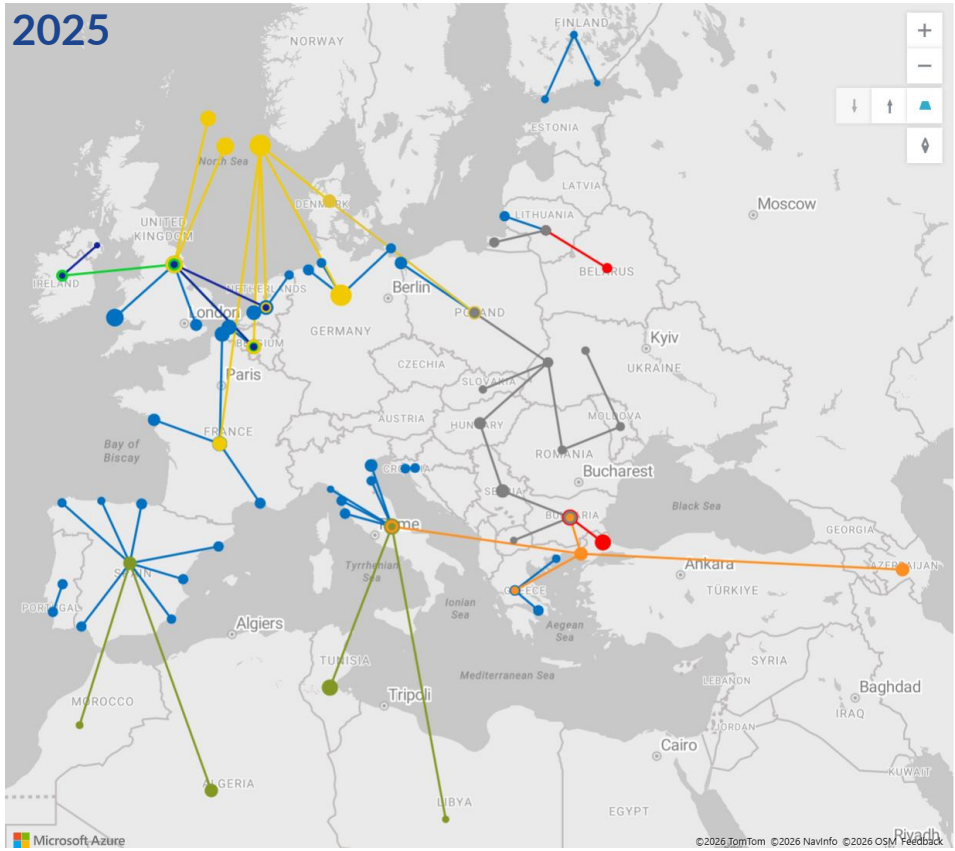
New routes

Overview of physical gas flows to Europe



Source: European Gas Flow dashboard by ENTSOG

- ✓ Change in traditional pipeline routes
- ✓ No Russian gas to Germany, Poland, Baltic countries, Finland, Ukraine (incl. transit)
- ✓ New and expanded LNG regasification capacities
- ✓ Reverse flow capacities developed and used. 40% of EU interconnection points have seen their flow direction reversed since 2021 to adjust to new market dynamics (ACER report)

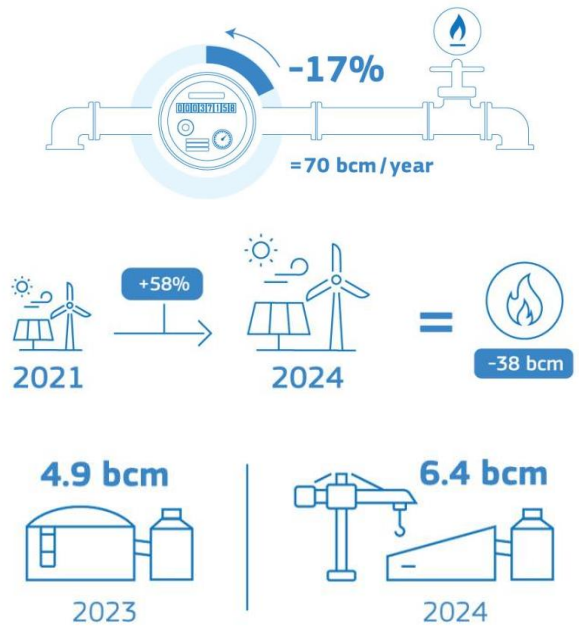


The transport system has been re-adjusted to support the new flow patterns

Energy transition

- Between Aug 2022 and Jan 2025, the EU has successfully **reduced its gas demand** by 17%, equivalent to 70 bcm per year.
- In Oct 2023, the EU agreed on raising the **RES binding target for 2030 to at least 42.5%,** with the ambition to reach 45% (revised RED).
- Industry estimates indicate that installed **wind and solar capacity has increased by 58%** cumulatively between 2021 and 2024, saving approximately 38 bcm of gas over 3 years.
- **Biomethane** and biogas production is increasing, following the REPowerEU **target of producing 35 bcm per year by 2030**.

