entsog

european network
of transmission system operators
for gas

ANNUAL WORK PROGRAMME

2026

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1 INTRODUCTION

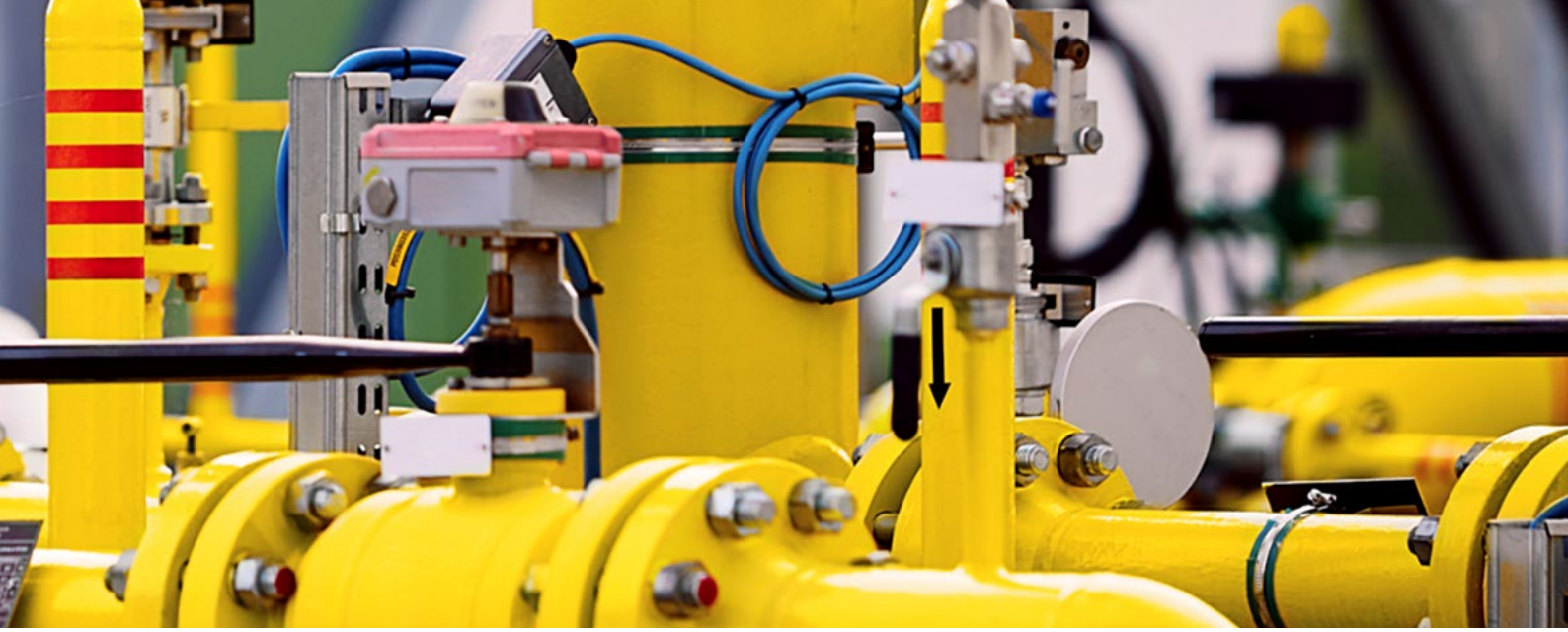
ENTSOG was created in December 2009 as part of the implementation of the European Union's Third Energy Package. Thereafter, ENTSOG was mandated under Regulation (EU) 2024/1789 (as part of the Hydrogen and Decarbonised Gas Market Package), along with other relevant legislation, to undertake specific tasks to support EU energy security, the internal energy market, and decarbonisation. This document represents the 2026 edition of the Annual Work Programme (AWP), as required by Art. 26.3(e) of Regulation (EU) 2024/1789. An Annex has been included to provide an overview on the legal basis for all ENTSOG's primary regulatory tasks.

ENTSOG's main tasks until 2024 were based on Regulation (EC) 715/2009 and included the development and implementation monitoring of network codes, development of its Ten-Year Network Development Plans (TYNDP) (in cooperation with ENTSO-E for scenario development) and assessment of European security of supply, through preparation of Summer Supply Outlook and Winter Supply Outlook reports. Many of these same tasks are also required by Regulation (EU) 2024/1789, while now also accounting for the analysis, monitoring and reporting of renewable and low carbon gases, such as biomethane.

Regarding the TYNDP, the Regulation requires ENTSOG to develop the TYNDP 2026 with two separate chapters, one for hydrogen and one for natural gas. As from 1 January 2027, new TYNDP editions developed by ENTSOG will cover natural gas infrastructure only, including an outlook on supply adequacy of the European natural gas network. This outlook will also provide information on the monitoring of progress on the annual production of sustainable biomethane. In 2026, the joint ENTSOG/ENTSO-E work of TYNDP 2028 Scenarios development will also include the European Network of Network Operators for Hydrogen (ENNOH) in the process.

The Regulation also tasks ENTSOG to elaborate any network codes requested by the European Commission. ENTSOG will continue to actively participate in the further development of the established Network Codes and Guidelines through the Functionality Process as well as through any formal regulatory amendment process and any task given via new legislation, including a potential amendment of the Interoperability and Data Exchange Network Code.

As in the past, to ensure ongoing assessment of security of supply resilience, ENTSOG will develop its seasonal supply outlook and review reports for publication in 2026. Additionally, ENTSOG continuously monitors the implementation and functionality of published CNOTS (coordination of network operation in normal and emergency conditions) and will update or develop new CNOTs, if required.



ENTSOG is required to undertake new tasks in 2026 that are not related to Regulation (EU) 2024/1789, specifically work to address requests arising from two energy regulatory fora. The 39th European Gas Regulatory Forum (Madrid, May 2025) took note of ENTSOG's proposal to develop, in cooperation with ENNOH and other relevant stakeholders, a mid-term infrastructure assessment framework, with special attention to flexibility options and security of supply provided by gas infrastructure to the electricity system in the context of the energy transition and sector integration. The Forum invited ENTSOG to present the framework at the Forum in 2026.

Furthermore, the 11th Energy Infrastructure Forum (Copenhagen, June 2025) invited ENTSOG and ENNOH to apply repurposing principles, jointly developed by ENTSOG and ENNOH with relevant stakeholders in 2025, to the TYNDP 2026 exercise. In addition, ENTSOG, ENNOH and ENTSO-E are requested to ensure the implementation of the Interlinked Model in the 2026 TYNDPs, while ENNOH, ENTSOG and other relevant stakeholders are requested to deliver a report on the possible de-risking options for hydrogen projects by the next Forum in 2026. Work on this task will commence in 2025, and continue into 2026.

Within a changing legislative framework for energy grids, which includes the formal establishment of ENNOH, ENTSOG will consider and provide clear gas TSO positions on relevant EU initiatives, proposals, and consultations. In particular, policy initiatives associated with the Clean Industrial Deal, including the European Grids Package and any possible revision of the TEN-E Regulation, as well as considerations for future regulation relating to CO_2 transport, will contribute to ENTSOG's work in 2026. Focus will remain on how to facilitate decarbonised and affordable gas infrastructure, including repurposing existing assets. ENTSOG will also contribute to European energy system integration, via cooperation of gas, hydrogen and electricity value chains. A key topic in 2026 includes carbon capture, utilisation and storage (CCUS) and CO_2 transport, for which ENTSOG continues to engage with stakeholders as a trusted technical adviser.

The ENTSOG team will undertake the necessary activities to support the achievement of EU goals of competitiveness, security of supply and sustainability and can provide support to the work undertaken by the future Hydrogen Network Operators (HNOs) and the ENNOH team, as needed. The structure of ENTSOG with the embedded expertise of its members, as well as of its Brussels office, will continue to play a pivotal role in the further development of the European gas markets and the future of gas grids. ENTSOG progresses its work as a proactive, trusted adviser on gas transmission related topics on a European level in 2026, and beyond.

Picture courtesy of Swedegas

2 SUMMARY OF ENTSOG's ACTIVITIES IN 2026

ENTSOG's main activities can be described using the following four headings

- **Networks Codes and Guidelines (Section 3)**
- **Scenarios and Infrastructure (Section 4)**
- **Security of Supply (Section 5)**
- **Energy Transition (Section 6)**

The Annual Work Programme (AWP) had previously primarily focused on the regulatory tasks assigned by the Third Energy Package (Regulation (EC) 715/2009), including the development process of the network codes, a cornerstone of the organisation's activities. ENTSOG efforts for 2026 continue on monitoring the implementation and effects of the established Network Codes and Guidelines, and elaborating any network codes requested by the European Commission (EC) – these are addressed in Section 3 of this document. The joint activity of managing the Functionality Process with ACER and Transparency Guidelines (including on the Regulation on Wholesale Energy Market Integrity and Transparency, or "REMIT") is also included in Section 3.

Other regulatory tasks include the elaboration of the Ten-Year Network Development Plan (TYNDP), providing regular information on gas supply and demand for the European market and delivering common operational tools to ensure network security and reliability, as needed. These are described in Sections 4 and 5. Section 6 outlines ENTSOG's decarbonisation efforts to address the climate targets and describe how the gas grid can facilitate the transport of gases accelerating the energy transition, including biomethane, CO_2 and hydrogen.

Research and Development activities undertaken by ENTSOG are described in Section 7. Details on ENTSOG's internal supporting organisation are provided in Sections 8 of this document.

Each topic in Section 3–7 includes objectives, key deliverables and activities and a programme of activities for 2026. ENTSOG's key work areas and deliverables are highlighted in Sections 2.1 to 2.5 below and summarised in the "Programme of Activities" tables in each section.

A summary of regulatory references is included in the Annex – Section 9.

2.1 NETWORK CODES AND GUIDELINES

In 2026, ENTSOG will continue to provide support to its Members and other market participants on Network Code and Guideline-related topics and will maintain monitoring activities. ENTSOG will work with ACER in providing joint solutions to issues posted by stakeholders on the Gas Network Codes Functionality Platform. On the basis of legislation, for example the Directive (EU) 2024/1788 and Regulation (EU) 2024/1789 – as well as amendments to existing Network Codes and Guidelines – ENTSOG will support the EC and ACER, as required.

Interoperability work in 2026 includes the development, support, and maintenance of Common Network Operation Tools (CNOTs) for data exchange. ENTSOG will continue to work in close cooperation with ACER, the EC, Energy Community, EASEE-gas and other stakeholders on all matters relating to Network Code and Guidelines, including the work related to possible revisions of Network Codes and Guidelines.

Activities undertaken for the Transparency Guidelines and REMIT topics relate mainly to the management of the transparency and reporting obligations including TSOs' publications on their websites, on the ENTSOG Transparency Platform (TP) and data reporting to ACER REMIT Information System (ARIS). In 2026, ENTSOG and the gas TSOs will undertake implementation of the new reporting requirements and compliance activities,

in accordance with the REMIT Implementing and Delegating Regulation, anticipated to be adopted by the end of 2025. TP work will be undertaken to analyse stakeholder feedback and implement new functionalities on the platform that will improve the usability and user-friendliness of the published data. ENTSOG and its TSO members will continue their efforts to improve data quality and completeness and delivering on their REMIT obligations. Additional support will be provided to the TSOs from Energy Community Contracting Parties as they advance their efforts on transparency publications, including potential publication on ENTSOG's TP.

2.2 SCENARIOS AND INFRASTRUCTURE

In 2026, ENTSOG will continue work on the TYNDP 2026. Following the data collection for TYNDP 2026, ENTSOG will publish the TYNDP 2026 list of projects (Annex A) at the end of Q1. During Q1 and Q2, ENTSOG will develop and consult the TYNDP methodological documents that will set the framework of the main TYNDP deliverables (i. e., IGI, PS-CBAs and System Assessment). During Q3 and Q4 2026, ENTSOG will perform the TYNDP 2026 Infrastructure Gaps Identification and System Assessment exercises. Once prepared, all parts of the TYNDP 2026 except for Project-Specific Cost-Benefit Analysis and Gas Quality Outlook are planned to be publicly consulted at the end of 2026, ahead of submission for opinion/approval of ACER, the EC and Member States.

The Project-specific Cost-Benefit Analyses (PS-CBA) of candidates for the status of Project of Common Interest (PCI) and Project of Mutual Interest (PMI) of the hydrogen category is planned to start at the end of 2026. In parallel to the PS-CBA process, ENTSOG will support the EC in the third PCI/PMI process under the TEN-E Regulation (EU/2022/869).

During 2026, ENTSOG will work to adapt ENTSO-E's and ENTSOG's consistent and Interlinked Model (ILM) for future TYNDPs.

As outlined in Regulation (EU) 2024/1789, ENTSOG will involve the European Network of Network Operators for Hydrogen (ENNOH), once established, in the TYNDP task.

In 2026, ENTSOG will continue its efforts on developing scenarios for the TYNDP 2026. This will involve the finalisation of the National Trends Models and the Economic Variants. The Scenarios Report is scheduled to be drafted by the end of Q1 2026 and submitted to ACER/EC during Q2.

During the latter half of 2026, ENTSOG will commence the development of the Scenarios for the TYNDP 2028 in conjunction with ENTSO-E and ENNOH.

2.3 SECURITY OF SUPPLY

ENTSOG continues its assessment of the European security of supply, through preparation of several deliverables in 2026: ENTSOG will publish the Summer Supply Outlook 2026 with Winter 2026/27 Overview, as well as the Summer 2025 Review. ENTSOG will also publish the Winter Supply Outlook 2026/27 with Summer 2027 Overview, along with the Winter 2025/26 Review.

ENTSOG will undertake work on facilitating the existing Regional Coordination System for Gas (ReCo System for Gas) as a CNOT for emergency conditions and the common incidents classification scale. ReCo will continue its 24/7 exchange platform and coordinating work to help address security of supply challenges in Europe. ENTSOG will continue to support the EC and the Gas Coordination Group (GCG) in implementing security of supply measures such as the prolongation of the Gas Storage Regulation, developing adjustments and new documentation, in particular by assisting, if requested, in preparing and implementing solidarity principles, regional emergency plans, preventative action plans, and storage filling level targets. Further work is also expected in assisting

the Energy Community Secretariat and Contracting Parties in security of supply activities, e. g., SEEGAS steering committee and others.

ENTSOG will monitor the use of the CNOT for emergency conditions, along with the evolution of operational processes and needs – and will revise it if needed, as required by Regulation (EU) 2024/1789.

Since most EU Member States import natural gas from non-EU countries and most of those imports originates from, or crosses, third countries to the EU, ENTSOG will further strengthen the cooperation between EU TSOs and third-country TSOs that play an important role in EU gas supplies and contribute to the preparedness for emergencies.

ENTSOG will continue to support the EC, GCG, and Member States in any future revision and implementation of the Security of Supply Regulation. As the energy landscape evolves, ensuring a resilient and coordinated approach to gas supply remains a key priority. ENTSOG will contribute technical expertise, data, and network modelling capabilities to support the development of effective measures and the enhancement of regional cooperation.

In parallel, ENTSOG will closely follow the progress of the EC's Communication[1] published in May 2025 on a roadmap towards ending Russian energy imports. ENTSOG will provide any analytical support, scenario assessments, and targeted recommendations needed to facilitate a secure and efficient transition. This work will aim to inform policy discussions, identify infrastructure requirements, and support system adaptability under various supply configurations.

