

How gases can contribute to EU's resilience

As the European Commission advances the **energy trilemma** – affordability, sustainability and security of supply – **resilience** has become central to EU climate and energy policy.

Ensuring resilience requires an EU energy system that is increasingly decarbonised, diversified, technology neutral and decentralised. Natural gas and renewable and low-carbon gases, such as biomethane and renewable and low-carbon hydrogen and their derivatives, play an essential role in this.

ACER's recent report on [gas-market decarbonisation](#) confirms this: **natural gas** remains pivotal for power-system flexibility, **biomethane** strengthens security of supply, and **hydrogen** is central to the EU's long-term strategy. Yet, regulatory and technical barriers still block a single EU biomethane market and hydrogen scale-up. **Positive political signals have not yet translated into deployment.**

The Commission's [Electrification Action Plan](#) makes **electrification a central pillar of decarbonisation**. A portfolio approach, rather than relying on a single technology, would help solving the energy trilemma. Electrification is technically hard or not yet commercial for several sectors (energy-intensive industry, high-temperature processes, heavy-duty and maritime transport), due to infrastructure build-out and up-front investment, while renewable and low-carbon gases are already available options, as in the residential sector.

The review of the [Energy Security Framework](#) rightly assesses natural gas, electricity and oil together, recognising that resilience depends on how these vectors interact. As renewables and electrified demand grow, the **power system will also need flexible, dispatchable and storable capacity** for peak demand and low-renewable periods. **Renewable and low-carbon gases play their part within the energy security framework to meet all three needs efficiently.**

A resilient EU energy system needs a balanced approach: cost-effective electrification alongside scaled-up renewable and low-carbon gases, backed by the infrastructure to keep the transition flexible, secure and affordable. To support a resilient, affordable and increasingly decarbonised EU energy system, **Eurogas calls on European Commission, European Parliament and Council to consider the following actions:**

Natural gas

- **Ensure a viable market able to attract the volumes needed** – realistic and range-based demand scenarios, flexibility in gas and LNG contracting, and market-based supply diversification.
- **Solve bottlenecks within the European gas market** – stronger cross-border interconnection capacity, and risk and adequacy assessments aligned across energy carriers.

Biomethane

- **Scale up biomethane consumption and production** – a binding 35 bcm production target for 2030 with a 2040 perspective, Member State support for demand, and valorisation of digestate and biogenic CO₂.
- **Integrate biomethane into the energy system** – effective implementation of the “right to inject”, and harmonised certification and sustainability rules across Member States.
- **Consider end-users' specificities** – tailored solutions for heating, road transport, maritime and industry, including ETS eligibility and market-based accounting.

Hydrogen

- **Address the shortcomings of the regulatory framework** – pragmatic and less prescriptive delegated acts for RFNBOs and low-carbon fuels, and eligibility of blended hydrogen towards RFNBO targets.
- **Promote market development** – infrastructure and storage matched to project ambition, state-backed risk mitigation, demand-side incentives and lead markets, and recognition of low-carbon hydrogen.

1. Natural Gas

The role of natural gas in enhancing EU's resilience

Natural gas will continue to play a major role in the EU energy mix for decades to come, providing energy storage, flexibility and dispatchable capacity as electrification expands. Its contribution should therefore be fully reflected in discussions on strengthening the resilience of the EU energy system. While decarbonisation progresses, gas still represents one fifth of the EU's total energy consumption. Well-functioning and liquid gas markets are needed to support security of supply and avoid adverse effects across the wider energy system. This requires avoiding unnecessary regulatory barriers to new supply contracts, reinforcing energy partnerships with third countries to support secure and diversified supply while promoting the uptake of leading environmental practices and methane-emissions-management standards across the natural gas value chain, and enabling domestic production potential across Member States.

At the same time, policy and infrastructure planning should reflect the evolving nature of gas demand. While the volume of natural gas used for power generation is expected to decline over the longer term as renewable electricity expands, its system value may increase: gas-fired capacity can provide flexible, dispatchable and firm generation during periods of peak demand, low renewable output or system stress (e.g. cold spells, heat waves, prolonged droughts). Demand will also be shaped by the pace of real electrification¹, industrial transformation and the deployment of renewable and low-carbon gases.

Looking at European energy needs and industry competitiveness, the role of natural gas is particularly evident. In 2025, EU gas consumption increased around 2% year-on-year (340 bcm); this still represents a 16% below the 2017-2021 five-year average, due to electrification, energy efficiency improvements, gradual deployment of renewable gases, and gas demand destruction. Such trends highlight a structural shift, that still see a key flexibility role played by natural gas while going hand in hand with electrification and renewable gases². In this context, energy-intensive industries, such as chemicals, iron and steel, are a key driver, as their specific process requirements often make electrification technically or economically unfeasible. Decarbonisation pathways of the industrial sector differ substantially between sectors, sites and processes. Assessments of the future energy mix should therefore account for these differences, including the timing, technical feasibility and cost of alternative decarbonisation options, when considering the evolving role of natural gas and renewable and low-carbon gases in industry.

