

Annual Work 2019 Programme

working towards an
integrated energy market



**ENTSOG – A FAIR
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Introduction

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Summary of ENTSOG's activities in 2019



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ENTSOG was created in December 2009 and entrusted with preparatory work prior to the implementation of the European Union's Third Energy Package.

On 3 March 2011, ENTSOG formally submitted its Articles of Association, Rules of Procedure and list of members to the European Commission (EC) and Agency for the Cooperation of Energy Regulators (ACER). The final Articles of Association and Rules of Procedure were approved by the General Assembly on 6 March 2012 and submitted to ACER and EC¹⁾.

This document represents the 2019 edition of the Annual Work Programme (AWP) in accordance with Regulation 715/2009 and as a part of the EU's Three-Year Plan agreed upon by EC, ACER and ENTSOG and based on consultation between stakeholders. An Annex has been included to provide an overview on the legal basis for ENTSOG's primary tasks.

The Three-Year Plan has been subject to continuous development and provided stakeholders with a plan of actions to be performed over the referenced years. This allowed all interested parties to plan for and secure the resources required to implement the actions given in the plan and to finalise the internal market.

The activities of ENTSOG in 2019 will be in line with the Three-Year-Plan for gas as well as with the need for responding to upcoming objectives resulting from EU Energy Union policy. In 2017, the last of the requested Network Codes came into force and ENTSOG will continue to monitor their implementation and effects in 2019. Work on TYNDP2020 in 2019 includes a second occurrence of a joint process of scenarios development between both ENTSOs. Seasonal supply outlooks will assess the flexibility offered by the gas infrastructure. ENTSOG will continue to support its members (the certified European Gas Transmission System Operators – TSOs) to develop and publish the fourth edition of the Gas Regional Investment Plans (GRIPs).

These examples demonstrate that ENTSOG work is continuing to evolve: from designing the secondary legislation and fulfilment of conferred regulatory tasks, monitoring the effects of the agreed outcomes through to responding to future challenges and building on achieved results. While its focus remains on monitoring Network Code implementation, ENTSOG future activities will also include assessing the progress of the functionality of the European gas markets and looking at longer term horizons for European Scenarios. For example, work on the development of the joint ENTSOs TYNDP2020 scenarios in 2019 will go beyond the usual TYNDP frame and uses a more visionary approach. The ENTSOG Gas Market Design Task Force (GMD TF) will contribute with proposals and analysis of the impact of possible changes to the current regulatory framework for

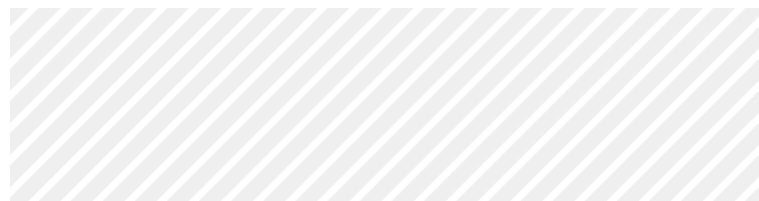
the EU gas market. GMD TF will also envision what innovative TSOs solutions could support the achievement of the EU goals of competitiveness, security of supply and sustainability.

ENTSOG will work closely with its Members in 2019 and beyond to develop projects on sustainable gas to meet climate change targets, to facilitate a regulatory framework for power-to-gas and gas for transport, heating and industry. ENTSOG will engage in further development and innovation of TSO products and services to facilitate the future role of gas in the overall European energy mix.

As for previous years, and to continuously improve its way of working and develop its relations with key stakeholders, ENTSOG will continue with regular engagement with ACER, with stakeholders and ENTSOG members to ensure a productive and effective mutual dialogue.

In 2019, ENTSOG will contribute to the Madrid Forum and Copenhagen Energy Infrastructure Forum, both hosted by the EC. The Madrid Forum addresses topics such as the implementation of the network codes and the cross-border trade of gas, while the Copenhagen Energy Infrastructure Forum addresses the different aspects of infrastructure planning and development for both electricity and gas. ENTSOG will also continue to participate in the EC's Implementation and Monitoring Group, which addresses high level issues in relation to implementation and monitoring of Network Codes effects for both gas and electricity.