ENTSOG will continue supporting the EC and other stakeholders in the context of the changes as a consequence of the Russian war against Ukraine and any other impacting geopolitical situations.

2.4 ENERGY TRANSITION

In 2026, ENTSOG will continue to participate in and contribute to the objectives of the European decarbonisation and industrial agenda, with a special focus on repurposing of the gas grids towards an all-clean molecules and multi-carrier-system. Specifically, work continues on the outcomes of transporting increasing volumes of hydrogen, biomethane and CO_2. ENTSOG will also focus on supporting the TSO Members in their implementation of key legislative files, as well as monitoring developments related to any future CO_2 transport regulatory package and engage with stakeholders on the EU Grids Package (including possible revision of TEN-E Regulation) and the Industrial Decarbonisation Accelerator Act.

With respect to the regulatory framework, the implementation of legislation will be at the centre of the works, namely: Regulation (EU) 2024/1789 ogether with its Delegated Acts, Network Codes development, Methane Emissions Regulation, and Renewable Energy Directive (RED III, its Union Data Base and certification scheme), REMIT and its Implementing Acts, and policies such as RePowerEU, the EU-wide 2040 climate goals and Industrial Carbon Management.

Core topics include supporting Members on repurposing of gas assets, integrated national and European grids planning, TSO-DSO cooperation (including the recently adopted recommendations to TSOs on technical cooperation with DSOs), unbundling, tariffs, financing, guarantees of origin/certificates, gas quality and hydrogen transport and handling, and security of supply, including phasing out Russian gas imports, cybersecurity and regional cooperation. Regulation (EU) 2024/1789 also mandates ENTSOG to produce an annual report to include the quantity of renewable gas and low-carbon gas injected into the natural gas system. Additionally, the conclusions of the 11th Energy Infrastructure Forum in Copenhagen[2] invited ENNOH, ENTSOG and other relevant stakeholders to further work on the possible de-risking options for hydrogen projects and deliver a report on this topic by the next Forum in 2026.

On these and any other relevant topics, ENTSOG will consider initiatives and proposals published by the EC, ACER or other relevant stakeholders, and will liaise internally with different working groups and task forces.

1 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025DC0440R%2801%29&qid=1747125158211

2 https://energy.ec.europa.eu/events/11th-energy-infrastructure-forum-2025-06-02_en

Picture courtesy of TAG

3 NETWORK CODES AND GUIDELINES

Regulation (EC) 715/2009 required European-wide Network Codes and Guidelines to be developed by ENTSOG to harmonise the applicable rules aimed at facilitating market integration.

On that basis, ENTSOG has developed several Network Codes and Guidelines and was required to monitor the implementation of the existing Network Codes and Guidelines and their effect on the harmonisation of applicable rules aimed at facilitating market integration and transparent rules. Under Directive (EU) 2024/1788 and Regulation (EU) 2024/1789 this requirement will continue in 2026 and beyond.

With respect to transparency, the first specific obligations for gas TSOs have been introduced under Regulation (EC) No. 715/2009, which established the basic transparency rules further, further detailed in Chapter 3 of Annex I and its subsequent amendments. Reporting obligations have been added in accordance with the REMIT Regulation (EU) No 1227/2011 and its amendments, and Implementing Acts. ENTSOG will continue to deliver on these requirements and implement necessary updates.

ENTSOG will also continue to actively participate in the further development of Network Codes and Guidelines through the Functionality Process as well as through any formal regulatory amendment process and any task given via new legislation. In this regard, new Network Codes are expected to be developed as a result of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789. Additionally, ENTSOG will consider any specific legislative developments arising from the European Commission's Clean Industrial Deal legislative package or any other relevant legislation.

In accordance with Art. 70(2)(d) of Regulation (EU) 2024/1789, Network Codes and Guidelines shall apply "*to all interconnection points within the Union and entry points from and exit points to third countries from 5 August 2026.*" However, Art. 70(3) allows National Regulatory Authorities (NRAs) to submit simultaneously a request to the EC and ACER by 5 February 2026 in view of a derogation from application of these legal texts to points with third countries. In 2026, ENTSOG will support relevant stakeholders in the implementation of this process or optional derogations from it.

3.1 CAPACITY ALLOCATION MECHANISMS NETWORK CODE

CAM NC sets up capacity allocation mechanisms for existing and incremental capacity and how adjacent TSOs cooperate to facilitate capacity sales, having regard to general commercial as well as technical rules related to capacity allocation mechanisms.

The amended CAM NC entered into force as Regulation (EU) 2017/459 on 6 April 2017 and repealed the previous Regulation (EU) No. 984/2013. In 2026, ENTSOG will continue to support the implementation of the CAM NC by providing TSO members and stakeholders with advice and guidance throughout the implementation process, as well as to engage in any activities related to amendments to the CAM NC as required by Directive (EU) 2024/1788 and Regulation (EU) 2024/1789. The official legislative procedure for amendment of the CAM NC is expected to be finalised in 2026. If adopted in 2026, ENTSOG will support relevant stakeholders in the implementation of the revised CAM NC.

3.1.1 OBJECTIVES

- To support the implementation and application of the CAM NC.
- To monitor and analyse the implementation of the CAM NC and its effect on the harmonisation of applicable rules aimed at easing market integration.
- To monitor the incremental capacity process according to Chapter V of the CAM NC and provide support to members throughout the different steps of this process.
- To facilitate activities and provide expert knowledge and guidance to stakeholders related to capacity.
- To respond to CAM NC-related issues raised on the Functionality Platform, working in close dialogue with stakeholders.
- To support and assist in the implementation of the CAM NC in terms of regulatory interpretation by relevant EU bodies as well as via knowledge sharing and the dissemination of good practices, including assistance to the Energy Community in implementing the CAM NC.
- To support any amendment processes to CAM NC.
- To develop documents/solutions stemming from legal obligations on ENTSOG outlined in the CAM NC (including the auction calendar published every year).

Picture courtesy of S.G.I.

3.1.2 KEY ACTIVITIES AND DELIVERABLES

- Prepare for the 2026 CAM NC monitoring report, to be published in 2027.
- Support the amendment process of CAM NC and offer expertise to ACER and EC and if applicable, ENTSOG will support the revision of the CAM NC and its implementation.
- Where necessary in 2026, support implementation of CAM-related aspects of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789.
- Publish the yearly CAM NC Auction Calendar.
- Issue solutions delivery from the joint ACER and ENTSOG functionality process involving stakeholders.
- Update the Business Requirements Specification (BRS) CAM if required.
- Monitor the progress of the incremental capacity process and support members throughout the different steps of this process.
- Develop ENTSOG positions on capacity-related issues, including responses to public consultations and ACER reports.

3.1.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on CAM NC related issues:

CAM NC	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
CAM NC auction calendar												
Prepare for the 2026 CAM NC monitoring report, to be published in 2027												
Support CAM NC amendment process												
Incremental Capacity Process - support TSOs with the incremental capacity process												
Analysis of ACER reports and other capacity-relevant reports												
Monitor the activities and develop ENTSOG positions on capacity-relevant issues, incl. responses to public consultations												
Support the Energy community in implementing the CAM NC												
Functionality Process for the CAM NC												
CAM BRS update (if required)												

Activity periods Key deliverables available to external stakeholders Undetermined workload

3.2 BALANCING NETWORK CODE

The BAL NC applies to balancing zones within the borders of the EU. It establishes rules for natural gas balancing, including network-related rules on nomination procedures, imbalance charges, settlement processes associated with daily imbalance charges, and provisions on operational balancing.

The BAL NC was published in the Official Journal of the European Union on 26 March 2014 and entered into force on 16 April 2014.

In 2026, ENTSOG will continue to support the implementation of the BAL NC by providing members and stakeholders advice and guidance throughout the implementation process and any other related topics.

3.2.1 OBJECTIVES

- To support the implementation and application of the BAL NC.
- To monitor and analyse the implementation of the BAL NC and its effect on the harmonisation of applicable rules aimed at easing market integration.
- To facilitate activities and provide expert knowledge and guidance to stakeholders related to balancing.
- To respond to BAL NC-related issues raised on the Functionality Platform, working in close dialogue with stakeholders.
- To support and assist in the implementation of the BAL NC in terms of regulatory interpretation by relevant EU bodies as well as via knowledge sharing and the dissemination of good practices, including assistance to the Energy Community in implementing the BAL NC.
- To coordinate with ACER on data exchange and information sharing to monitor the effective implementation of the BAL NC.

3.2.2 KEY ACTIVITIES AND DELIVERABLES

- Publish the 2026 edition of the BAL NC Implementation and Effect Monitoring Report.
- Data collection for ACER's Gas Balancing Dashboard.
- Where necessary in 2026, support implementation and discuss developments on BAL related aspects of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789.
- Issue solutions delivery from the joint ACER and ENTSOG functionality process involving stakeholders on balancing-related issues.
- Update the Business Requirements Specification (BRS) for Balancing processes if required.
- Develop ENTSOG positions on balancing-related issues, including responses to public consultations and ACER reports.

3.2.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on BAL NC related issues:

Balancing NC	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
BAL NC monitoring report 2026 edition to be published in 2026												
Support and assistance to TSOs in the implementation of the BAL NC												
Data collection and analysis for ACER's Gas Balancing Dashboard												
Where necessary in 2026, support potential amendments and discuss developments on BAL NC as a result of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789												
Analyses of ACER reports (implementation/effect monitoring, market monitoring) and other BAL-relevant reports												
Monitor activities and develop ENTSOG positions on balancing-relevant issues, incl. responses to public consultations and ACER reports												
Support the Energy Community in implementing the BAL NC												
Functionality Process for the BAL NC												

Activity periods | Key deliverables available to external stakeholders | Undetermined workload

3.3 TARIFF NETWORK CODE

The TAR NC contributes to set tariffs, or methodologies used to calculate them (which are transparent), considering the need for system integrity and its improvement, reflecting the actual cost incurred, using a non-discriminatory approach, facilitating efficient gas trade and competition, avoiding cross-subsidies between network users, and providing incentives for investment. The TAR NC on rules regarding harmonised transmission tariff structures for gas was published in the Official Journal of the European Union on 17 March 2017 and entered into force on the 6 April 2017.

In 2026, ENTSOG will continue to support the ongoing implementation and monitoring of the TAR NC by providing TSO members and stakeholders with advice and guidance throughout the implementation process.

As there are several provisions in Directive (EU) 2024/1788 and Regulation (EU) 2024/1789 regarding tariffs, ENTSOG will also support the implementation process of these provisions. In particular:

- Article 17 of Regulation (EU) 2024/1789 clarifies that, from 1 January 2026, NRAs "*may apply a discount of up to 100 % to capacity-based transmission and distribution tariffs at entry points from, and exit points to, underground natural gas storage facilities and at entry points from LNG facilities for the purpose of increasing security of supply.*"
- Article 19 of Regulation (EU) 2024/1789 establishes an obligation for ACER to complete a TSO efficiency comparison which should be first published in 2027 and then repeated every four years thereafter. ENTSOG will participate in this exercise with a view to enhancing the quality of the work, by facilitating the coordination and the content discussions with TSOs and stakeholders.

3.3.1 OBJECTIVES

- To support the implementation and application of the TAR NC.
- To monitor and analyse the implementation of the TAR NC and its effect on the harmonisation of applicable rules aimed at easing market integration.
- To facilitate activities and provide expert knowledge and guidance to stakeholders related to tariffs.
- To respond to TAR NC-related issues raised on the Functionality Platform, working in close dialogue with stakeholders.
- To support and assist in the implementation of the TAR NC in terms of regulatory interpretation by relevant EU bodies as well as via knowledge sharing and the dissemination of good practices, including assistance to the Energy Community in implementing the TAR NC.
- To develop documents/solutions stemming from legal obligations for ENTSOG outlined in the TAR NC (for example, regarding transparency requirements).

3.3.2 KEY ACTIVITIES AND DELIVERABLES

- Prepare for the TAR NC Implementation and Effect Monitoring Report to be published in 2026.
- Where necessary in 2026, support implementation and discuss developments on tariff-related aspects of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789.
- Issue solutions delivery from the joint ACER and ENTSOG functionality process involving stakeholders.
- Develop ENTSOG positions on tariff-related issues, including responses to public consultations and ACER reports.

3.3.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on Tariff NC related issues:

Tariff NC	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
TAR NC monitoring report 2026 edition to be published in 2026												
Support and assistance to TSOs in the implementation of the TAR NC												
Where necessary in 2026, support potential amendments and discuss developments on TAR NC as a result of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789												
Analyses of ACER reports (implementation/effect monitoring, allowed/target revenue, market monitoring) and other TAR-relevant reports												
Monitor the activities and develop ENTSOG positions on tariff-relevant issues, incl. responses to public consultations												
Support the Energy Community in implementing the TAR NC												
Functionality Process for the TAR NC												

Activity periods Key deliverables available to external stakeholders Undetermined workload

3.4 INTEROPERABILITY AND DATA EXCHANGE NETWORK CODE

Regulation (EU) 2015/703 established a network code on interoperability and data exchange rules (INT NC) in 2015.

An appropriate degree of harmonisation in technical, operational and communication areas is key to overcome potential barriers to the free flow of gas in the European Union. The INT NC enables the necessary harmonisation in those areas, therefore leading to effective market integration. For that purpose and for facilitating cooperation between adjacent transmission system operators, ENTSOG provides assistance for the harmonised implementation of the INT NC and develops and maintains CNOTs for the technical implementation of Network Codes and Guidelines.

Regarding the Interoperability and Data Exchange Network Code, Regulation (EU) 2024/1789 indicates that the EC may adopt implementing acts establishing network codes for interoperability rules for the natural gas system, including addressing areas that are not included in the current Network Code. The inclusion of these new areas in the INT NC require that the revision of the NC is considered.

In 2026, ENTSOG will continue to develop preparatory work for the potential future revision of the INT NC and will engage in any activities related to possible amendments to the INT NC if launched by the European Commission.

3.4.1 OBJECTIVES

- To support the implementation and application of technical, operational and communication harmonised rules.
- To investigate the further steps of harmonisation regarding common data exchange solutions.
- To facilitate and support coordination of technical cooperation between Member States, Energy Community and third-country transmission system operators, as required by Regulation (EU) 2024/1789.

Picture courtesy of TAP

3.4.2 KEY ACTIVITIES AND DELIVERABLES

3.4.2.1 Monitoring of the implementation and functioning of the Network Code on Interoperability and Data Exchange Rules

- Assess the need to develop analysis on the implementation of the Network Code on Interoperability and Data Exchange Rules.
- Analyse any proposals arising from the Functionality Process including validation, categorisation and prioritisation of the issues and develop proposals for improvement or amendment of the Network Codes or Guidelines together with ACER and relevant stakeholders.

3.4.2.2 Development, support and maintenance of common network operation tools (CNOTs) for data exchange

- Monitor the implementation and functionality of published CNOTs for capacity and congestion and nominations and matching procedures, including the related Business Requirement Specifications, edig@s xml, implementation guidelines and the technical communication profiles.
- Provide support throughout 2026 for the CNOTs, including delivering an amended version of a given CNOT if required.
- Hold a data exchange and cybersecurity workshop related to the implementation of Common Data Exchange Solutions featuring Data Exchange, Communication and Cybersecurity.
- Analyse any suitable requests concerning potential Data Exchange harmonisation.
- Maintain cooperation with ENNOH, EASEE-gas, GIE, eDelivery – the EC's eDelivery Building Block programme, ACER, ENISA, SEEG (Smart Energy Expert Group) and other relevant stakeholders involved in data exchange and cybersecurity and share appropriate and relevant information.