For natural gas to play its role as a transitional fuel to the fullest, methane emissions reductions are fundamental. Eurogas recognises that cutting methane leakage across the value chain is essential for ensuring that gas infrastructure can support the EU's climate-neutrality pathway and remain a viable bridge towards renewable and low-carbon molecules.

Policy measures to ensure natural gas' contribution to EU resilience

To ensure the European gas sector is well functioning, several elements of the regulatory framework need to be considered.

¹ ACER (July 2026) [Decarbonisation of the EU's natural gas market](#). ACER underlines that electrification has increased by only 4 percentage points over the past 25 years, progressing slower than EU targets for 2030.

² ACER (June 2026) [Decarbonisation the EU's natural gas market: 2026 Monitoring report](#)

Ensure a viable market able to attract volumes needed

- **Demand scenarios should be realistic and range-based:** current trajectories presented by the European Union are based on assumptions that did not materialise as anticipated – e.g. 35bcm of biomethane produced in the EU per year by 2030, as it was considered in REPowerEU. Consequently, volumes of natural gas required for the stability of the energy system (340bcm of gas consumption in 2025) are not in line with what was foreseen in the REPowerEU trajectory (184bcm of gas consumption by 2030) presented by the European Commission.³ This could also have consequences in the EU's ability to contract affordable gas in the coming years: if long-term contracts are disrupted, Europe may need to rely more heavily on the LNG spot market, increasing exposure to global competition.
- **Flexibility for gas and LNG contracting should be preserved,** by minimising additional or overlapping regulatory burdens that may constrain it, such as uncertain EU Methane Regulation importer obligations and ensuring clear and harmonised pre-authorisation processes under REPowerEU.
- **Maintain market-based supply diversification.** Imposing rigid diversification requirements would reduce flexibility and raise costs, as suppliers may be forced to procure gas from less competitive origins and incur in higher operational and logistical expenses. This would ultimately undermine security of affordable supply, particularly in a context where existing EU regulations already constrain market flexibility and limit available supply sources and contractual arrangements – e.g., EU Methane Regulation. Instead, the European Commission could play a more effective role by strengthening energy diplomacy with third country producers, working in close coordination with energy companies.

Solve bottlenecks within the European gas market

- **Cross-border infrastructure and interconnection capacity should be strengthened,** to enable more flexible flows and increased regional resilience. Considering the current gas infrastructure can also be used by biomethane and for hydrogen blending, potential investments will still be efficient with the decrease of natural gas.
- **Risk and adequacy assessments across energy carriers should be more closely aligned.** This should reflect cross-sectoral dependencies and shared vulnerabilities through joint risk assessment exercises involving TSOs and DSOs across all relevant sectors, including gas, electricity, biomethane and hydrogen, at both national and EU level.
- **Security of supply measures implemented at European level should always respect the principle of subsidiarity,** reflecting Member States' specificities related to the energy mix and demand, the availability of LNG and storage.

2. Biomethane

The role of biomethane in enhancing EU's resilience

Biomethane already represents a potential key component in strengthening EU resilience, competitiveness, and contributing to the reduction of GHG emissions, by being a domestic, scalable, and cost-effective solution. Benefits of biomethane were already recognised in the European Commission's REPowerEU target to scale-up biomethane by 2030, reaching 35 bcm of production per year and in the [Net-](#)

³ ACER (May 2025), [Analysis of the European LNG market developments 2025 Monitoring Report](#)

[Zero Industry Act](#), where it is identified as a net-zero technology. In addition, biomethane imports could add to the diversification of supply sources, including from Ukraine, U.K. via interconnected grid or from the U.S., while enhancing decarbonisation process.

Biomethane can be flexibly deployed within the existing gas infrastructure: as it is chemically interchangeable with natural gas, it can be transported and stored over long periods using existing networks and storage facilities. For the same reason, it only requires minimal investments in infrastructure, significantly reducing transition costs for consumers. Biomethane offers a high degree of system flexibility and cross-sector applicability and could be particularly relevant for difficult-to-electrify sectors with important decarbonisation objectives– e.g. maritime through the use of bioLNG, existing buildings through highly efficient condensing and renewable gas-ready boilers, as well as hybrid heating appliances including cogeneration, and industries. Finally, considering increased electrification objectives, biomethane enables electric peak demand mitigation to optimise both renewable electricity integration and infrastructure.