Source: *REPowerEU - 3 years on*



"With natural gas consumption declining, and decarbonised gases options emerging, ***the European Union's gas system faces challenges to maintain a network that ensures secure and diversified supply, promotes market integration, supports the development of new decarbonised gases and manages network costs effectively****. A resilient gas infrastructure is not only essential for gas supply security but also plays a key role in the broader energy system, serving as a core seasonal backup for electricity demand and providing flexibility to support the integration of renewable energy sources"*

Source: Capacity use and booking trends in European natural gas markets - 2025 ACER Monitoring Report

Price volatilities

Source: Trading Economics EU Natural Gas - Price - Chart - Historical Data - News

- Extreme price spikes have been limited since 2023
- Still, **weather conditions and geopolitical events / news or even announcements and speculations cause instabilities**

Infrastructure provides alternative routes and solutions

The Security of Gas Supply – Regulatory measures

Regulation on to the Security of gas Supply (EU/2017/1938). The framework legislates for:

- **The infrastructure standard:** when single largest gas infrastructure is disrupted, the remaining technical capacity (N – 1 formula) shall satisfy total gas demand during days of peak demand
- **The supply standard:** the NG undertakings take measures to ensure the gas supply to the protected customers under peak demand conditions
- **Cooperation between MSs,** with regional groups to assess common supply risks and develop:
  - **Joint Preventive action plans**
  - **Joint Emergency plans**
- **Permanent bi-directional capacity** on all cross-border interconnections between EU TSOs
- **EU-wide simulations of gas supply and infra disruptions** (ENTSOG) to identify supply risks
- The **Gas Coordination Group** , a standing advisory group
- **A solidarity mechanism** - activated under extreme gas crisis, to help ensure that 'protected customers' (households and hospitals) maintain access to gas, even in the worst crises

Following Russia's full-scale invasion of Ukraine:

Reinforcement of gas storage rules

- **Storage filling targets**
  - Reg (EU) 2022/1032 (29 June 2022) setting a 90% storage filling target until 31 Dec 2025
  - Reg (EU) 2025/1733 (18 July 2025) prolongs the obligation till end 2027 (with flexibilities)
- **Voluntary reduction of NG demand by 15% for winter 2022-2023:** Reg (EU) 2022/1369 (Aug22)
- **Phase out of Russian NG imports** (final deadline 1st Nov 2027): Reg (EU) 2026/261 (26 Jan 26)

The revision of the Energy Security framework:

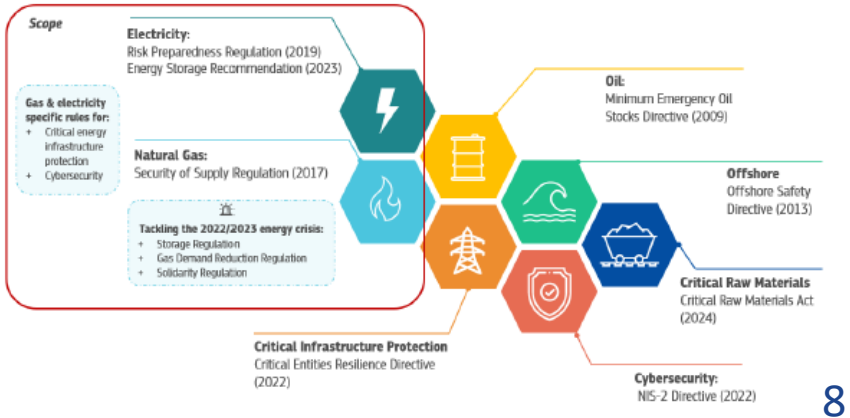
The existing framework has been **effective**:

- **helped ensure stable and uninterrupted gas and electricity supplies** and protected vulnerable customers during crises.
- **But** is deemed unsuitable for long-term supply losses (i.e. Russian gas imports).

and **efficient:**

- **Costs created are low** compared to those of potential crises
- **But extra burden on national administration** created

- ❑ Room for improvement by **simplifying and streamlining**
- ❑ Further monitoring tools might be needed (i.e. KPIs)
- ❑ the Gas SoS Regulation and Electricity Risk-Preparedness Regulation were mostly **consistent with each other and other EU policies and legislation**



Source: European Commission

Thank you for your attention

Panagiotis Panousos, Director, System Operation

panagiotis.panousos@entsog.eu

ENTSOG - European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, 1000 Bruxelles

www.entsog.eu | info@entsog.eu