3.4.2.3 Technical cooperation between Member States, Energy Community and third-country transmission system operators

- If required, update recommendations relating to the coordination of technical cooperation between Member States, Energy Community and third-country transmission system operators.
- Support the TSOs of Member States, Energy Community and third countries in the implementation of the INT NC rules and expanding regional cooperation.
- If required, host workshop to discuss future steps for strengthening technical cooperation between Member States, Energy Community and third-country TSOs supplying or transiting gas to the EU.

3.4.2.4 Gas Quality and Hydrogen handling

- Develop the second edition of the Gas Quality monitoring report as required by Regulation (EU) 2024/1789.
- Support the implementation of the gas quality transparency requirements and as stated in Annex I of Regulation (EU) 2024/1789.
- Work on the sixth edition of the Gas Quality Outlook in alignment with TYNDP 2026, required by the INT Network Code, showing the potential variability of some gas quality parameters in Europe within the next ten years.
- Organise a public workshop on gas quality, hydrogen and CO_2 handling to show the latest advancements in the field of the gas quality and promote the dialogue with stakeholders along the gas value chain.
- Cooperate with CEN, particularly in:
  - The post-revision work of the revised standard EN 16726 carried out by CEN TC234.
  - The development of a CEN standard on hydrogen quality.
  - The work carried out by CEN TC 408 to prepare the next revision of EN 16723 – natural gas and biomethane for use in transport, and biomethane for injection in the natural gas grid.
- Undertake activities and share best practices related to the gas transmission network readiness to integrate renewable and low-carbon gases in the natural gas grid, and to transport hydrogen and CO_2.
- Facilitate the information exchange between TSOs about the best practices on gas quality.
- Facilitate and monitor the discussions on the potential achievable hydrogen purity levels in repurposed natural gas grids.
- Support the preparatory work for a potential revision of the INT NC regarding the gas quality topics considering Regulation EU 2024/1789 or any official process for revision of the INT NC.
- Assess the possibilities of deploying a "smart gas grid" to improve the interoperability of systems and provide a better gas quality and hydrogen management.
- Advise on Strategic Research and Innovation Agenda, and the Annual Work Plan of the Clean Hydrogen Partnership as part of its Stakeholder Group.
- Further assess the technical challenges for TSOs and share the best practices on gas quality management (i. e., oxygen mitigation techniques, deodorisation in reverse flows, Wobbe Index classification system management, information provision), together with challenges and possible impacts related to the injection of higher amounts of biomethane into the gas grids.
- Cooperate with associations (e. g., ENNOH, GIE, CEN, GERG, Marcogaz, EASEE-gas.) in their activities related to hydrogen, natural gas and renewable and low-carbon gases, and CO_2.
- Cooperate with stakeholders to define gas quality and hydrogen handling principles with a focus on the Wobbe Index classification system at exit points.

3.4.2.5 Technical Cooperation between TSOs and DSOs

As required by Regulation (EU) 2024/1789, ENTSOG published for the first time in 2025, recommendations togas TSOs on their technical cooperation with connected distribution system operators (DSOs). For the development of these recommendations, ENTSOG consulted the gas TSOs and four EU associations representing DSOs – Eurogas, CEDEC, GEODE, and GD4S. Several key aspects of technical cooperation between TSOs and DSOs were addressed in the document. This document addresses only TSO-DSO interfaces: recommendations to TSOs on their technical cooperation with hydrogen network operators (HNOs) will be developed at a later date, as currently only a limited number of HNOs exist.

3.4.2.6 Other Activities

3.4.2.6.1 Operation of the Local Issuing Office for Energy Identification Coding scheme

- Management of EIC Codes requests and updates in the ENTSOG LIO registry and maintaining the EIC data exchange from/to the Central Issuing Office (CIO/ENTSO-E) and the ENTSOG LIO tool.
- Cooperation with ENTSO-E to further streamline and standardise the implementation of the scheme in the gas sector.

3.4.2.6.2 Standardisation work for CO_2 transport

In 2026, ENTSOG will continue to contribute to work focused on the technical aspects of Carbon Capture, Utilisation and Storage (CCUS) and to provide expertise on technical aspects. Moreover, ENTSOG will follow and participate in discussion fora for the development of CO_2 composition standards for the transport of CO_2 in pipelines:

- ENTSOG will collaborate with expert groups on CO_2 specifications and standards as part of the working groups established by the European Commission in the EU ICM Forum.
- ENTSOG will also cooperate with CEN Technical Committees TC 474 for the development of EU standards on CCUS, including CO_2 quality.

3.4.2.6.3 Methane Emissions Reduction

- Follow the development on the methane emissions reduction process in Europe and will collaborate with other organisations such as GIE, MARCOGAZ, GERG, CEN and Eurogas.
- If required, provide support to TSOs in the methane emissions reduction activities. This support includes, in particular, activities recommended by the EC/UNEP for methane emissions reporting and targets setting, as well as dissemination of best practices for the detection, quantification and mitigation of methane emissions.
- During the implementation of Regulation (EU) 2024/1787 on methane emissions reduction in the energy sector, ENTSOG will follow the process and will be involved in preparation of feedback and other activities as required (e. g., the development of standards).
- Follow the new R&D developments and monitor the technical discussions regarding hydrogen emissions.

3.4.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on INT NC related issues:

Interoperability and Data Exchange NC	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Where necessary in 2026, support potential amendments and discuss developments on INT NC as a result of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789												
Support and assist TSOs, the Energy Community and stakeholders in the implementation of the INT NC and relevant CNOTs.												
Monitor the implementation and functionality of published CNOTS. Update of CNOTs when required												
Functionality Process for the INT NC												
ITC KG Data Exchange and Cybersecurity workshop												
Deliver an analysis or review of potential solutions in data exchange harmonisation if required												

Interoperability and Data Exchange NC	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Maintain an edigas XML validation tool												
Undertake CAM/CMP BRS update (and Nomination & Matching BRS update) if required.												
Cooperation with ENISA, EC and other stakeholders on cybersecurity												
Continue to liaise and promote the adoption with stakeholders on the ENTSOG AS4 Version 4.0 profile.												
Maintain cooperation with ENNOH, EASEE-gas, GIE, EC (European Commission's eDelivery Building Block) eDelivery, ACER and other relevant stakeholders in the field of data exchange.												
Develop the second edition of the gas quality monitoring report as required by Regulation EU 2024/1789												
Support the implementation of the gas quality transparency requirements from TSOs as required by Regulation (EU) 2024/1789												
Develop the sixth edition of the Gas Quality Outlook in alignment with TYNDP 2026, required by the INT Network Code												
Cooperation with stakeholders and associations on gas quality and hydrogen handling												
Cooperation with CEN in standardisation activities for gas and hydrogen quality												
Organise a public workshop on gas quality												
Advise on Strategic Research & Innovation Agenda, and Annual Work Plan of the Clean Hydrogen Partnership												
Continue assessment of the maximum achievable hydrogen purity level on repurposed natural gas grids												
Assess the possibilities of deploying “smart gas grids”												
Assess the technical challenges of gas quality management and impact of injection of higher amounts of biomethane into gas grids												
Continue to contribute to work focused on the technical aspects of CCUS												
Cooperation within the “Smart Energy Expert Group” set up by the EC and the two sub-groups: Data exchange & Cybersecurity												
Work on recommendations to TSOs on technical cooperation with HNOs as required by Regulation (EU) 2024/1789												
Input into any potential EC discussions on new Cybersecurity requirements for gas												
Management of EIC codes in ENTSOG’s LIO												
ENTSOG – GIE cooperation on the Methane Emissions Regulation implementation process												

Activity periods Key deliverables available to external stakeholders Undetermined workload

3.5 CONGESTION MANAGEMENT PROCEDURES GUIDELINES

The CMP GLs help make available unused capacity with a view to optimal and maximum use of the technical capacity and the timely detection of future congestion and saturation points. They facilitate cross-border exchanges in natural gas on a non-discriminatory basis.

The CMP GLs were developed by the EC in 2010 and 2011 and approved by the EU Gas Committee on 24 August 2012. The implementation date was 1 October 2013.

ENTSOG will continue to support the implementation of the CMP GLs in 2026, by providing TSO members and stakeholders with advice and guidance throughout the implementation process, in particular focusing on potential changes to the CMP GLs arising from Directive (EU) 2024/1788 and Regulation (EU) 2024/1789.

3.5.1 OBJECTIVES

- To support the implementation and application of the Congestion Management Procedures Guidelines.
- To monitor and analyse the implementation of the CMP GLs and its effect on the harmonisation of applicable rules aimed at easing market integration.
- To facilitate activities and provide expert knowledge and guidance to stakeholders related to congestion management.
- To respond to CMP GLs-related issues raised on the Functionality Platform, working in close dialogue with stakeholders.
- To support and assist in the implementation of the CMP GLs in terms of regulatory interpretation by relevant EU bodies via knowledge sharing and the dissemination of good practices, and providing assistance to the Energy Community in implementing the CMP GLs.

3.5.2 KEY ACTIVITIES AND DELIVERABLES

- Prepare for the task of the 2025–2026 CMP GLs monitoring report to be published in 2027.
- Where necessary in 2026, support implementation of CMP-related aspects of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789.
- Issue solutions delivery from the joint ACER and ENTSOG Functionality Process involving stakeholders.
- Update the Business Requirements Specification (BRS) CMP if required.
- Analyses of ACER reports (congestion at interconnection points, implementation) and other contractual congestion relevant reports.
- Develop ENTSOG positions on congestion management-related issues, including responses to public consultations and ACER reports.

3.5.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on CMP related issues:

CMP Guidelines	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Support and assistance to TSOs in the implementation of the CMP GLs												
Prepare for the task of the 2025–2026 CMP GLs monitoring report to be published in 2027												
Where necessary in 2026, support potential amendments and discuss developments on CMP GLs as a result of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789												
Analyses of ACER reports (congestion at interconnection points, implementation) and other contractual congestion relevant reports												
Monitor the activities and develop ENTSOG positions on contractual congestion-relevant issues, incl. responses to public consultations												
Functionality Process for the CMP GLs												

Activity periods Key deliverables available to external stakeholders Undetermined workload

3.6 TRANSPARENCY REQUIREMENTS AND REMIT

The liberalisation of the energy market, aimed at securing a well-functioning, open and efficient internal gas market, has significantly transformed the gas transmission business and increased the need for transparency. In this respect, specific obligations for gas TSOs were introduced through Regulation (EC) No 715/2009, which established the fundamental transparency rules, further specified in Chapter 3 of Annex I and its subsequent amendments

The Network Codes have been developed to foster harmonisation and promote efficient gas trading and transport across EU gas transmission systems, increasing the scope of data publication requirements.

ENTSOG activities on the transparency encompass the management of transparency obligations, including TSOs' data publications on their websites and the Transparency Platform, as well as compliance with the Regulation on Energy Market Integrity and Transparency (REMIT).

Regulation (EU) 1227/2011 (REMIT), as amended by Regulation (EU) 2024/1106, and its Commission Implementing Regulation (EU) No. 1348/2014, which is expected to be amended by the end of 2025, introduced additional publication and reporting obligations for market participants, aimed at supporting market monitoring and enabling open and fair competition in wholesale energy markets. he new requirements for authorisation and additional provisions on supervision are expected to be introduced in the EC Delegated Regulation on Registered Reporting Mechanisms (RRMs) and Inside Information Platforms (IIPs) in late 2025.

3.6.1 OBJECTIVES

The objective of ENTSOG's Transparency activities is to enhance the transparency of gas TSOs' operations within the European Union. This is achieved through data published on the Transparency Platform (TP) and the TSOs' websites. The main objectives are to:

- Further enhance the ENTSOG Transparency Platform with functionalities improving the usability and user-friendliness of published data, while maintaining cost-efficiency.
- Monitor, analyse and apply the legal transparency and reporting requirements in EU legislation, including:
  - Hydrogen and Decarbonised Gas Market Package (Regulation (EU) 2024/1789)
  - REMIT Regulation (EU) No 1227/2011, as amended by Regulation (EU) 2024/1106
  - Regulation (EU) No 1348/2014
  - Regulation (EU) 2015/703
  - Regulation (EU) 2017/459
  - Regulation (EU) 2017/460
  - Regulation (EU) 2019/942, as amended by Regulation (EU) 2024/1106
- Monitor the ongoing revision processes of relevant EU legislation and the development of new delegated acts, including the forthcoming Delegated Regulation on RRMs/IIPs under Regulation (EU) No 1227/2011, expected for adoption later in 2025, and initiate the implementation of necessary changes to ensure alignment with evolving transparency requirements.
- Meet transparency requirements specified in relevant Network Codes and liaise with ENTSOG Members to identify synergies in fulfilling these obligations.

3.6.2 KEY ACTIVITIES AND DELIVERABLES

In line with the published Annual Work Programme 2025, ENTSOG continues its efforts to update and improve the ENTSOG Transparency Platform (TP) for the benefit of all users and stakeholders. The TP provides technical and commercial data on the TSOs' transmission-relevant points, displayed via an interactive map, charts, tables, downloadable formats, and through Application Programming Interfaces (APIs). Selected information is also accessible via Really Simple Syndication (RSS) web-feeds. All data is provided by the TSOs and made available free of charge.

ENTSOG works closely with gas TSOs to ensure the application of relevant regulatory provisions, including the transparency requirements in the Network Codes and Guidelines, and the REMIT Regulation.

The following is a list of key activities and deliverables for 2026:

- Continue working with gas TSOs and supporting their fulfilment of the updated publication requirements in Directive (EU) 2024/1788 and Regulation (EU) 2024/1789.
- Continuously enhance the user experience of the TP, based on stakeholder input gathered from public surveys, the Functionality Platform, satisfaction surveys, and the TP "Submit a question" form.
- Organise a workshop to receive feedback from stakeholders following developments in regulations related to transparency.
- Evaluate communication tools used to engage TP users, including newsletters, surveys, and announcements on the Platform.
- Support gas TSOs in improving the completeness and consistency of data publications, in line with legal obligations.
- As Registered Reporting Mechanism, continue providing aggregated fundamental data to ACER's ARIS, as required under Article 9(1) of Regulation (EU) 1348/2014.
- Follow up on reporting and data collection processes for TSOs and ENTSOG under REMIT obligations. In 2026, this will include activities to fulfil the obligations arising from the revised REMIT Regulation and its related regulatory instruments, including Implementing and Delegated Regulations.
- Support the TSOs throughout the authorisation process as RRMs, facilitating communication and coordination within the TSOs and with ACER, where appropriate.
- Maintain, in cooperation with gas TSOs, close working relations with ACER and support bilateral efforts to enhance the application of REMIT. This includes participation in ACER public consultations, surveys, and stakeholder user groups such as the REMIT Expert Groups, the RRM User Group, the AEMP Group, and dedicated roundtable meetings on REMIT reporting and inside information disclosure.

3.6.3 SUPPORTING ACTIVITIES

ENTSOG will facilitate required data collection processes when required by legislation, such as providing information for ACER's 2026 Congestion Monitoring Report, among others. The Transparency team will support TSOs from the Energy Community Contracting Parties with their ENTSOG TP transparency publications and actively participate in ACER's REMIT stakeholder groups, such as RRM User Group, AEMP Group, and roundtable meetings on REMIT reporting and inside information disclosure, engaging with these groups and contributing input, as well as through bilateral discussions on the processes and practices relevant for REMIT Regulation implementation and its further developments.