The biomethane production process also generates two valuable by-products: **digestate**, which can be used as an organic fertiliser for agricultural soils, and **biogenic CO₂**, which can be either captured and permanently stored (CCS) for many years creating net negative emissions or utilised (CCU) across a range of applications – e.g. for industries, food and beverage sector, or to produce synthetic fuels and chemicals. **By valorising these byproducts, biomethane production maximises resource efficiency, reduces waste, and creates additional economic value across multiple sectors, while increasing EU competitiveness and regional energy autonomy.**

Positive effects of biomethane production also extend to the social and labour sectors, as it supports jobs in rural areas and less developed regions.

Policy measures to scale up biomethane

To ensure biomethane can reach its potential, the following key points should be implemented:

Scale up biomethane consumption and production

- **Uphold political recognition and stimulate biomethane production with a legally binding biomethane production target**, starting at 35 bcm in 2030 as mentioned in the REPowerEU Plan. Looking beyond 2030, the European Commission should start considering a dedicated production target for 2040 to provide long-term visibility and drive investments.
- **Encourage Member States to support biomethane consumption and demand**, taking into account national energy mixes and available resources. Where necessary, support the scale-up of biomethane production through targeted schemes while ensuring a level playing field and avoiding double subsidisation.
- **Ensure the valorisation of biomethane by-products** by adapting current regulations - i.e. [Fertilizing Production Regulation](#), Circular Economy Act, Biotech Act II, and upcoming CO₂ Market and Transport Directive.

Integrate biomethane into the energy system

- Support the integration of biomethane into existing infrastructure, also considering existing biogas plants. The **“right to inject” principle included in the [Gas Directive \(EU\) 2024/1788](#) should be effectively implemented in Member States**, and these should exchange best practices to ease biomethane uptake in the grids.

- Overcome fragmentation across Member States through **harmonisation and removal of national barriers**. Priority should be given to the consistent implementation of RED rules on certification and use of the Union Database, the recognition of Proof of Sustainability (PoS) as the key compliance instrument, clear and uniform sustainability definitions, and the mutual recognition of certification and audit rules.

Consider end-users' specificities

- **Support the uptake of renewable gases in the heating sector**, for example using Carbon Contracts for Difference (CCfD), fuel switch incentives, green contracts, public procurement commitments, tax incentives, at both Member State and EU level. Some Member States are also exploring blending quotas as an alternative incentive⁴.
- **Enable biomethane consumption in road transport by enforcing RED III implementation at Member States level**, as already seen in some Member States where the sector is close to being fully decarbonised⁵. While biomethane is already used and supported by extensive infrastructure, further uptake can be incentivised by granting additional rebates on highway tolls.
- **Implementation of RED III and introduction of the Union Database (UDB) will be essential to allow for an effective uptake of biomethane utilisation in the maritime sector**. This is especially true since the vast majority of vessels that can run on renewable fuels in today's orderbooks are LNG powered. Shipping, energy and port infrastructure companies are investing heavily in this technology. In this context, liquefaction by equivalence should be recognised as a viable pathway to increase bioLNG use within EU gas infrastructures and enshrined in EU Implementing Regulation 2022/996 with clear emissions accounting aligned with FuelEU Maritime.
- **Guarantee that biomethane remains eligible for the exemption under the EU ETS and ETS2 for the industrial uses**, in line with the existing regulatory framework and its recognition as a strategic net-zero technology under the Net-Zero Industry Act.
- **Promote the recognition of market-based accounting for renewable gaseous fuels**, such as Proof of Sustainability (PoS), **under the GHG Protocol** and align it with the EU regulatory framework established by RED III.

3. Hydrogen

The role of hydrogen in enhancing EU's resilience

Hydrogen and its derivatives are expected to play a central role **in achieving climate neutrality, fostering innovation, strengthening technological leadership, ensuring sector coupling, modernising the complex value chains that underpins Europe's economic strength, and enhancing the resilience of the European Union**.

Renewable hydrogen produced through electrolysis enables surplus renewable electricity, particularly from wind and solar generation, to be stored and used when needed, supporting seasonal storage, security of supply, power system flexibility, and grid stability. Combined with large-volume underground storage, it

⁴ Such schemes should be designed in a consistent way with the EU internal market and cross-border trade, and consider the impact on energy market participants.

⁵ LNG supplied in Germany for road transport use consisted of 98.5% biomethane in 2025 (Gas und Wasserstoff Wirtschaft, [Pressemitteilung](#), 2026)

can also reduce the need for costly electricity grid expansion. Alongside offshore hydrogen production in the North Sea and Baltic Sea, domestic hydrogen production through electrolysis can help reduce dependence on non-European producers. Integrated subsea cables and pipelines connected to both the electricity transmission grid and the hydrogen transport network can further enhance offshore wind energy market integration, flexibility and cost-efficiency of the energy system. In addition, hydrogen imports provide broad diversification of supply sources, including from Ukraine, India, North African and South American states.