And finally, ENTSOG will continue its work as a proactive, trusted adviser on gas transmission related topics on the European level in 2019. The structure of ENTSOG with the embedded expertise of its members as well as that of its Brussels office will continue to play a pivotal role in the further development of the European gas markets.



1) The Articles of Association and the Rules of Procedure were last updated in October 2014 and December 2012 respectively.

Summary of ENTSOG's activities in 2019

Describing ENTSOG activities under the following four main topics is a departure on previous editions of the Annual Work Programme:

- ▲ Networks Codes and Guidelines (Section 2)
- ▲ Scenarios and Infrastructure (Section 3)
- ▲ Security of Supply (Section 4)
- ▲ Transparency Requirements (Section 5)

Previously, ENTSOG activities were described under internal organisation Business Activity headings. This new approach has been taken to more clearly describe activities and to minimise repetition when outlining activities which are undertaken across Business Areas.

Previous editions of the AWP have focused on the development process of the Third Package Network Codes, a cornerstone of the organisation's activities, and this will continue with support to activities associated with the implementation activities.

Going forward, ENTSOG efforts will be on continued monitoring of the implementation and effects of the CMP Guidelines, Capacity Allocation Methodologies (CAM NC), Tariff (TAR NC) Balancing (BAL NC) and implementation of the Interoperability (INT NC) – these are addressed in Section 2 of this document: Networks Codes and Guidelines. The joint activity of managing the Functionality Process with ACER and Transparency Guidelines are also included in Section 2. A summary of regulatory references for these are included in the Annex – Section 8.

The activities associated with the other topics listed above are described in Sections 3–5. Research and Development activities undertaken by ENTSOG are described in Section 6. Details on ENTSOG internal supporting organisation are provided in Section 7 of this document.

Each topic in Section 2–5 includes objectives, key deliverables and activities and a programme of activities for 2019. A summary of the key activities and deliverables is included in the following sections.

Network Codes and Guidelines

ENTSOG will continue to provide help and support to its Members and other interested parties on Network Code and Guideline related topics. Monitoring of some of the Network Codes and Guidelines will continue in 2019. ENTSOG will work with ACER in providing joint solutions to issues posted by the stakeholders on the Gas Network Codes Functionality Platform. In 2019, improvement suggestions to the platform and process will be analysed by ACER and ENTSOG and transformed into project steps, with the aim of making the

Functionality Process more efficient, transparent and smoother for the involved stakeholders. Interoperability work 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, European Commission, Energy Community and stakeholders on all Network Code and Guidelines related matters.

Scenarios and Infrastructure

TYNDP 2018 is developed on the 2nd CBA Methodology, anticipated to be approved by EC in the second half of 2018. On this basis it is planned that ENTSOG will submit the TYNDP 2018 to ACER in early 2019, before publishing it in spring 2019. Support will be provided to Regional Groups on the 4th PCI selection process and ENTSOG will continue supporting TSOs in the development of the 4th edition of the GRIPs in view of their publication in 2019.

Also related to TYNDP, ENTSOG and ENTSO-E have launched a focus study on the interlinkages between gas and electricity scenarios and projects assessment in 2018 – ENTSOG and ENTSO-E will build on the outcomes of the study to prepare the adapted version of the Interlinked Model for EC approval in view of its implementation, starting from TYNDP 2020. ENTSOG will continue the development process for TYNDP 2020 in 2019, including the construction of the scenarios.

Security of Supply

ENTSOG will continue its assessment of the European security of supply, through preparation of deliverables Summer Supply Outlook 2019 and Summer 2018 Review and the Winter Supply Outlook 2019-2020 and Winter 2018–2019 Review.

Work will be undertaken on facilitation of the existing

Regional Cooperation System for Gas (ReCo System for Gas) as a CNOT for emergency conditions, and ENTSOG will continue to support the EC and the Gas Coordination Group (GCG) in the implementation of the revised Security of Supply Regulation in 2019. Further work is also expected in assisting the Energy Community in network code implementation workshops and queries.