In addition, ENTSOG will continue cooperating with external stakeholders on REMIT-related activities to allow for alignment and coordination.

ENTSOG will maintain an ongoing dialogue with Members to provide support for ad hoc data requests related to ACER's monitoring activities or ENTSOG's research studies. Furthermore, ENTSOG will support on projects related to the usage of information provided by the TSOs in ENTSOG's Professional Data Warehouse (PDWS) including the Regional Coordination System for Gas (ReCo System for Gas). Furthermore, ENTSOG is available to provide advice to ENNOH on transparency activities, as requested.

3.6.4 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on Transparency related issues:

Transparency Requirements and REMIT	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Continuous platform improvements.												
Activities on application of the transparency requirements in EU legislation												
Functionality Process for Transparency Guidelines												
Facilitate required data collection processes												
Support the TSOs from Energy Community CPs on REMIT and transparency topics												
Support ACER's REMIT department												
Support to TSOs on data completeness												
Follow-up on REMIT requirements and the implementation of provisions under revised REMIT Regulation, including those from its forthcoming Implementing and Delegated Regulations.												
Stakeholder satisfaction survey												
Public workshop on Transparency												

Activity periods Key deliverables available to external stakeholders Undetermined workload

3.7 FUNCTIONALITY PROCESS

The established Functionality Process, co-managed by ENTSOG and ACER and supported by the EC, is aimed at reaching commonly recommended solution(s) on implementation and operational issues within the existing Gas Network Codes and Guidelines which already entered into force.

The central tool of the process is the Gas Network Codes Functionality Platform (**www.gasncfunc.eu**) which was launched in February 2016.

After an issue has been reported, ACER and ENTSOG will jointly validate, categorise, and prioritise the raised issues and produce solutions taking into account stakeholders' views.[3] The process includes data collection, launch of public consultations, and analysis of results.

3.7.1 OBJECTIVES

ACER and ENTSOG provide stakeholders with the Functionality Platform (FUNC Platform) to raise and discuss implementation and operational Network Codes and Guidelines issues and provide an opportunity to be involved in developing solutions, which, at the end of the process, will aim at commonly recommended non-binding guidance.

3.7.2 KEY ACTIVITIES AND DELIVERABLES

Issues related to CAM NC will be included in the amendment work and discussions of the CAM NC amendment process, which ACER launched in April 2024. Therefore, CAM NC activities on the FUNC platform are paused until the end of the CAM NC amendment process.

ACER and ENTSOG actively work on improving the Functionality Process itself by making it more efficient, transparent, and easier to use for the involved stakeholders. This work will continue in 2026.

3.7.3 PROGRAMME OF ACTIVITIES

The following table shows expected timeline and key activities on the Functionality Process:

Functionality Process	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Develop and publish issue solutions												
Process improvement												

Activity periods

3 As of May 2025, 22 issues have been reported on the FUNC Platform, with all 22 having been solved, closed, or withdrawn by the issue poster.

3.8 SUPPORTING ACTIVITIES

3.8.1 STAKEHOLDER ENGAGEMENT ON NETWORK CODES

In the past years, ENTSOG has participated in the Network Code Implementation and Monitoring Group (NC IMG), a forum for high-level strategic coordination, with the European Commission, ACER, and the ENTSO-E. This group oversaw the implementation and implementation monitoring of electricity network codes and gas network codes in the EU.

Going forward, ENTSOG aims to continue transparent dialogue and effective information exchange between the EC, ACER and the ENTSOs as well as ENNOH on the integration of the European electricity, gas and hydrogen markets and the important topics related to legislative files – for example, the Clean Industrial Deal, Directive (EU) 2024/1788 and Regulation (EU) 2024/1789, and the Net Zero Industry Act. This dialogue will help to reinforce the participation of the renewable energy market and drive the investments necessary to provide security of supply.

3.9 FUTURE NETWORK CODE DEVELOPMENT AND MARKET ANALYSIS

With Directive (EU) 2024/1788 and Regulation (EU) 2024/1789, ENTSOG will be tasked with the possible development of new Network Codes or amendments of existing Network Codes relevant for gas TSOs. This possible workload covers items listed in Art. 71 of Regulation (EU) 2024/1789. The following activities are subject to decision and timelines defined by the European Commission:

- Tariff Network Code amendment or a new Network Code related to natural gas transmission tariffs discounts.
- Participate in any formal regulatory amendment process for the potential future revision of the INT NC
- A Network Code on rules for determining the value of transferred assets and the dedicated charge (development will be jointly by ENTSOG and ENNOH).

Furthermore, there may be possible involvement in EU discussions on market-related topics such as: the EC evaluation of the impact of zero tariffs for natural gas transmission IPs; the application of NCs at points with third countries; provisions and derogations on tariff discounts for renewable and low-carbon gases, and any subsequent impact on Inter-TSO Compensation mechanisms.

ENTSOG will support the EC and ACER in developing and implementing the tasks and deliverables mentioned above. As some tasks are dependent on the European priority list, a detailed programme of activities and timelines will follow in later editions of ENTSOG's Annual Work Programmes.


Picture courtesy of TAP

4 SCENARIOS AND INFRASTRUCTURE

The deliverables and activities outlined in this section reflect ENTSOG's obligations under the Regulation (EU) 2024/1789 (Hydrogen and Decarbonised Gas Market Package), (EU) 2017/1938 (Security of Supply), (EU) 2022/869 (TEN-E) and EU 2015/703 (Interoperability & Data Exchange Network Code) and relate to scenario development, investment and infrastructure assessment for the EU energy system. One of ENTSOG's main deliverables are short and medium to long-term assessments such as the Union-wide Ten-Year Network Development Plan (TYNDP). In addition, the ENTSOG maps show commitment to transparency and to providing stakeholders with easily accessible information.

All these deliverables aim at developing a vision of the integrated European energy market and in particular its infrastructure component. This is of particular importance to achieve the European energy and climate targets and European commitments to the EU Green Deal and the Paris Agreement.

The TYNDP Scenarios are jointly developed by ENTSOG and ENTSO-E, following the ACER framework guidelines, and in close collaboration with the Stakeholder Reference Group (SRG), aiming at an extensive engagement and cooperation with external stakeholders. This process is the entry point to the establishment of the TYNDP for natural gas and hydrogen, followed by the development of the TYNDP methodological documents that will set the framework and define clear guidelines for the TYNDP deliverables.

The TYNDP 2026 will comprise the Infrastructure Gaps Identification (IGI) report and Project-Specific CBA assessments that will feed into the EC's and Regional Groups' selection process of Projects of Common Interest (PCI) and Projects of Mutual Interest (PMI) of the hydrogen category. The TYNDP 2026 furthermore contains a broader system assessment of the natural gas and the hydrogen system that contains a Supply Adequacy Outlook, including a Biomethane Progress Report, as required by Regulation (EU) 2024/1789. In addition, as part of TYNDP 2026 ENTSOG will produce a dedicated section to analyse the infrastructure submitted to the TYNDP and complement the IGI and System assessments. The overall TYNDP and associated processes take a total of four years and are repeated every second year.

ENTSOG will collaborate with ENNOH in all TYNDP activities that address hydrogen, as required by Regulation (EU) 2024/1789, transferring all information, data and analyses for the hydrogen component of the TYNDP from the 1 January 2027. In advance of the transfer of analyses, ENTSOG is responsible for the 2026 Union-wide network development plan with two separate chapters: one for hydrogen and one for natural gas.

ENTSOG will not produce a new hydrogen CBA methodology in 2026 as future hydrogen CBA methodologies will be created by ENNOH. Until then, the ENTSOG hydrogen CBA methodology that was approved by the EC in 2025 is applied for PS-CBAs, complemented by the specific guidelines for PS-CBA of the TYNDP 2026 cycle that are part of the TYNDP methodological documents.

4.1 OBJECTIVES

- To assess the contribution of infrastructure solutions under different scenarios to the European Energy Policy, in particular sustainability, security of supply, competition and market integration, as well as to assess the European supply adequacy outlook through modelling of the integrated network and development of supply and demand scenarios.
- To support the investment process starting from gap identifications through to establishment of the respective infrastructure solutions.
- To support the Regional Groups, established by the EC, in the PCI and PMI selection process by providing the technical background and methodologies related to the cost-benefit analysis of projects.
- To provide support to institutions and stakeholders, by answering questions regarding natural gas and hydrogen infrastructure planning and operation, in context of EU policies.
- To develop ENTSOG's skills, methodologies and tools to meet the above objectives, and support ENNOH in these processes, where needed.

4.2 KEY DELIVERABLES AND ACTIVITIES

- Publish the TYNDP 2026 draft Scenarios report.
- Support the System Capacity Map 2026 publication (jointly with GIE).
- Adapt ENTSO-E's and ENTSOG's consistent and Interlinked Model (ILM) for future TYNDPs.
- Update and consult TYNDP guidance documents to the 2026 cycle specificities (Annex D).
- Publish the draft Hydrogen Infrastructure Gap Identification report for TYNDP 2026.
- Publish the draft Infrastructure Report for TYNDP 2026.
- Initiate the TYNDP 2028 Scenario cycle between ENTSOG, ENNOH and ENTSO-E.

4.2.1 SCENARIOS FOR TYNDP 2026

The development of the TYNDP 2026 scenarios is planned to conclude by the end of Q1 2026, followed by the publication of a draft Scenario report.

The key deliverables for Scenarios for TYNDP 2026 include finalising the models following feedback as well as consulting with the Stakeholder Reference Group. The drafting of the Scenario Report will also be completed. Once the report is finalised it will be issued to ACER and the EC for opinion. Following this, ACER is expected to deliver its feedback within a three-month period. Thereafter, the EC approval process is initiated, estimated to be an additional three months.

4.2.2 SCENARIOS FOR TYNDP 2028

During Q2 of 2026, ENTSOG will commence the planning and development of the Scenarios for TYNDP 2028 between ENTSOG, ENNOH AND ENTSO-E .

In early Q2 planning will commence on both developing the framework and governance and organisation. The methodologies will also be drafted during Q2 and Q3. In Q3 commencement of data collection will for both the Demand and Supply datasets is planned. A project data collection process will also be undertaken.

Once this activity has been completed the profiles will be developed and assumptions approved. While planning for TYNDP 2028 Scenarios has not yet been initiated, a public consultation will take place in 2026 once the datasets are finalised and methodology agreed. This will be finalised and agreed with ENTSO-E and ENNOH.


Picture courtesy of terranets bw

4.2.3 TYNDP 2026

The work for TYNDP 2026 commences in 2025, with the project data collection phase. The TYNDP 2026 serves as input to the third PCI/PMI selection process under the revised TEN-E Regulation.

TYNDP 2026 is planned to be the third and final joint hydrogen and natural gas TYNDP, covering the 2026–2050-time horizon.

Hydrogen projects in the TYNDP were already assessed at system-level in a dedicated report in the 2024 cycle, unlike the joint report together with natural gas system-level assessment, as in previous cycles. The same approach will occur in the 2026 cycle, in an effort to provide a robust basis for hydrogen projects assessment, while maintaining an integrated, cross-sectoral modelling approach.

ENTSOG aims to publish the draft TYNDP 2026 methodological documents in Q2 of 2026.

The draft TYNDP 2026 is planned for publication by the end of 2026 for public consultation, including an Infrastructure Gaps Identification report (IGI), a System Assessment report, along with the remaining annexes and maps. Project Fiches will be published thereafter. If needed, ENTSOG will adapt its IGI report with consideration of the opinions received from ACER, Member States, and the EC on the draft version. Following the public consultation and a potential adaption of the IGI report, the draft TYNDP 2026 will be submitted to ACER for its opinion in 2027. After receiving ACER's opinion, ENTSOG will prepare and publish the final TYNDP 2026, in close cooperation with ENNOH.

4.2.4 HYDROGEN PROJECT ASSESSMENT FOR TYNDP 2026

ENTSOG will undertake Project-specific Cost-Benefit Analyses (PS-CBA) for hydrogen projects that intend to become PCI or PMI, as confirmed during the TYNDP 2026 project collection. The PS-CBA of hydrogen PCI or PMI candidates follows the methodology described in Annex D1 of the TYNDP 2026, in line with the updated hydrogen CBA methodology, to be published by ENNOH in 2025.

ENTSOG will continue to support the EC in the PCI/PMI selection process under the revised TEN-E Regulation. In practice, this will continue to be undertaken through an informal working group – the Cooperation Platform – a joint setup of EC, ACER, and ENTSOG, and through Regional Groups meetings, with ENNOH expected to join in 2026.

4.2.5 ENTSO-E/ENTSOG CONSISTENT AND INTERLINKED MODEL

As required by Regulation 2022/869, ENTSO-E and ENTSOG were required to jointly deliver a progressively integrated and consistent model to the EC and ACER by 31 October 2025. This model encompasses electricity, natural gas, and hydrogen transmission infrastructure, along with storage, LNG, and electrolysers, addressing the energy infrastructure priority corridors and areas outlined in Annex V of the Regulation.

The submitted report evaluates how ENTSO-E, ENTSOG, and ENNOH use interlinkages within the TYNDP deliverables, including scenarios, system needs assessments, and cost-benefit analyses. It also highlights their collaborative efforts and demonstrate how their models incorporate direct connections across energy carriers in their respective outputs.

The "progressively integrated model" will continue to be developed with the next phase being the integration of the methane system into the 2026 scenario model or TYNDP 2024 Hydrogen CBA models.

4.2.6 MAPS 2026

Since its creation, ENTSOG has developed and maintained a series of infrastructure maps related to the European gas network. These maps are produced on a voluntary basis but have been widely recognised and appreciated by institutions, industry stakeholders, and policymakers as valuable tools for gaining a comprehensive overview of the gas infrastructure across Europe.

One of the key publications is the System Capacity Map, which ENTSOG publishes annually jointly with GIE. This map provides a clear visualisation of supply and demand trends across the European gas network, along with the most recent capacity data. In addition to the annual System Capacity Map, ENTSOG has been publishing the TYNDP Map on a biannual basis since 2018. This map consolidates all projects included in the TYNDP, offering an overview of planned infrastructure developments, investments, and future capacity enhancements.

In 2026, ENTSOG will publish an updated System Capacity Map in collaboration with GIE, reflecting the latest data and developments. Furthermore, ENTSOG will work on the TYNDP 2026 maps, which will incorporate new projects, updates to existing infrastructure, and future capacity scenarios. These maps will be available in both hardcopy and digital formats, with downloadable versions accessible via the ENTSOG website.