At the same time, low-carbon hydrogen produced either through steam methane reforming coupled with carbon capture, utilisation and storage (CCUS) or methane pyrolysis can play an essential role in decarbonising and enhancing resilience of the EU energy system. **These production routes can offer significant greenhouse gas emission reductions compared to grey hydrogen**, and considerably lower production costs being a more developed production pathway than renewable hydrogen, around EUR 2.8/kg compared to EUR 7–10/kg for renewable hydrogen.⁶ They can also complement renewable hydrogen by providing a less constrained production through availability and price of renewable electricity. The pathways offer different infrastructure and resilience benefits. Reforming with CCS can support development of European CO₂ transport and storage value chains. Methane pyrolysis can reduce dependence on such infrastructure by retaining carbon in solid form, which may be used in durable material applications or permanently stored, subject to appropriate sustainability, monitoring and accounting rules. Solid carbon may also contribute to secure European supplies of strategically important materials, including graphite and carbon black.

Domestic low-carbon hydrogen production can complement renewable hydrogen and imports by using Europe's existing gas and energy infrastructure, supporting regional production close to industrial and power-sector demand, and reducing exposure to individual import routes or bottleneck in transporting hydrogen. **A resilient European hydrogen strategy should therefore combine renewable and low-carbon production pathways**, both domestic and imported, according to their verified lifecycle greenhouse-gas performance and contribution to system resilience, to ensure scaling up hydrogen supply, stimulating market uptake, and supporting the development of a competitive European hydrogen economy.

Policy measures needed to scale up hydrogen

When it comes to hydrogen and its derivatives, the following **key elements** should be considered to enhance their role in solving the energy trilemma:

Address the shortcoming of the regulatory framework

- **Re-design the delegated acts for RFNBOs** ([Delegated Acts \(EU\) 2023/1184](#) and [2023/1185](#)) and the [Low-carbon fuels Delegated Act](#) in a **pragmatic, ambitious and less prescriptive manner** to strengthen the business case for renewable and low-carbon hydrogen and unlock demand.
- Clarify that **hydrogen blended into the interconnected gas infrastructure remains eligible to count towards RFNBO targets**, in accordance with the RED III mass balance framework, without requiring deblending at the point of fuel consumption.

Promote the development of the market

- **Align infrastructure deployment with project ambition to unlock investment, strengthen supply-demand linkages and accelerate the transition towards a fully functioning and cost-efficient market.**

⁶ ACER(December 2025), [European hydrogen markets, 2025 Monitoring Report](#)

Large-scale (underground) hydrogen storages, terminals and bunkering facilities should be developed in parallel with transport and distribution infrastructure, to ensure flexibility, resilience and a market-driven pathway towards a future European backbone.

- **Ensure market ramp-up** by enabling traders and suppliers to apply their established expertise in portfolio management, maturity transformation and risk management to the procurement and supply of hydrogen. **State-backed risk mitigation mechanisms** must be provided also for midstream operators.
- **Utilise surplus renewable electricity before curtailment** by supporting power-to-hydrogen(-to-power) solutions and seasonal storage at scale.
- **Establish a European Hydrogen Alliance at the Member States level** in order to pool the political leverage of countries committed to an ambitious ramp-up, and to accelerate progress on regulation, trade and certification, the future build-out of the H₂ backbone, (underground) storages, and connected import corridors and infrastructure.
- **Scale up hydrogen consumption** through implementation of the Renewable Energy Directives ([Directive \(EU\) 2018/2001](#) and [Directive \(EU\) 2023/2413](#)), promotion of **demand-side incentives** such as Carbon Contracts for Difference (CCfDs), and creation of **lead markets**, particularly through the upcoming Industrial Accelerator Act.
- **Ensure strong investment signals for renewable fuels in the transport sector and RFNBOs in the industrial sector.** This should go hand in hand with developing pragmatic solutions for industrial demand targets through a flexible and technology-neutral approach that reflects current market realities and supports a practical pathway to industrial decarbonisation, in particular in the context of post-2030 framework.
- **Recognise the key role of low-carbon hydrogen in the energy transition**, considering its already developed production pathways (SMR/methane pyrolysis) that can lead in scaling up the hydrogen market.

Conclusions

The European Commission is currently working on several files which aim to ensure the European Union reaches its decarbonisation objectives, while ensuring that the energy system remains resilient. To achieve this objective the European energy mix has to develop in a technology-neutral manner, to ensure that complementarity of energy sources can increase resilience of the energy system. This includes allowing gases to develop and contribute to the energy mix, as detailed above.