Transparency Requirements

Activities undertaken for this topic relate mainly to the management of the transparency obligations including TSOs' publications on their websites and the Transparency Platform (TP) and Regulation on Energy Market Integrity and Transparency (REMIT). From a TP perspective, work will be undertaken to analyse stakeholder feedback and implement new functionalities on the TP

that will improve the usability and user-friendliness of the published data. Support will be provided to the TSOs from Energy Community Contracting Parties as they advance their efforts on transparency publications on ENTSOG TP and support will be provided to the EU TSOs to improve data quality and continue to deliver on REMIT requirements.

General Area

In 2019, the General Area will continue to provide support to the ENTSOG teams and management in Brussels, and work with ENTSOG members. Support will be through the Legal, HR, Finance, IT and Communications functions to ensure there is a robust platform for the activities and deliverables of ENTSOG.

The General Area is responsible for the meetings of the General Assembly and the Board as well as coordinating ENTSOG publications, e.g., Annual Report and Annual Work Programme (AWP). In addition, the activities of the Liaison Group, the Legal Advisory Group and the Financial Committee are organised by the General Area as well as the activities of the External Contact Platform (open to non-EU Gas transmission companies), which was created in collaboration with the Energy Community.

The Annual Report and AWP are the result of combined efforts from the entire ENTSOG team – the Annual Report assesses ENTSOG's work and achievements retrospectively for each given year. The ENTSOG AWP contains the expected activities for ENTSOG in the upcoming year, is aligned with the EC's Three-Year Plan, taking into account ACER's opinions on ENTSOG's work and allows the interested stakeholders to prepare their activities vis-à-vis ENTSOG.

ENTSOG's Article of Association and Rules of Procedure will be reviewed as required, to adapt and streamline the current processes to the experience of activity carried out in the past years as well as the expectations for the upcoming years.



Image courtesy of SGI

Network Codes and Guidelines

2

Capacity Allocation Mechanism Network Code | Balancing Network Code
Tariff Network Code | Interoperability and Data Exchange Network Code
Congestion Mechanism Procedures Guidelines | Transparency Guidelines
Functionality Process | Supporting Activities



Image courtesy of National Grid

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

The currently foreseen codes and guidelines have been developed. ENTSOG is required to monitor the implementation of the Network Codes and the Guidelines and their effect on the harmonisation of applicable rules aimed at facilitating market integration which will continue in 2019 and beyond. ENTSOG will also continue to actively participate in the further development of the Network Codes and the Guidelines through the Functionality Process and also the formal regulatory Amendment process, as required.

Capacity Allocation Mechanism Network Code

The CAM Network Code (CAM NC) sets up capacity allocation mechanisms for existing and incremental capacity and how adjacent TSOs cooperate in order 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 (EC) 2017/459 on 6 April 2017 and repealed the previous Regulation (EC) 984/2013.

The amended CAM NC includes rules for determining and marketing incremental capacity guaranteeing a European-wide harmonised procedure. It contains provisions for a capacity conversion service of unbundled capacity products as well as for harmonising the main terms and conditions for bundled capacity products. New requirements for offering interruptible capacity and new auction dates and rules for long-term capacity products are also introduced.

In 2019, ENTSOG will be involved in supporting the implementation of the CAM NC by providing members and stakeholders advice and guidance throughout the implementation process.