4.3 SUPPORTING ACTIVITIES

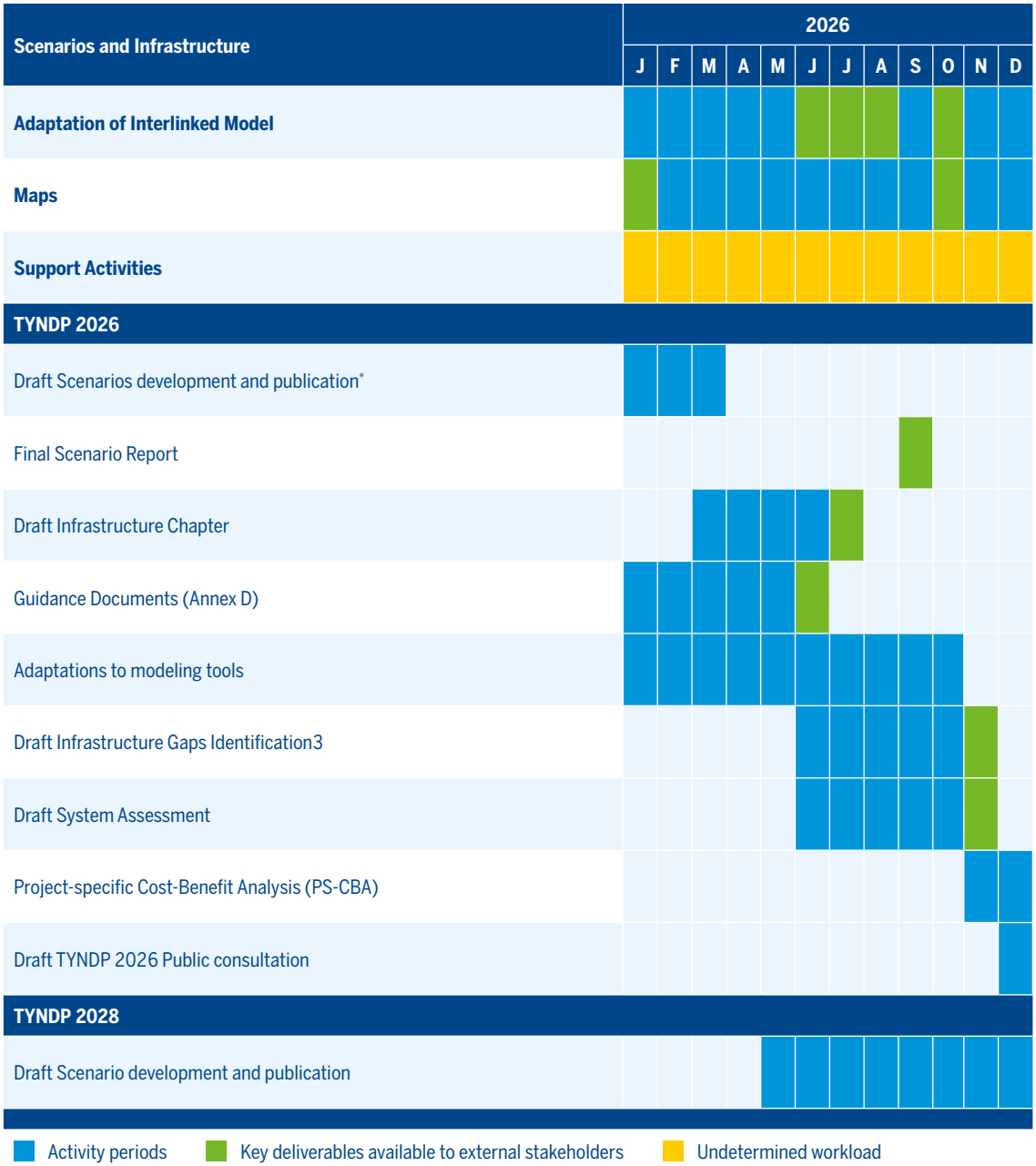
4.3.1 SUPPORT TO REGIONAL GROUPS ON THE PCI SELECTION PROCESS

To the extent envisioned by the EC, ENTSOG will take part to the Cooperation Platform between the EC, ACER and ENTSOG, and will participate in and support the work of the Regional Groups lead by the EC for the purpose of the selection of PCIs and PMIs.

In 2026, ENTSOG will support promoters of projects applying for the PCI or PMI status, as for the previous PCI/PMI selection processes, including through conducting Project-specific Cost-Benefit Analyses (PS-CBA) as part of its TYNDP, in line with the methodology (Annex D) of the TYNDP 2026. The publication of PS-CBA results, expected in 2027, will provide a transparent tool to all concerned stakeholders taking part in the PCI/PMI selection process.

4.4 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on Scenarios and Infrastructure related issues:



* Publication of final documents is planned after maximum 6 months for regulatory opinion by ACER & Member States & opinion/ approval by EC, in line with provisions of the TEN-E regulation. A period of a few weeks is added for final amendments, according to the indications received.


Picture courtesy of TAG

5 SECURITY OF SUPPLY

With the entry into force of Regulation (EU) 2024/1789, the existing framework for Security of Supply Regulation (EU) 2017/1938 was updated to reflect the evolving structure of the EU energy system. The revised provisions aim to ensure that future gas markets – characterised by a greater share of renewable and low-carbon gases – remain resilient and secure. The regulation introduces measures to strengthen risk preparedness, enhance regional cooperation, solidarity measures, and maintain security of gas supply.

The impact of the Russian invasion of Ukraine has shown that the existing security of supply rules were, however, not adequately adapted to sudden major geopolitical developments, where supply shortages and price peaks may not only result from the failure of infrastructure or extreme weather conditions, but also, from intentional major events and longer lasting or sudden supply disruptions. It is therefore necessary to address the increased risks resulting from the uncertain geopolitical situation, a result of which is the consideration of the diversification of the EU's energy supplies. ENTSOG will continue to contribute to supporting the adoption of new rules and legislations for security of gas supply and will continue to take part in the works of the Gas Coordination Group (GCG) and ensure functionality of the Regional Coordination System for Gas (ReCo System for Gas).

Within the GCG crisis management formation, ENTSOG facilitates the coordination and assists to develop channels for communication with all relevant stakeholders with any information relevant to the security of gas supply at national, regional, and EU level.

Given the recent developments of the hydrogen market and the need to facilitate this with transmission infrastructure, ENTSOG will continue to evaluate how security of supply risks can also be addressed on the basis of the further development of such infrastructure.

5.1 OBJECTIVES

- Facilitate regional cooperation for security of supply (SoS) and operational issues.
- Facilitate the functioning of the Regional Coordination System for Gas (ReCo System for Gas) as CNOT for emergency conditions and the incidents classification scale, as required by Regulation (EU) 2024/1789. ReCo will continue its 24/7 exchange platform and coordinate work to help address, with other stakeholders, security of supply challenges in Europe.
- Support the GCG and relevant stakeholders in the implementation of the security of supply measures and the assessment of European security of supply.
- Provide support to institutions and stakeholders in the provision of gas demand and supply outlooks, reviews, and monitoring activities.

5.2 KEY DELIVERABLES AND ACTIVITIES

- Summer Supply Outlook 2026 with Winter 2026/27 Overview.
- Summer Supply Review 2025.
- Winter Supply Outlook 2026/27 with Summer 2027 Overview.
- Winter Supply Review 2025/26.
- Support functioning of the ReCo System for Gas.
- Support to the Gas Coordination Group.
- Support the EC in with security of supply assessments.
- Support the EC, GCG, and Member States in any revision of Security of Supply Regulation or related legislation.
- Cooperation with non-EU TSOs and coordination of security of supply activities.
- Undertake communication and tabletop exercises for better risk preparedness.
- Develop and adopt updates to the existing ReCo System for Gas and Incidents classification scale.
- Maintain and improve existing tools for gas flow patterns monitoring.
- Monitor gas supply patterns, cross-border flows, gas market functioning and gas consumption in EU Member States; identify potential risks to security of supply; ensure regular coordination and information exchange with TSOs and the European Commission.
- Monitor the filling of the European gas storage facilities according to the EU targets set for the yearly and intermediate filling level.
- Assist the process of TSOs maintenance plans coordination and potential impact on gas flow patterns.

5.2.1 OUTLOOKS AND REVIEWS

In developing outlook reports, ENTSOG builds upon the experience and methodologies established since 2010, continuously refining its analysis based on stakeholder feedback and ACER opinions. Supply outlooks benefits from the latest advancements in IT/R&D activities, particularly in the fields of modelling, supply and demand analysis, and scenario planning. These technological and analytical improvements enable ENTSOG to deliver more accurate and relevant assessments, enhancing the quality and usability of the report.

5.2.1.1 Summer Supply Outlook 2026 with Winter 2026/27 Overview and Summer 2025 Review

ENTSOG plans to publish its Summer Supply Outlook 2026 in April 2026, which will include a Winter 2026/27 Overview to provide early insights to stakeholders at the beginning of the injection season. This proactive approach aims to support market participants and policymakers by offering a comprehensive assessment of supply and infrastructure readiness well in advance of the winter period.

In the Summer Supply Outlook 2026, ENTSOG will focus on evaluating the capacity and resilience of the European gas infrastructure to provide adequate flexibility. This includes assessing the ability of infrastructure to support storage injections and withdrawals, especially in the context of known geopolitical situations, which may impact supply security. It is important to note that the Summer Supply Outlooks are not intended as forecasts of market behaviour but rather as assessments of the infrastructure's ability to deliver services under various scenarios.

The analysis considers the latest trends in supply and demand, providing insights into system robustness and resilience. Since 2013, the EC and Member States, through the GCG, have the possibility to request ENTSOG to perform specific assessments tailored to situations or concerns. These targeted analyses support informed decision-making and policy development at the European level.

In addition to the Summer Supply Outlook 2026, ENTSOG will also voluntarily publish the Summer 2025 Review. This review will analyse the behaviour of the gas market during the summer of 2025, based on observed daily gas flows, price developments, and market dynamics. It will offer a valuable opportunity to investigate short-term demand and supply trends, including the behaviour of gas demand for power generation, storage utilisation, and the impact of any significant market events during this period. This analysis will also serve as an input to ENTSOG's ongoing R&D activities, supporting the continuous improvement of analytical approaches and modelling techniques for future deliverables.

5.2.1.2 Winter Supply Outlook 2026/27 with Summer 2027 Overview and Winter 2025/26 Review

ENTSOG plans to publish its Winter Supply Outlook 2026/27 in October 2026, including the Summer 2027 Overview to provide early insights to stakeholders at the beginning of the withdrawal season. This proactive approach aims to support market participants and policymakers by offering a comprehensive assessment of supply and infrastructure readiness well in advance of the winter period.

The Winter Supply Outlook will evaluate the potential evolution of gas storage inventories across different winter scenarios, providing insights into the capacity of European gas infrastructure to meet winter demand conditions. This assessment will consider various scenarios reflecting different demand levels, including peak conditions, supply disruptions, and storage refill strategies, offering stakeholders a comprehensive understanding of the system's capacity to maintain security of supply during the winter months. This is especially relevant in known geopolitical situations, which has may impact energy security and the need to consider supply diversification. It is important to note that the Winter Supply Outlooks are not intended as forecasts of market behaviour but rather as assessments of the infrastructure's ability to deliver services under various scenarios.

The analysis considers the latest trends in supply and demand, providing insights into system robustness and resilience. Since 2013, the EC and Member States, through the GCG, have the possibility to request ENTSOG to perform specific assessments tailored to particular situations or concerns. These targeted analyses support informed decision-making and policy development at the European level.

In addition to the Winter Supply Outlook 2026/27, ENTSOG will also voluntarily publish the Winter 2025/26 Review. This review will analyse the behaviour of the gas market during the winter of 2025/26, based on observed daily gas flows, price developments, and market dynamics. It will offer a valuable opportunity to investigate short-term demand and supply trends, including the behaviour of gas demand for power generation, storage utilisation, and the impact of any significant market events during this period. This analysis will also serve as an input to ENTSOG's ongoing R&D activities, supporting the continuous improvement of analytical approaches and modelling techniques for future deliverables.

5.2.2 REGIONAL COORDINATION (ReCo) SYSTEM FOR GAS

ENTSOG will ensure facilitation of the existing ReCo System for Gas as a CNOT for emergency conditions, including the incidents classification scale, and other supporting documentation for the ReCo Team Europe.

The Russian invasion of Ukraine in 2022 triggered a very close cooperation between TSOs, with communication on a daily basis and the identification of the need to closely monitor the gas flows patterns all over Europe. In this respect, ENTSOG developed in 2022 online dashboards which include gas flows (based on the ENTSOG Transparency Platform) and storage data (based on GIE Aggregate Storage Inventory platform). ENTSOG made these publicly available on the Gas Flow Dashboard[4]. In 2026, ENTSOG will further refine the data, design and usability aspects of these dashboards.

Given the complete cessation of gas transit via Ukraine after January 1 2025, ENTSOG and TSOs will continue their close cooperation and exchange of dispatching data. This also includes conducting various security of supply stress test exercises to forecast, assess, and ensure the gas system's resilience and readiness to address potential supply disruptions. ENTSOG will continue to share aggregated information and assessments about gas flows in the EU, flow patterns, storage filling level targets, market behaviour and security of supply updates with TSOs and relevant stakeholders such as EC and ACER.

ENTSOG, in coordination with the European ReCo Team Europe, will in 2026 continue to facilitate strengthening the cooperation in the energy sector in the case of sudden "stress" events in addition to normal conditions and planned events, in particular with electricity TSOs (ENTSO-E), and other relevant associations.

4 https://gasdashboard.entsog.eu/

ENTSOG will continue to assist the process of TSOs maintenance plans coordination. Additionally, TSOs will continue to closely cooperate in coordinating and planning the maintenance of networks to minimise any disruption of transmission services to network users and transmission system operators in general, and to ensure equal benefits with respect to security of supply, particularly in relation to transit.

In 2026, ENTSOG will continue to utilise and further improve its ReCo 2.0 platform providing visualisation of a relevant range of data on an EU level to monitor the security of gas supply and to support the TSOs' dispatching centres during normal and emergency conditions. Improved information for all TSOs will contribute to a more efficient and secure management of the gas transmission systems by allowing faster and more efficient preventive and remedial actions by TSOs to emergency situations.

5.3 SUPPORTING ACTIVITIES

5.3.1 SUPPORT TO GAS COORDINATION GROUP (GCG)

ENTSOG will continue to support the EC and the GCG in the implementation security of supply and solidarity measures and address the tasks requested by the GCG. On request of the EC, security of supply updates, observations of existing situation with gas flows in Europe, identified risks and preventive measures and activities will be provided in GCG meetings. Through the GCG and when preparing Supply Outlooks, ENTSOG will continue to encourage Member States to provide feedback on particular cases of interest.

Furthermore, ENTSOG will support the TSOs and Member States in their risk assessments based on the results of the Union-wide simulation or other ENTSOG calculations or analysis.

The ENTSOG team will assist the TSOs and competent authorities in the establishment of the preventive action and emergency plans, and possible new documentation regarding potential threats to business continuity. If required, ENTSOG will support the TSOs and competent authorities to agree on the technical arrangements for the application of the solidarity principles. As has been undertaken to date, ENTSOG will continue to support the EC and the TSOs in conducting ad hoc analysis investigating the different geopolitical challenges in the context of the security of gas supply.

5.3.2 COOPERATION BETWEEN MEMBER STATES, ENERGY COMMUNITY AND THIRD COUNTRY TSOs

In 2026, ENTSOG will continue to support Energy Community Contracting Parties and third countries TSOs concerning security of supply. In particular, assistance will be provided to enhance technical cooperation with the third country TSOs supplying or transiting gas to the EU, to exchange technical and operational information in case of unforeseen stress events.

ENTSOG will continue to organise meetings in the framework of the External Contact Platform (ECP) in cooperation with the Energy Community Secretariat. This platform was developed by ENTSOG and the Energy Community Secretariat, to strengthen ENTSOG's cooperation with non-EU gas transmission companies, including those from the Energy Community countries. In 2026, there will be continued support for the TSOs of Member States, Energy Community and third countries in the implementation of the EU Network Code rules by expanding regional cooperation, via workshops or meetings organised by ENTSOG.

If required, ENTSOG intends to organise a potential workshop involving EU TSOs and relevant adjacent non-EU TSOs (e. g., TSOs from North African countries, Turkey and parties acting as TSOs) supplying or transiting gas to EU, to discuss future steps for strengthening technical cooperation.

ENTSOG will also continue in 2026 to facilitate the meetings and the activities of the EU-UK Gas TSOs Task Force, which was created in 2021 as the interface between ENTSOG and the UK TSOs. This is upon the request of the EC and the UK Government in accordance with the Trade and Cooperation agreement concluded by the EU and the UK following the Brexit. The main goal of this Task Force is to ensure further cooperation between the EU and the UK TSOs.

5.4 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities on Security of Supply related issues:

Security of Supply	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Summer Supply Outlook 2026 & Review												
Summer Supply Outlook 2026	■	■	■	■								
Summer Review 2025	■	■	■	■								
Winter Supply Outlook 2026/27 & Review												
Winter Supply Outlook 2026/27						■	■	■	■	■		
Winter Review 2025/26						■	■	■	■	■		
Support to GCG and EC												
Support to the EC and GCG concerning the SoS Regulation, GHP regulation, regional EP, PAP, solidarity mechanisms, Estorage facilities filling targets, phase out the EU's imports of Russian gas	■	■	■	■	■	■	■	■	■	■	■	■
Facilitation of ReCo System for Gas												
Review and update of the ReCo System for Gas	■	■	■	■	■	■	■	■	■	■	■	■
Cooperation with ENTSO-E, ENNOH and other associations in Security of Supply (energy)	■	■	■	■	■	■	■	■	■	■	■	■
Development of visualisation solutions and tools for exchange of operational data between TSOs (incl. ReCo 2.0)	■	■	■	■	■	■	■	■	■	■	■	■

■ Activity periods ■ Key deliverables available to external stakeholders

Picture courtesy of Teréga

Picture courtesy of Interconnector

6 ENERGY **TRANSITION**

The Clean Industrial Deal that was launched at the beginning of 2025 outlines concrete actions for decarbonisation to be a driver of growth for European industries. Its goals include industrial decarbonisation, lower energy costs, boosting demand for clean products, and financing the clean transition.

In 2024, Directive (EU) 2024/1788 and Regulation (EU) 2024/1789 entered into force, further updating the gas directive and gas regulation that had been first adopted in 2003 and 2005 respectively. The new framework provides for new market rules applying to hydrogen infrastructure and market, with the aim of ensuring non-discriminatory access to hydrogen infrastructure, similarly to what already in place for electricity and gas. The implementation of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789 will be of particular relevance, impacting ENTSOG and TSOs activities for the coming years.

As part of the Competitiveness Compass for the EU and the Clean Industrial Deal, the European Grids Package aims to modernise and streamline the EU's legal and planning framework for energy grids, with a focus on cross-border integration and efficient infrastructure use. This may require revision of some provisions of the TEN-E Regulation. ENTSOG key objectives in the context of the European Grids Package is to support the development of hydrogen and CO_2 infrastructure which can decarbonise hard-to-abate sectors and enhance industrial competitiveness. The first draft of the CO_2 transport infrastructure package, outlined in the EC's 2024 Industrial Carbon Management (ICM) Strategy, is expected in 2026. As the legislative package aims to support cross-border CO_2 transport solutions, ENTSOG will monitor any potential developments related to a possible revision of the CCS Directive EC No. 2009/31, which currently prohibits EU Member States from transporting and storing CO_2 in non-EEA countries.

Based on the above, ENTSOG's engagement in the energy transition related activities will focus on the following core topics:

- Decarbonised and affordable gas infrastructure, including repurposing existing assets;
- Energy system integration – via cooperation with gas, hydrogen and electricity value chains;
- Carbon capture, utilisation and storage (CCUS) and CO_2 transport.

Decarbonisation of the gas sector

Based on the recently adopted legal framework, to facilitate appropriate network planning and assessment for the grid users under the phase of repurposing of the gas assets and ensure continued security of supply, ENTSOG will be engaged in fulfilling the monitoring tasks (some of which are described in other sections of this AWP), such as:

- Publishing the second annual report on renewable and low-carbon gas injected in the natural gas network.
- Drafting the second bi-annual gas quality monitoring report and the second bi-annual report on sustainable biomethane, both due for publication in early 2027.
- Progress of discounts policies applied by the Member States and NRAs to facilitate the offtake of those gases in the system.
- Progress of certification works at the EU and at the national level, impacting gas quality developments.

Furthermore, ENTSOG will be supporting the relevant cooperation with ENNOH, as provided for by Regulation (EU) 2024/1789. Most importantly, ENTSOG will facilitate the cooperation on the network planning under the TYNDP 2026 cycle and also on the relevant market rules, as requested under the EC's priority list for gas, and – where requested – in collaboration with hydrogen operators.

Finally, for effective decarbonisation of gas grids, ENTSOG will continue engaging with relevant stakeholders from the hydrogen, electricity, and gas value chains. Engagement with storage and LNG system and ports operators, DSOs and hard-to-abate off-takers of hydrogen are of particular relevance.

Additionally, the conclusions of the 11th Energy Infrastructure Forum in Copenhagen[5] invited ENNOH, ENTSOG and other relevant stakeholders to further work on the possible de-risking options for hydrogen project promoters and deliver a report on this topic by the next Forum in 2026.

Energy System Integration

ENTSOG continuously underlines the synergies of electricity and gas systems integration and the importance of planning for hydrogen production centres, storage facilities and transmission capacities. It highlights the value of flexibility offered by molecules (natural gas, hydrogen and biomethane) as energy system integration technologies, helping to address the significant intermittency patterns and multiple challenges of decarbonisation on both the electrons and molecules side.

Working alongside the hydrogen value chains, TSOs and DSOs, ENTSOG aims to publish an update of the joint Hydrogen Infrastructure Map to provide an up-to-date picture on the planned hydrogen infrastructure projects as well monitoring the progress of implementation of the six EU-wide Hydrogen Corridors as referred to in the RePowerEU Plan (with Germany as indicated demand centre). ENTSOG integrates the information based on the TYNDP 2024 project collection, Projects of Common Interest/Projects of Mutual Interest (PCI/PMI) list, and will consider any relevant European Clean Hydrogen Alliance project collection updates.

In 2026, ENTSOG aims to further engage on the work of the European Clean Hydrogen Alliance.

CCUS and CO_2 transport

ENTSOG has been participating and providing technical inputs to the workstream of the EC's ICM Forum, specifically in the Working Groups CO_2 Infrastructure, CO_2 Standards and CCU. Members' expertise and experience on technical aspects of CO_2 handling in gaseous and liquid form has provided benefit for knowledge to develop the standardisation workstreams at both EU and national levels.

Following the EU's Industrial Carbon Management strategy development and inclusion of CO_2 PCIs under the TEN-E Regulation, ENTSOG will keep contributing to the relevant discussions on the future of gas grids in context of CO_2 transport systems. In 2026, ENTSOG will continue its dialogue with stakeholders on the expected CO_2 transport regulatory package, exchange views on the proposed framework, and offer input and support as technical experts to support the deployment of CO_2 transport solutions.

Furthermore, ENTSOG will continue its CCUS project progress monitoring initiative to ensure a streamlined information flow and information exchange forum for TSO Members.

5 https://energy.ec.europa.eu/events/11th-energy-infrastructure-forum-2025-06-02_en

6.1 OBJECTIVES

- Communicate ENTSOG activities for the implementation of Regulation (EU) 2024/1789, coordinate ENTSOG actions and communication related to task implementation.
- Ensure timely information flow for ENTSOG's activities related to the security of supply for gases under the gas grids repurposing phase.
- Propose practical solutions for the implementation of the integrated planning for gas and hydrogen, security of supply and market development via the Madrid, Copenhagen, Florence fora and through other communication channels.
- Actively engage with the work of the European Clean Hydrogen Alliance.
- Organise the efficient information flow and reporting related to the CO_2 transport regulatory package.
- Coordinate and exchange with stakeholders along the whole value chain on best practices related to the transitioning of gas grids (via the ENTSOG Advisory Panel for Future Gas Grids).
- Monitor key energy/climate policy and regulatory developments put forward by EU institutions.
- Communicate ENTSOG's positions regarding the EU legislative and policy proposals impacting the gas sector and the overall energy system.
- Engage in dialogue with EC, ACER, industry associations, energy sector associations and other key EU stakeholders.
- Develop communications to assist stakeholders understand how gas grids can contribute to decarbonisation and energy transition in different sectors of the EU economy.
- Support in developing positions on measures that are needed at a national level to facilitate deployment of new TSO products and services to facilitate decarbonisation and the energy transition (e. g., linked to support for certification, inclusion of all gases, and gas quality and planning at TSO and DSO levels).

Picture courtesy of GAZ-SYSTEM

6.2 KEY ACTIVITIES AND DELIVERABLES

- Preparation of the materials to allow a common understanding of the EU regulatory framework among the TSOs. ENTSOG's support to Members with regards to the implementation of relevant legislative files will include and will not be limited to the following files: the Hydrogen and Decarbonised Gas Market Package, the RePowerEU Plan to phase out Russian energy imports, the Methane Emission Reduction Regulation, the RED III directive, the REMIT Regulation and related secondary non-legislative acts (Network Codes, Delegated Acts, Implementing Acts), the revision of public procurement rules, and others.
- High-level position papers and proposals for regulatory developments, based on the steer and priorities identified by the ENTSOG Board, for CCUS, integration of gas and hydrogen planning, security of energy supply, and market developments.
- Proposals for external and internal communication on ENTSOG's positions, monitoring works and progress reports: ENTSOG's responses to relevant public consultations and stakeholders' engagement processes – contributing with facts, figures, and proposals for technical standards and solutions for market, grids and operations integrating gas, hydrogen and electricity value chains.
- ENTSOG's inputs and positions for relevant sectoral fora (European Gas Regulatory Forum in Madrid; Energy Infrastructure Forum in Copenhagen; European Electricity Regulatory Forum in Florence; Industrial Carbon Management Forum), as well as any other relevant reports and studies concerning strategic topics in relation to market design, grid planning and grid operations. In particular, further work with ENNOH and other stakeholders on the possible de-risking options for hydrogen project promoters as required by Copenhagen Forum, to be delivered in 2026.
- Stakeholders' engagement, including through the Advisory Panel for Future of Gas Grids.
- Support to the work of the Transmission and Distribution Roundtable of the European Clean Hydrogen Alliance (ECH2A).
- Participation in the activities of the Prime Movers on Guarantees of Origin and Certification and of the Prime Movers on Gas Quality and Hydrogen Handling.
- ENTSOG will be monitoring and proposing the relevant actions related to the Hydrogen and Decarbonised Gas Market Package implementation and achieving common understanding of Directive and Regulation and of the revised TEN-E Regulation.

Picture courtesy of GAZ-SYSTEM

6.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key activities:

Activities	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
Preparation of the materials to allow a common understanding of the EU regulatory framework among the TSOs	■	■	■	■	■	■	■	■	■	■	■	■
High-level position papers and proposals	■	■	■	■	■	■	■	■	■	■	■	■
Proposals for external and internal communication	■	■	■	■	■	■	■	■	■	■	■	■
Inputs and positions for relevant sectoral fora and deliver outputs required by fora	■	■	■	■	■	■	■	■	■	■	■	■
Stakeholder engagement	■	■	■	■	■	■	■	■	■	■	■	■
Support to the work of the Transmission and Distribution Roundtable of the European Clean Hydrogen Alliance	■	■	■	■	■	■	■	■	■	■	■	■
Participation in the Prime Movers' activities	■	■	■	■	■	■	■	■	■	■	■	■

■ Activity periods

Picture courtesy of GAZ-SYSTEM

7 RESEARCH & DEVELOPMENT

7.1 OBJECTIVES

Regulation (EU) 2024/1789 requires that the ENTSOG Annual Work Programme includes a list and description of its research and development activities. ENTSOG is committed to working towards and promotion of its Members' activities innovation, improvement of processes and strives to meet challenges on an ongoing basis. This is evidenced in this section, in which the tools, methodologies, stakeholder engagement processes and IT solutions are outlined to address potential difficulties and to improve our way of working.

7.2 KEY DELIVERABLES AND ACTIVITIES

7.2.1 CCUS PROJECT PROGRESS MONITORING

In 2026, ENTSOG will continue to actively monitor and engage with its Members and external stakeholders on monitoring developments related to CCUS across the value chain. The CCUS progress project monitoring activity aims to streamline the flow of information sharing, and assist any interested parties in the tracking of updates related to any upcoming regulation for CO_2 transport infrastructure. It also relates to repurposing of gas grids for a CO_2 transportation system, ENTSOG's ongoing dialogues between stakeholders, and relevant projects and technical progress across the EU, further assisting in the coordination of knowledge sharing and best practices. It is intended that these projects would then be showcased on ENTSOG's **Innovative Projects Platform (IPP)**, on the ENTSOG website

7.2.2 PROMOTING TSO INNOVATIVE ACTIVITIES

ENTSOG has developed and updated the IPP to reflect the new Energy Transition projects planned and undertaken by gas TSOs. This platform, which has been available on ENTSOG's website since its launch in 2018, includes best practices for technology development, showcasing decarbonisation projects as examples of how to achieve current EU energy and climate goals of reducing GHG emissions by innovating in the gas sector. More recently, new categories have been added to promote projects to repurpose existing gas infrastructure, CCS and CO_2 transport and Energy System Integration projects. In 2026, ENTSOG will add many more projects within these new categories, as well as broaden categories, and will continue to promote the IPP via its social media and other media channels.

7.2.3 PROMOTION OF TSO INNOVATIONS VIA ENTSOG TALKS PODCAST SERIES

The **ENTSOG Talks podcast series** was launched in 2023 and provides insight into the various types of work undertaken by ENTSOG, by discussing with the ENTSOG team their deliverables and tasks. It is another communication channel to effectively share information with stakeholders, to inform on ENTSOG activities.

In 2026, the podcast series will extend its scope to focus on the work of the gas TSOs and their projects and will include a number of episodes recorded with member representatives. This approach is to ensure that information is also shared with the public on the current processes and innovative initiatives of the gas TSOs, particularly on their updates for transporting renewable and low-carbon molecules, and repurposing gas infrastructure, among other relevant topics.

7.2.4 EXPLORING A "TRI-INTERLINKED MODEL"

In 2026, ENTSOG intends to extend the Interlinked Model to include the natural gas system. This updated model could then in principle be used for a range of purposes including cost-benefit analyses, system needs analyses, scenario development, and impact assessments of repurposing of natural gas infrastructure to dedicated hydrogen infrastructure.

The ILM project will build upon the TYNDP 2024/2026 scenario development process, incorporating additional aspects of sector integration such as offshore wind hubs, hybrid heating solutions, and the production of synthetic fuels. The ILM will also progressively analyse the interactions between these systems and the energy carriers of electricity, hydrogen, and methane. The primary focus, moving forward, will remain on integrating the methane system as the next crucial step in the model's evolution.

7.2.5 HYDROGEN AND GAS QUALITY ASSESSMENT, INCLUDING SMART GRID SOLUTIONS

ENTSOG will continue its activities in analysing the feasibility of the integration of renewable and low-carbon gases into the gas grid and pipelines repurposed to transport hydrogen and CO_2. Furthermore, this will support the cost-effective integration of renewable and low carbon gases such as synthetic methane, biomethane, and hydrogen in the network in accordance with consumers' needs and gas quality requirements, ENTSOG is committed to further work in analysing the possibilities of deploying smart grid solutions and digital tools for gas quality and hydrogen handling. This could include digital systems for online gas quality tracking and forecasting, sensor technologies for interactive and intelligent metering, among others.