Objectives

- ▲ To support the implementation and application of the Capacity Allocation Mechanisms Network Code (CAM NC)
- ▲ To monitor and analyse the implementation of the CAM NC and its effect on the harmonisation of applicable rules aimed at facilitating market integration
- ▲ To facilitate activities to promote the functionality of CAM NC in close dialogue with stakeholders
- ▲ To develop documents/solutions stemming from obligations on ENTSOG outlined in the EC 459/2017 CAM NC

Key Activities and Deliverables

- ▲ CAM NC Monitoring/Reporting
- ▲ CAM NC Auction Calendar
- ▲ Final publication of the final template for the main terms and conditions of transport contracts for bundled capacity products
- ▲ Report on market demand for incremental capacity
- ▲ Issue solutions delivery from the joint ACER and ENTSOG functionality process involving stakeholders
- ▲ Update of Business Requirements Specification (BRS) CAM if requested by TSO/Stakeholders

Programme of Activities

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

CAM NC	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
CAM NC auction calendar												
CAM NC monitoring report (implementation and effects) for Annual Report 2018 and 2019												
Final publication of the final GTC Template												
Support of Energy community in implementing CAM NC and CMP GL												
CAM BRS update (if requested by TSO/Stakeholders)												
Functionality process for CAM NC												
Monitor the activities and develop ENTSOG positions on capacity relevant issues incl. responses on public consultations												
Analyses of ACER reports (implementation monitoring, regional Initiatives Status Review Report) and other capacity relevant reports												
Incremental Capacity – support of TSOs with the 1 st and 2 nd INC process												

■ Activity periods
■ Key deliverables visible to external stakeholders
■ Uncertain workload

Balancing Network Code

The Balancing Network Code (BAL NC) was published in the Official Journal of the European Union on 26 March 2014. The code entered into force on 16 April 2014 providing a deadline for implementation on the 1 October 2015.

For TSOs who apply for interim measures, the deadline for full implementation is April 2019.

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.

In 2019, ENTSG will be involved in supporting the implementation and monitoring of the BAL NC.

Objectives

- ▲ To monitor and analyse the implementation of the Balancing Network Code (BAL NC) and its effect on the harmonisation of applicable rules aimed at facilitating market integration
- ▲ To support and assist in the implementation of the BAL NC in terms of Regulation interpretation by relevant EU bodies as well as via knowledge sharing and good practices dissemination, including assistance to the Energy Community in implementing the BAL NC.
- ▲ To facilitate activities to promote the functionality of the BAL NC in dialogue with stakeholders.

Key Activities and Deliverables

- ▲ Recommendations resulting from the joint ACER and ENTSG Functionality process involving stakeholders
- ▲ Developing ENTSG positions on balancing relevant issues including responses to public consultations and ACER reports.



Image courtesy of FGSZ

Programme of Activities

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

BALANCING NC	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Prepare for BAL NC monitoring report (implementation & effect) to be delivered in 2020												
Support and assistance of TSOs in the implementation of the BAL NC												
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 on public consultations and ACER reports												
Support of Energy Community in implementing BAL NC												
Functionality process for BAL NC												

■ Activity periods
 ■ Key deliverables visible to external stakeholders
 ■ Uncertain workload

Tariff Network Code

The Tariff Network Code (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. The application of the TAR NC is over three dates: 06 April 2017 (chapters I, V, VII, IX, X); 1 October 2017 (chapters VI, VIII); 31 May 2019 (chapters II, III, IV).

The TAR NC contributes to achieving tariffs, or methodologies used to calculate them, which are transparent, take into account the need for system integrity and its improvement, reflect the actual cost incurred, non-discriminatory, facilitate

efficient gas trade and competition, avoid cross-subsidies between network users and provide incentives for investment.

In 2019, ENTSOG will be involved in supporting the implementation of the TAR NC by providing members and stakeholders advice and guidance throughout the implementation process.

Objectives

- ▲ To support the effective and consistent implementation of the TAR NC by ENTSG members
- ▲ To monitor and analyse the implementation of the TAR NC which will feed into the 2020 TAR NC monitoring report
- ▲ Respond to TAR NC related issues raised on the Functionality Platform, working in close dialogue with stakeholders
- ▲ To analyse and provide possible solutions to tariff related issues raised in future looking work streams
- ▲ To continue to work in close cooperation with ACER, EC and Energy Community on all tariff and TAR NC related matters
- ▲ To provide expert knowledge and guidance to stakeholders related to tariffs