For repurposing pipelines for hydrogen use, ENTSOG is involved in the PilgrHYm project, a pre-normative research project which has received co-funding from the EC and the Clean Hydrogen Partnership. The project brings together more than twenty actors from the gas value chain and aims to develop protocols and guidelines for repurposing existing gas pipelines for hydrogen use. ENTSOG is member of the Advisory Board of the PilgrHYm project and will contribute by providing the information necessary to the project and monitoring its advancement.

As part of EU Regulation 2024/1789, ENTSOG will continue working closely with its members and stakeholders in assessing the potential achievable hydrogen purity levels for repurposed gas grids, the potential implementation of hydrogen blends and a minimum acceptable oxygen level at IPs for the unhindered cross-border flow of hydrogen blends and of biomethane, and the Wobbe Index classification system for exit points.

7.2.6 MID-TERM ANALYSIS FRAMEWORK

The EU Gas Regulatory (Madrid) Forum in 2025 took note of ENTSOG's initiative to develop, in cooperation with ENNOH and other relevant stakeholders, a mid-term infrastructure assessment framework, with special attention to flexibility options and security of supply provided by gas infrastructure to the electricity system in the context of the energy transition and sector integration. The Forum invited ENTSOG to present the framework at the next Forum meeting – the work initiated in 2025 will be continued in 2026 to deliver framework of the new assessment at the next Forum meeting in 2026.

Furthermore, the EU Energy Infrastructure (Copenhagen) Forum (2025) invited ENTSOG in and ENNOH to apply the repurposing principles developed in 2025 in the TYNDP 2026 exercise. To reach this objective, ENTSOG will continue the work undertaken on the joint ENTSOG/ENNOH Criteria for Repurposing of Natural gas infrastructure and continue with the implementation of the identified criteria in the TYNDP 2026 cycle.

7.2.7 ENTSOG PARTICIPATION IN THE SMART ENERGY EXPERT GROUP (SEEG)

The EC has set up the "Smart Energy Expert Group" (previously the Smart Grids Task Force) led by the EC DGs CNECT (DG Communications Networks, Content and Technology) and ENER (DG Energy). Among others, the Group's tasks are to assist the EC in relation to the implementation of existing EU legislation, programmes, policies, among others.

Three Working Groups will be created under the SEEG:

- **Data for Energy (D4E):** Build the European framework for sharing energy-related data.
- **Consumer Empowerment and Protection:** Bolster consumer engagement and empowerment.
- **Cybersecurity:** Provide recommendations and guidance to the Commission on cybersecurity for energy systems.

In 2025 ENTSOG was appointed as a member of the SEEG and has received a direct invite from the EC to participate in the work and provide its expertise in two sub-groups, one for data exchange (D4E) and the other in cybersecurity. This work is expected to continue in 2026.

7.3 PROGRAMME OF ACTIVITIES

The following table shows the expected timeline and key R&D activities.

Research and Development	2026											
	J	F	M	A	M	J	J	A	S	O	N	D
CCUS Project Progress Monitoring												
Promoting TSO Innovative Activities												
Promotion of gas TSO innovations via ENTSOG Talks podcast series												
System Development "Tri-Interlinked Model"												
Hydrogen and Gas Quality assessment, including smart grid solutions												
Mid-term analysis framework												
ENTSOG participation in the Smart Energy Expert Group (SEEG)												

Activity periods

Picture courtesy of Gassco

8 ENTSOG **SUPPORTING ACTIVITIES**

8.1 OBJECTIVES

With the support of its Members and the guidance of its steering bodies, the Management Support team coordinates and supports the work of ENTSOG. It prepares, arranges, and coordinates the various General Assembly and Management Board Meetings and maintains an overview on all organisational activities. It is structured in various management support functions that work with the Brussels team but also directly with the Members. With a growing number of cross-organisational projects and interlinked activities, the Management Support team supports ENTSOG planning, management, and execution.

The Management Support team aims to establish and maintain the most efficient structure to support all organisational Business Areas (i. e., Market, System Development, System Operation and Strategy, Policy and Communications) and the related working groups (WGs) and Task Forces (TFs). That includes the planning and development of financial and human resources but also the communication flow within the association and to its stakeholders.

ENTSOG will continue to internally evaluate the risks that present challenges to meet its objectives, activities, and deliverables, addressing regulatory, legal, finance and human resource aspects. Risk assessment and plans for proper mitigation measures will be supervised by ENTSOG's steering bodies.

A high-level overview of the main risks and associated mitigation measures are outlined in the table included in section 8.2.4.

8.2 KEY DELIVERABLES AND ACTIVITIES

8.2.1 LEGAL AND CORPORATE AFFAIRS

The ENTSOG Legal Team ensures compliance of ENTSOG with the applicable law and the regulatory framework while carrying out its missions. It undertakes the day-to-day activities of the Association from the legal perspective as well as supporting activities undertaken by the different Business Areas and their respective WGs.

In 2026, this support will continue with respect to the implementation of the existing network codes and in some cases effect monitoring. The Legal Team will in particular support WGs and TFs established or to be established with the aim to implement/interpret the Hydrogen and Decarbonised Gas Market Package of legislation. The Legal Team will also support the System Development team by providing legal assistance on the development of the forthcoming TYNDP.

The Legal and Management support teams will continue to facilitate meetings of the External Contact Platform (ECP), a platform developed by ENTSOG and the Energy Community Secretariat, to strengthen ENTSOG's cooperation with non-EU gas transmission companies, including those from the Energy Community countries.

The Legal and Management support teams will also continue to facilitate the meetings and the activities of the EU-UK Gas TSOs Task Force, which was created in 2021 as the interface between ENTSOG and the UK TSOs. This is upon request of the EC and the UK Government in accordance with the Trade and Cooperation agreement concluded by the EU and the UK following the Brexit. The main goal of this Task Force is to ensure further cooperation between the EU and the UK TSOs.

To address the legal issues arising in the meetings of the ENTSOG Working Groups, the Legal Team coordinates the activities of the Legal Advisory Group (LAG), which convenes for monthly meetings. The LAG is the ENTSOG legal working group composed of ENTSOG members' representatives from legal staff of the TSOs.

On a day-to-day basis, the Legal and Management support teams provide legal assistance and advice to the management, the Board and the General Assembly in terms of governance. The Legal Team is also ensuring the compliance of the Association with national law applicable to companies and associations.

The Legal and Management support teams may be required in 2026 to assist the Association in adjusting ENTSOG statutes and ways of working to meet the needs of the Hydrogen and Decarbonised Gas Market Package, as needed.

8.2.2 FINANCE AND HR

8.2.2.1 Finance

ENTSOG is an international non-profit association (AISBL) established according to Belgian law. The highest decisive body of ENTSOG is the General Assembly which meets four times a year. ENTSOG is financed by its Members. The member TSOs contribute to the budget according to the number of kilometres of gas grid, population of the country and in some cases to special EU Grid connection significance.

With regards to financial reporting, ENTSOG created and implemented clear and efficient accounting procedures and controls.

In 2010, a Financial Committee has been established and the main tasks of the Committee are as follows:

- checking the compliance with local laws and obligation
- advising on the association's Budget
- validating the closure of the accounting year and balance sheet
- reporting on a quarterly basis to the Board and General Assembly on account situation

Financial Committee meetings are held five times per year.

8.2.2.2 Human Resources

To fulfil all tasks and deliverables a well-prepared recruitment plan needs to be in place so that ENTSOG will have the relevant resources and competences to perform the requested activities.

By the end of 2025, the ENTSOG Team in Brussels consists of forty-two persons and a resource plan is in place to prepare for replacement of seconded persons whose contracts expire. ENTSOG is comprised of:

- Seconded staff from its members – typically seconded for 3–5 years,
- Direct employees, and
- External consultants

The ENTSOG staff consists currently of 17 different nationalities and representing 10 companies, which provides a unique and challenging international working environment.

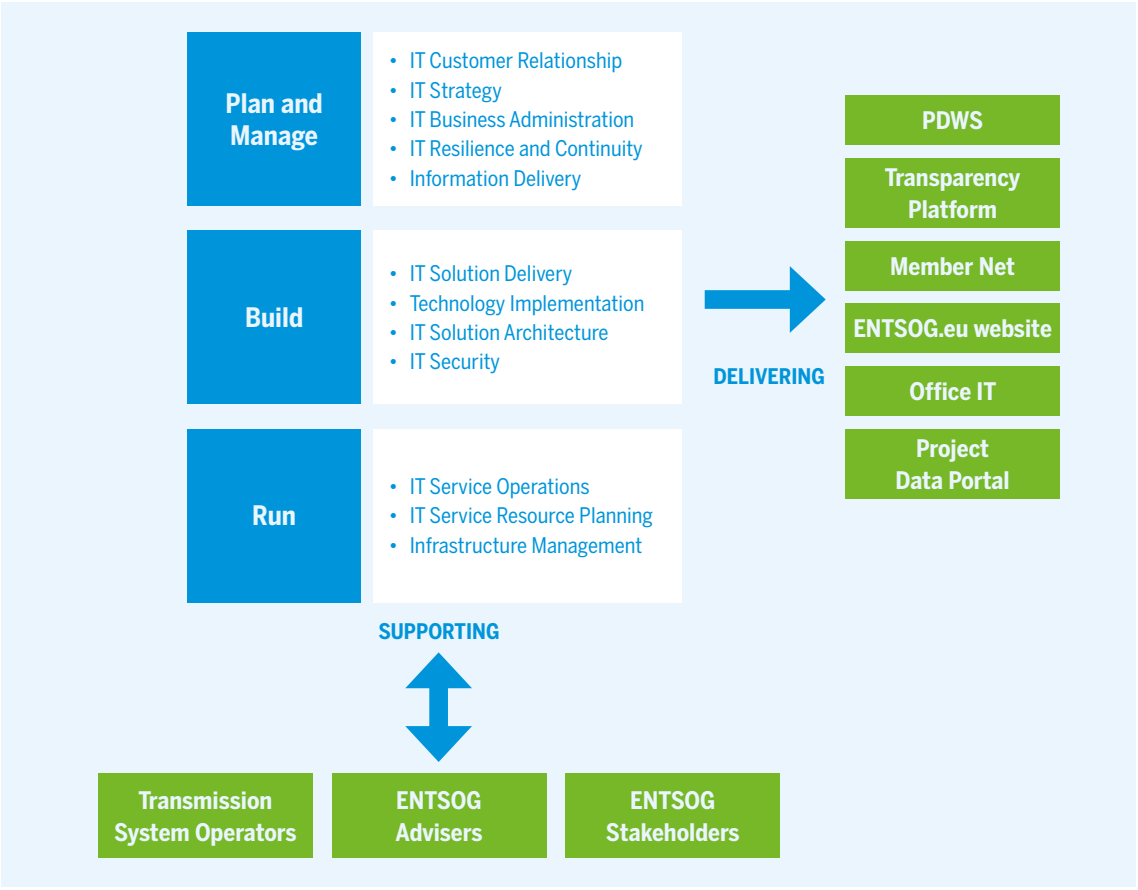
Key responsibilities of the Adviser role include leadership and support for internal work groups, external workshops and meetings, as well as participation in processes led by the EC, ACER and other European authorities.

ENTSOG has a strong focus on the resource allocation as well as the relevant hand-over processes to ensure the performance of the organisation vis-à-vis the required deliverables. Systematic planning of resources replacement and knowledge transfer allows for the mitigation of risks which may affect the business continuity of the association.

ENTSOG Staff	31.12.2024	31.12.2025
General Director	1	1
Directors	4	4
Managers/Advisers	35	33
Senior Assistants	2	3
Junior Assistant	1	1
Total	**43**	**42**

8.2.3 INFORMATION TECHNOLOGY (IT)

The ENTSOG IT team provides IT support and services to the ENTSOG team (i. e., management and the Business Areas), its members and other ENTSOG stakeholders (e. g., ACER, the EC). The figure below outlines the key delivery and support activities which are the responsibility of the IT team.



Working with several IT providers, vendors and IT contractors, the IT team plans, manages, builds, and operates IT systems to support ENTSOG advisors and their activities; they also provide IT support to ENTSOG stakeholders in the use of ENTSOG's data and systems.

The ENTSOG IT systems include:

- Professional Data Warehouse (PDWS) (including a Data Portal for reporting)
- Portal for Projects Data Collection used for TYNDP and PCI
- Transparency Platform (TP)
- Azure Data Factory used for:
  - Modelling Database for SysDev team
  - Reporting purposes for SysOp team
- Content Management Solution (Membernet and external sites) using SharePoint
- ENTSOG Website
- ESRI ArcGIS solution used for the Hydrogen Infrastructure Map
- ReCo 2.0
- PLEXOS tool for simulations
- DEPT tool for tariffs publications
- ETM tool (Energy Transition Model) used in collaboration with ENTSO-E
- Office IT – Network, Laptops, Mobile phones, Conferencing Audio-Video, etc.
- Azure infrastructure for the multiple internal tools and projects

Following a review of its IT systems in 2019, ENTSOG will continue the replacement/upgrade of ENTSOG's IT assets in the coming years to deliver secure, integrated, and cost-effective IT solutions for ENTSOG. The targeted services for these upgrades in 2021 and 2022 were the TP, PDWS and ArcGIS systems. In 2023 and 2024 ENTSOG added to its technology stack tools, such as PLEXOS and Energy Transition Model (ETM).

For 2026 ENTSOG will focus on tools like Azure Data Factory and Power BI.

- The TP upgrade analysis commenced in 2019 with main delivery in early 2022 when all the PDWS and TP infrastructure was migrated to Azure cloud. The fine-tuning continued in 2023–2024 and new improvements will be added in 2026.
- One of the purposes of PDWS is the reporting feature. This was improved in 2020 by migrating some or building new reports in Power BI (a business analytics service that delivers insights by transforming data into visuals which can be shared and collaborate on), and the task will continue in 2026.
- ESRI ArcGIS software implementation, which had commenced in 2019 as part of IT R&D strategy and BI vision, was used for the new hydrogen infrastructure map (initially mapped using with QGIS) in 2024. It will continue to be used in 2026 for any new GIS mapping needs.
- A project delivered in 2025 was the SharePoint upgrade of the Data Portal. ENTSOG will fine-tune the release, and new functionalities will be applied during 2026.
- In 2022–2023 the development of the Modelling Database commenced by using Azure Data Factory. This was continued in 2023–2024 by using PLEXOS for the simulations. ADF will also be used by the System Operation team for reporting and dashboard purposes starting in 2024 and continued through 2026.
- For the office IT, starting 2024 ENTSOG has a complete cloud-based infrastructure, including both servers and devices. For 2026 securing our cloud infrastructure and optimising our resources will continue.
- The development of ReCo 2.0 commenced in late 2021 and continued throughout 2022–2024 for its different phases. In 2026 ENTSOG will evaluate the solution built so far with some new functionality.
- A joint project with ENTSO-E requires the use of the solution called Energy Transition Model (ETM).
- In 2026, ENTSOG will further refine the data, design and improve usability aspects of **European Gas Flow dashboard website** () which covers gas flows (based on the ENTSOG Transparency Platform) and storage data (based on GIE Aggregate Storage Inventory platform).
- A joint project with ENTSO-E requires the use of the solution called Energy Transition Model (ETM).