Key Activities and Deliverables

- ▲ Prepare for the TAR NC monitoring report to be delivered in 2020
- ▲ Recommendations resulting from the joint ACER and ENTSG functionality process involving stakeholders
- ▲ Provide feedback to ACER regarding their allowed/target revenue report and also their report on multipliers, if the report is issued earlier than set out in the TAR NC
- ▲ Improve the Standardised Section for publication on TSO/NRA website

Programme of Activities

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

TARIFF NC	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Prepare for the TAR NC monitoring report (implementation and effect) to be delivered in 2020												
Support and assist TSOs and Energy Community with implementation of TAR NC												
Respond to queries and provide advice to stakeholders on TAR NC												
Analyse ACER reports (implementation/effect monitoring, allowed/target revenue, market monitoring, and possibly multiplier) and other tariff relevant reports												
Monitor the activities and develop ENTSG positions on tariff relevant issues incl. responses on public consultations												
Improve Standardised Section for publication on TSO/NRA website												
Analyse and provide possible solutions to tariff related issues raised in future looking work streams												
Functionality process for TAR NC												

 Activity periods

 Key deliverables visible to external stakeholders

 Uncertain workload

Interoperability and Data Exchange Network Code

Commission Regulation (EU) 2015/703 established a network code on interoperability and data exchange rules 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 Union, thus hampering market integration. The network code on

interoperability and data exchange rules (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 CNOT for the technical implementation of Network Codes and Guidelines.

Objectives

- ▲ To monitor the implementation and functioning of the Network Code on Interoperability and Data Exchange rules (INT NC).
- ▲ To investigate the further steps of harmonisation with regard to common data exchange solutions.
- ▲ To facilitate technical cooperation between Member States, Energy Community and third-country transmission system operators (Art 8(3)c) Regulation (EC) No. 715/2009).

Key Activities and Deliverables

MONITORING OF THE IMPLEMENTATION AND FUNCTIONING OF THE NETWORK CODE ON INTEROPERABILITY AND DATA EXCHANGE RULE:

- ▲ Monitor and analyse how transmission system operators have implemented the INT NC, focusing on the most relevant aspects and potential input from ACER's opinion.
- ▲ 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 other ENTSOG business areas as well as with ACER.
- ▲ Deliver status update on the implementation of INT NC.



DEVELOPMENT, SUPPORT AND MAINTENANCE OF COMMON NETWORK OPERATION TOOLS (CNOTS) FOR DATA EXCHANGE:

- ▲ Monitor the implementation and functionality of published CNOTS for CAM/CMP and Nominations and matching procedures, including the related Business Requirement Specifications (BRS), Implementation Guidelines and the technical communication profiles for the selected common solutions for Data Exchange.
- ▲ Amend the published CNOTS for nomination and matching procedures based on the changes arising from the Functionality Process.
- ▲ Review and update of the CNOT for CAM/CMP processes, if required.
- ▲ Organisation of a public stakeholder workshop related to the implementation of Common Data Exchange Solutions
- ▲ Collaboration and information sharing with EC and other organisations in relation to Data Formats and Procedures (Common Data Exchange Solutions for Gas TSOs)
- ▲ Cooperate with EASEE-gas in the development and release management of the Implementation Guidelines and other developments in the field of data exchange related to network codes
- ▲ Investigation on the possible use-cases for the integrated data exchange profile (web services)
- ▲ Deliver any necessary updates of BRS, Implementation Guidelines and technical communication profiles for data exchange related to the implementation of Capacity Allocation Mechanisms Network Code, Congestion Management Procedures Guidelines, the Interoperability Network Code and the Balancing Network Code.
- ▲ Deliver workshop related to the implementation of Common Data Exchange Solution
- ▲ Deliver amended version of the CNOTS for nomination and matching procedures.
- ▲ Deliver analysis of potential solutions with regard to further data exchange harmonisation



Image courtesy of Snam Rete Gas

TECHNICAL COOPERATION BETWEEN MEMBER STATES, ENERGY COMMUNITY AND THIRD-COUNTRY TRANSMISSION SYSTEM OPERATORS

- ▲ If required, update of 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 NC
- ▲ Deliver workshop for supporting the implementation of INT NC rules and expanding regional cooperation with Energy Community and third country TSO

OPERATE THE LOCAL ISSUING OFFICE FOR ENERGY IDENTIFICATION CODING SCHEME

- ▲ Management of EIC Codes by weekly updates to the Central Issuing Office (CIO/ENTSOE) and ENTSOG website and by delivering final responses to requests within maximum 10 days
- ▲ Management of the EIC-codes already issued or that will be issued by LIO 21 and the responsibility for the maintenance and updating of relevant pages on ENTSOG website and contacts with the CIO
- ▲ Cooperation with ENTSOE to further streamline and standardise the implementation of the scheme in the gas sector
- ▲ Management of EIC Codes by weekly updates to CIO and ENTSOG website and by delivering final responses to requests within max 10 day

Programme of Activities

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

INTEROPERABILITY AND DATA EXCHANGE NC	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
INT NC monitoring report (implementation and effects). Summaries for Annual Report 2018	Activity periods	Activity periods	Activity periods	Activity periods	Key deliverables visible to external stakeholders							
Update of CNOTs	Activity periods	Activity periods	Activity periods	Activity periods	Key deliverables visible to external stakeholders							
Data Exchange workshop										Key deliverables visible to external stakeholders		
ENTSOG-Energy Community workshop on INT NC											Key deliverables visible to external stakeholders	
Management of EIC codes	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods	Activity periods

■ Activity periods
 ■ Key deliverables visible to external stakeholders

Congestion Mechanism Procedures Guidelines

The guidelines for Congestion Management Procedures (CMP GL) were developed by the European Commission in 2010 and 2011 and approved by the EU Gas Committee on 24 August 2012. The implementation date was 1 October 2013.

The CMP GL help free up 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.

In 2019, ENTSG will be involved in supporting the implementation of the CMP GL by providing members and stakeholders advice and guidance throughout the implementation process.

Objectives

- ▲ To support the implementation and application of the Congestion Management Procedures (CMP)
- ▲ To monitor and analyse the implementation of the CMP GL and its effect on the harmonisation of applicable rules aimed at facilitating market integration
- ▲ To facilitate activities to promote the functionality of CMP GL in close dialogue with stakeholders

Key Activities and Deliverables

- ▲ CMP Monitoring/Reporting
- ▲ Update of Business Requirements Specification (BRS) CMP if requested by TSO/Stakeholders
- ▲ Issue solutions delivery from the joint ACER and ENTSG functionality process involving stakeholders.

Programme of Activities

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

CMP GUIDELINES	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Monitoring report (implementation and effects) for 2018												
Functionality process for CMP												
Analyses of ACER reports (Congestion at interconnection points, implementation) and other contractual congestion relevant reports												
Monitor the activities and develop ENTSG positions on contractual congestion relevant issues incl. responses on public consultations												
Potential development of changes/amendments or support to other network codes												

■ Activity periods
■ Key deliverables visible to external stakeholders
■ Uncertain workload

Transparency Guidelines

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

The network codes have been developed to provide rules and procedures to reach an appropriate level of harmonisation towards efficient gas trading and transport across gas transmission systems in the EU, increasing data publication requirements.

Objectives

The objective of the Transparency Activities in ENTSOG is to enhance the transparency of gas TSOs' activities in the European Union. This is realised by the data published on

the Transparency Platform and the TSOs' websites. The requirements for the transparency publications are specified in Reg. (EC) 715/2009 and the Network Codes.

Key Activities and Deliverables

- ▲ Further enhance ENTSOG Transparency Platform with functionalities improving the usability and user-friendliness of the published data.
- ▲ Analyse issues and suggestions raised by stakeholders, i.e. via public workshops, Functionality Platform, satisfaction surveys or the TP Help Section.
- ▲ Support the TSOs in improving data completeness and consistency.