8.2.4 RISK AND MITIGATION

ENTSOG strives to meet challenges and potential risks on an ongoing basis. The core ENTSOG organisational structure, with the flow of information between the ENTSOG Members, Board and General Assembly ensures that the correct mechanisms are in place to anticipate in advance any potential risks. ENTSOG Working Group, Task Force and Standing group meetings occur at minimum monthly, and ad hoc as needed. Additionally, ENTSOG is in direct and frequent communication with ACER and the EC, as ENTSOG tasks are now embedded in and Regulation (EU) 2024/1789, among other legislative frameworks that apply to ENTSOG work.

ENTSOG and ACER's Network Code Functionality Platform allows for the identification by market participants of the effectiveness of the implementation of the Network Codes, thereby allowing full transparency, monitoring, and a formal process for identification and reaction to any relevant issues.

As outlined in Section 7 Research and Development of this report, and included in each edition of the AWP, the tools, methodologies, stakeholder engagement processes and IT solutions to address potential difficulties and risks to performance and to improve our way of working.

Additionally, ENTSOG will continue to internally evaluate the risks that present challenges to meet its objectives, activities and deliverables, addressing regulatory, legal, finance and human resource aspects. Risk assessment and plans for proper mitigation measures will continue to be supervised by ENTSOG's steering bodies. ENTSOG aims to minimise unnecessary costs to the Association that would be incurred through additional risk assessment undertaken by external consultants. With the formal establishment of ENNOH, ENTSOG will support, as needed, the work undertaken by the hydrogen transmission network operators and the ENNOH team.

The table below outlines the key mitigation measures implemented by ENTSOG to address the potential risks identifies.

Category	Risk	Mitigation
Regulatory/legal	Possible inadequacy between the regulatory framework in place and the ENTSOG's objectives, tasks and deliverable	◢ ENTSOG, as AISBL, works under Belgian law. The legal team of ENTSOG has been cooperating with Belgian Notary and other Belgian Officials/authorities. ◢ Adherence to ENTSOG's Article of Association and related Rules of Procedures, following opinions issued by ACER and the EC. ◢ Oversight by ACER of ENTSOG's regulatory tasks, as outlined by Regulation (EU) 2024/1789. ◢ Constant legal monitoring to review, application and implementation of any additional/new pieces of legislation to which ENTSOG may be subject, e. g., and Regulation (EU) 2024/1789.
Finance/ budgeting	Underestimated budget in place to achieve ENTSOG's objectives, tasks, deliverables	◢ Finances evaluated frequently by ENTSOG Finance committee, comprising ENTSOG members. The Finance committee meets five times per year. ◢ The status of finance evaluation reported, on quarterly basis, to Members to ensure a constant monitoring ◢ External publication of a detailed Financial Statement in ENTSOG Annual Report, which includes comparison of the assets, liabilities and equities, and income sources with the previous year. Any potential negative risk is being evaluated and addressed based on the trends presented. ◢ Yearly submission of Financial Statements to National Belgium Bank in accordance with Belgian accounting rules
Resource allocation	Inadequate resource allocation to achieve ENTSOG's objectives, tasks, deliverables	◢ Secondment principal applied – personnel coming from TSOs. ◢ Systematic planning in advance of personnel replacement. ◢ Internal processes to ensure knowledge transfer within the Business Areas. ◢ Annual outlook and analysis of recruitment needs prepared and addressed to Members on bi-annual basis.
IT/cyber security	Inadequate IT resources/ systems in place to achieve ENTSOG's objectives, tasks, deliverables	◢ Frequent planning for replacement/upgrade of ENTSOG IT resources and infrastructure to deliver secure, integrated, and cost-effective IT solutions ◢ Anti-malware and cyberattack protection training campaigns rolled out to ENTSOG Brussels team on a regular basis ◢ Update of hardware and software to ensure IT security ◢ Audit of infrastructure and policies put in place ◢ Constant monitoring of traffic activities for email and SharePoint ◢ Knowledge transfer between personnel for back up in case of absences

Picture courtesy of Net4Gas

9 ANNEX: OVERVIEW OF ENTSOG's REGULATORY FRAMEWORK FOR ITS TASKS

The tasks entrusted to ENTSOG derive mainly from the following pieces legislation[6]:

Regulation of the European Parliament and of the Council on the internal markets for renewable gas, natural gas and hydrogen, amending Regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No. 715/2009 (also known as the Hydrogen and Decarbonised Gas Market Regulation (EU) 2024/1789):

- elaboration of network codes (NCs);
- adoption of:
  - **I.** common network operation tools (CNOTs);
  - **II.** a non-binding Union-wide ten-year network development plan (TYNDP) including a European supply adequacy outlook;
  - **III.** recommendations relating to the coordination of technical cooperation between Union and third country TSOs;
  - **IV.** recommendations to TSOs on their technical cooperation with distribution system operators and hydrogen network operators;
  - **V.** an annual work programme;
  - **VI.** an annual report;
  - **VII.** annual summer and winter supply outlooks;
  - **VIII.** a gas quality monitoring report by 1 January 2025 ;
  - **IX.** an annual report including the quantity of renewable gas and low-carbon gas injected into the natural gas network
- obligation of monitoring and analysing the implementation of NCs and the Guidelines adopted by the Commission and their effect on the harmonisation of applicable rules aimed at facilitating market integration.
- views to the Commission on the adoption of the Guidelines, upon request of the latter institution;
- ENTSOG shall make available all information required by ACER to fulfil its tasks.
- All TSOs shall cooperate at Union level through ENTSOG in order to promote the completion and functioning of the internal market for natural gas and cross-border trade and to ensure the optimal management, coordinated operation and sound technical evolution of the natural gas transmission network ;
- TSOs shall establish regional cooperation within the ENTSOG to contribute to the accomplishment of some of its tasks;
- until 1 January 2027, develop the 2026 Union-wide network development plan for hydrogen.

Regulation (EU) No. 1227/2011 of 25 October 2011 on wholesale energy market integrity and transparency (REMIT)

- market participants, or a person or an entity acting on their behalf (as ENTOG), shall provide the Agency with a record of wholesale energy market transactions and information related to the capacity and use of transmission of natural gas, including planned or unplanned unavailability of those facilities, and with inside information that is publicly disclosed pursuant to Article 4, for the purpose of monitoring trading on wholesale energy markets (Art. 8);
- cooperation at Union level foreseen (Art. 16);

6 This non-exhaustive list is only listing the pieces of legislation in force at the time of drafting this report.

Implementing Regulation (EU) No. 1348/2014 of 17 December 2014 on data reporting implementing Article 8(2) and Article 8(6) of Regulation (EU) No. 1227/2011, as (REMIT Implementing Act)

- ENTSOG shall, on behalf of TSO, report information to ACER in relation to the capacity and use of facilities for transmission of natural gas including planned and unplanned unavailability of these facilities, through the Union-wide central platform (commonly known as ENTSOG TP) (Art. 9);
- ENTSOG is obliged to make the said information available to ACER as soon as it becomes available on its TP (Art. 9).

Currently, the REMIT Implementing Act is under revision. ENTSOG's obligation may differ to the one listed above if revised in upcoming months.

Regulation (EU) No. 703/2015 of 30 April 2015 establishing a network code on interoperability and data exchange rules (the INT NC)

- ENTSOG should monitor and analyse the implementation of this Reg. and report its findings to ACER for allowing the institution to fulfil its tasks (Recital 10);
- TSOs shall communicate to ENTSOG the mandatory terms of interconnection agreements or any amendments thereof concluded after the entry into force of this Reg. within 10 days after their conclusion or amendment (Art. 4);
- by 30 June 2015, ENTSOG shall develop and publish a draft interconnection agreement template covering the default terms and conditions set out in the Reg. (Art. 5);
- taking into account the opinion provided by ACER, ENTSOG shall publish on its website the final template by 31 December 2015 (Art. 5);
- ENTSOG shall publish on its TP a link to the websites of the TSOs with reference to the Wobbe-index and gross calorific value for gas directly entering their transmission networks for each interconnection point (Art. 16);
- ENTSOG shall publish every two years a long-term gas quality monitoring outlook for transmission systems (aligned with the TYNDP) in order to identify the potential trends of gas quality parameters and respective potential variability within the next 10 years (Art. 18);
- For each data exchange requirement, ENTSOG shall develop a CNOT and publish it on its website (Art. 24);
- ENTSOG shall establish a transparent process for the development of all CNOTs (Art. 24);
- Where a potential need to change the common data exchange solution is identified, ENTSOG on its own initiative or on the request of ACER, should evaluate relevant technical solutions and produce a cost-benefit analysis of the potential change(s)(Art. 21);
- by 30 September 2016 at the latest, ENTSOG had to monitor and analyse how TSOs have implemented Chapters II to V of this Reg. TSOs were obliged to send the relevant information before 31 July 2016 (Art. 25).

Regulation (EU) 2022/869 of the European Parliament and of the council of 30 May 2022 on Guidelines for Trans-European Energy Infrastructure, amending Regulations No. (EC) 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, And Repealing Regulation (EU) No. 347/2013 (TEN-E Regulation)

- Involvement of ENTSOG in the preparation of an interlinked model (for the TYNDP) to be developed together with ENTSO-E and ENNOH
- Involvement of ENTSOG in the preparation of joint scenarios (for the TYNDPs) to be developed together with ENTSO-E and ENNOH
- Involvement of ENTSOG in the preparation of the Infrastructure Gaps Identification (IGI) report and project-specific cost-benefit analyses of hydrogen PCI and PMI candidates (for the TYNDP 2024 and TYNDP 2026) to be developed together with ENNOH.

Regulation (EU) 2017/1938 of 25 October 2017 of the European Parliament and of the Council concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010 (the "SOS Regulation[7]")

- Obligation for ENTSOG to perform an EU-wide gas supply and infrastructure disruption simulation in order to provide a high-level overview of the major supply risks for the EU
- Participation in the Gas Coordination Group

7 As amended by Regulation (EU) 2022/1032 of the European Parliament and the Council of 29th June 2022 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 with regard to gas storage.

- Obligations for the TSOs, in the event of a regional or Union emergency, to cooperate and exchange information using the ReCo System for Gas established by ENTSOG.

Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013 (the CAM NC)

- ENTSOG is required to publish the auction calendar (by January of every calendar year for auctions taking place during the period of March until February of the following calendar year) (Art. 3);
- ENTSOG had facilitated the establishment of joint booking platforms (Art. 37).
- ENTSOG was involved in a process by which terms and conditions of TSOs across the Union for bundled capacity products should be assessed and aligned to the extent possible, with a view to creating a common template of terms and conditions (Recital 10);
- within nine months from the entry into force of this Regulation ENTSOG shall, after consulting stakeholders, review and create a catalogue of the applicable main terms and conditions of the transport contract(s) of the TSOs in relation to bundled capacity products (Art. 20);
- in particular, ENTSOG shall analyse existing transport contracts, identifying and categorising differences concerning the main terms and conditions and the reasons for such differences and publish its findings in a report (Art. 20);
- on the basis of the said report, ENTSOG shall develop and publish a template for the main terms and conditions, covering contractual provisions which are not affected by fundamental differences in principles of national law or jurisprudence, for the offer of bundled capacity products (Art. 20);
- no later than three months after receiving the ACER's opinion, ENTSOG shall publish on its website the final template for the main terms and conditions (Art. 20);
- ENTSOG had to finalise at the latest by 1 October 2017, after consulting stakeholders and ACER, a conversion model for existing transport contracts in case of network users holding mismatched unbundled capacity at one side of an interconnection point. This because a free-of-charge capacity conversion service shall be offered by TSOs as from 1 January 2018 (Art. 21);
- ENTSOG shall coordinate and assist the completion of the demand assessment reports including by providing a standard template and publishing the reports on ENTSOG's website (Art. 26);
- in order to assist ACER in its implementation monitoring, ENTSOG shall monitor and analyse how TSOs have implemented the new version of CAM in accordance with Article 8(8) and (9) of Regulation (EC) No. 715/2009. In particular, ENTSOG shall ensure the completeness and correctness of all relevant information from TSOs. ENTSOG shall submit to ACER that information by 31 March 2019 (Art. 38).
- ENTSOG shall monitor and analyse effects of network codes and the Guidelines on the harmonisation of applicable rules aimed at facilitating market integration (Regulation (EC) No 715/2019 Art. 8(8))

Regulation (EU) 2017/460 of 17 March 2017 establishing a network code on harmonised transmission tariff structures for gas (the TAR NC)

- in order to assist ACER in its implementation monitoring, ENTSOG shall monitor and analyse in accordance with Article 8(8) and (9) of Regulation (EC) No. 715/2009 how transmission system operators have implemented the TAR NC. In particular, ENTSOG shall ensure the completeness and correctness of all relevant information provided by transmission system operators. ENTSOG shall submit to ACER that information in accordance with deadlines set out in the TAR NC (Art. 36);
- provide feedback on the template that ACER shall develop for the consultation document (Art. 26).

10 ABBREVIATIONS

	Definition
ACER	Agency for the Cooperation of Energy Regulators
API	Application Programming Interface
AWP	Annual Work Programme
BAL NC	Network Code on Gas Balancing
BRS	Business Requirements Specifications
CAM NC	Network Code on Capacity Allocation Mechanisms
CBA	Cost-Benefit Analysis
CCUS	Carbon Capture, Utilisation and Storage
CEN	European Committee for Standardisation
CIO	Central Issuing Office
CMP GL	Congestion Management Procedures Guidelines
CNOT	Common Network Operations Tools
DSO	Distribution System Operator
EASEE-gas	European Association for the Streamlining of Energy Exchange – gas
EC	European Commission
ECP	External Contact Platform
EIC	Energy Identification Code
ETM	Energy Transition Model
ENNOH	European Network of Network Operators for Hydrogen
ENTSO-E	European Network of Transmission System Operators for Electricity
ENTSOG	European Network of Transmission System Operators for Gas
ESI	Energy System Integration
ETR	Energy Transition Related
EU	European Union
GCG	Gas Coordination Group
GERG	European Gas Research Group
GIE	Gas Infrastructure Europe
GIS	Geographic Information System
GQ	Gas Quality
GQO	Gas Quality Outlook
GQS	Gas Quality Study

	Definition
GRIP	Gas Regional Investment Plan
HNO	Hydrogen Network Operator
IA	Interconnection Agreement
ICM	Industrial Carbon Management
IGI	Infrastructure Gaps Identification
ILM	Interlinked Model
IMR	Implementation Monitoring Report
INT NC	Network Code on Interoperability and Data Exchange Rules
IP	Interconnection Point
IPP	Innovative Projects Platform
KG	Kernel Group
LAG	Legal Advisory Group
MS	Member States
NC IMG	Network Code Implementation and Monitoring Group
PCI	Projects of Common Interest
PDWS	Professional Data Warehouse System
PMI	Projects of Mutual Interest
RDI	Research, Development, and Innovation
ReCo	Regional Cooperation
REMIT	Regulation on Energy Market Integrity and Transparency
RSS	Really Simple Syndication
SEEGAS	The South-East European Gas Initiative
SFGas	Sector Forum Gas
SoS	Security of Supply
SRG	Stakeholder Reference Group
TP	Transparency Platform
TF	Task Force
TAR NC	Network Code on Harmonised Transmission Tariff Structures for Gas
TSO	Transmission System Operator
TYNDP	Ten-Year Network Development Plan
UNEP	United Nations Environment Programme
WG	Working Group

ADDITIONAL **NOTE**

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