In line with the Annual Work Programme 2018, ENTSOG continues to update and improve the ENTSOG Transparency Platform to the benefit of all users and stakeholders. The Transparency Platform provides technical and commercial data on the TSOs' transmission relevant points, showing all of them on an interactive map, in charts and in tables. The information is available free of charge, provided by the TSOs.

ENTSOG continues to work closely with the TSOs to follow up on the implementation of regulation provisions, including the transparency requirements coming from the Network Codes, amendments to Network Codes and REMIT.

ENTSOG and its members have worked together continuously to improve the functionalities, the user-friendliness and the data quality of ENTSOG Transparency Platform. Several new functionalities have been deployed after the launch of the platform in its present version, supporting this goal. These include new functionalities related to transparency requirements from new and amended Network Codes. As the list is quite extensive, we invite you to see the full list in the presentation from the last Transparency Workshop 6 December 2017.

ENTSOG has continued to facilitate public and internal workshops, focusing on the implementation of the transparency guidelines coming from Regulation No. (EC) 715/2009, the before-mentioned continuous improvement of the Transparency Platform functionalities and the implementation of REMIT requirements.

The most recent addition to the transparency publication requirements are in the context of the Tariff Network Code, which introduced a standardised table for publication of tariff on the Transparency Platform and further tariff descriptions on the TSOs websites.

Programme of Activities

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

TRANSPARENCY GUIDELINES	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Continuous platform improvements.												
Analyse legal transparency requirements coming from EU legislation												

 Activity periods



Image courtesy of Ontras

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 NCs and GLs 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 elaborate solutions taking into account stakeholders' views.

Objectives

ENTSOG and ACER provide stakeholders a platform to raise and discuss implementation and operation Network Code 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.

Key Activities and Deliverables

In 2019 it is anticipated that ENTSOG will provide further joint ACER and ENTSOG solutions to issues posted by the stakeholders on the Functionality Platform.

In 2018, alongside the first issue solution delivery, the Functionality process as a pilot project was finished. During the pilot phase, ACER and ENTSOG collected suggestions for improvements from stakeholders as well as from within

both organisations. Suggested improvements applied to the process itself, as well as the Functionality platform. It is planned that the collected input will be analysed and transformed into project steps in 2019, with implementation of improvements to update the process further. The aim of the exercise is to make the Functionality process more efficient, transparent and smoother for the involved stakeholders.

Programme of Activities

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

FUNCTIONALITY PROCESS	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Issue solution												
Process improvement												

■ Activity periods

Supporting Activities

Implementation and Monitoring Network Code Group

The Network Code Implementation and Monitoring Group (NC IMG) is a forum for high level strategic coordination between the EC, ACER, ENTSO-E, and ENTSG.

The NC IMG oversees the implementation and implementation monitoring of electricity network codes and gas network codes in the EU.

The NC IMG was launched by the European Commission on 3 May 2017 at the event celebrating the legal endorsement of the last Network Code that both ENTSG and ENTSO-E were tasked to deliver, as required by the Third Energy Package.

ENTSG has been among the founding members of the group and is represented at every meeting to report the progress made in NC implementation as well as to discuss the strategic issues related to codes and guidelines effects. It is also the forum at which the issues related to codes and guidelines can be effectively discussed and solved in a coordinated manner between the ENTSGs, the Regulators and the EC.

ENTSG reports also on the stakeholders' dialogue framed by the Functionality Process. ENTSG also present the progress made in Transparency Platform development.





Scenarios and Infrastructure

3

Objectives | Supporting Activities
Key Deliverables and Activities | Programme of Activities

Image courtesy of Fluxys



The deliverables and activities outlined in this Section reflect ENTSG obligations under Regulations (EC) 715/2009 (3rd Energy Package), (EU) 2017/1938 (Security of Supply), (EU) 347/2013 (Energy Infrastructure Guidelines) and EU 2015/703 (Interoperability & Data Exchange Network Code) and relate to scenario development, investment planning and infrastructure assessment for the EU energy system. One of ENTSG's main deliverables are short and medium to long-term assessments such as the Ten-Year Network Development Plan (TYNDP), the Union-wide network development plan. In addition, the ENTSG maps show commitment to transparency and to providing stakeholders with easily accessible and high added value information.

All these deliverables aim at developing a vision of the integrated European energy market and in particular its infrastructure component. This vision is of particular importance in view of completing the pillars of the European Energy Policy in the perspective of achieving the European energy and climate targets and European commitments to the Paris Agreement.

The TYNDP development process is a three-year process, with scenario development taking two years, and the infrastructure and project assessment taking an additional year. This process is actually the entry point to two parallel subsequent processes, to which ENTSG provides its support: the development of the GRIPs and the PCI selection process. As illustrated in the below figure, the overall TYNDP and subsequent processes take a total of four years and are repeated every second year.

In 2019, ENTSG will handle the last steps of finalising the TYNDP 2018 report. Following the Draft TYNDP publication in the second half of 2018 and the subsequent public consultation, ENTSG will submit the TYNDP 2018 to ACER in early 2019, before publishing the final TYNDP 2018 in spring 2019.

The TYNDP 2018 report identifies the infrastructure gap, namely the priority areas lacking market integration, security of supply, competition or sustainability. The report also assesses where and to which extent the level of development of gas infrastructure could improve the infrastructure-related market integration, security of supply, competition and sustainability.

TYNDP 2018 represents the basis for the selection of the fourth list of Projects of Common Interest (PCI), both to support the identification by Regional Groups of the investment needs, and to serve as basis for the project-specific cost-benefit analysis of PCI candidates.

The final TYNDP report to be published in 2019 will include also the project-specific cost-benefit analysis (PS-CBA) results for those projects intending to apply for the PCI label under the 4th PCI selection process, in line with the provisions of the ENTSG 2nd CBA Methodology anticipated to be approved by the EC in the second half of 2018.



Figure 3.1: Timeline for TYNDP and subsequent processes

Objectives

- ▲ To meet expectations of market participants regarding the assessment of infrastructure-related market integration and its contribution to meeting the pillars of the European Energy Policy (competition, sustainability and security of supply), as well as the assessment of 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 identification through to the coming on-stream of the respective infrastructure remedies.
- ▲ To support the Regional Groups, established by the Commission, in the process of selection of Projects of Common Interest by providing the technical background and methodologies with regard to cost-benefit analysis of projects.
- ▲ To provide support to institutions and stakeholders in the understanding of gas infrastructure.
- ▲ To develop ENTSG skills, methodologies and tools to sustain the achievement of the above objectives.

Supporting Activities

In 2019, the supporting activities will be the ones following up on TYNDP 2018.

Support to Regional Groups on the PCI selection process

ENTSG will take part in the Cooperation platform between Commission, ACER and ENTSGs, and will participate in and support the work of the Regional Groups established by the Commission in the tasks of running the 4th PCI selection process and monitoring PCIs.

ENTSG will also support promoters of projects applying for the PCI label, as for the 3rd PCI selection process, including through the handling of Project-Specific cost-benefit analysis (PS-CBA) as part of TYNDP 2018, in line with its proposal for the 2nd CBA Methodology, and ACER recommendations. The publication of PS-CBA results as part of the final TYNDP 2018 report will provide a transparent tool to all concerned stakeholders taking part to the 4th PCI process.

Gas Regional Investment Plans (GRIPS)

TSOs regional cooperation to produce Gas Regional Investment Plans (GRIPS) will continue, and ENTSG will support TSOs in the development of the 4th edition of the GRIPS for publication in 2019.

Key Deliverables and Activities

- ▲ Adapting ENTSO-E/ENTSOG Consistent and Interlinked Model
- ▲ Scenario development for TYNDP 2020
- ▲ Practical Implementation Document for TYNDP 2020
- ▲ TYNDP 2020 Project Collection
- ▲ System Development map 2019

Methodologies and Modelling: ENTSO-E/ENTSOG Interlinked Model

In line with Regulation (EU) 347/2013, the ENTSOs have submitted the draft version of their consistent and interlinked electricity and gas network and market model (the Interlinked Model) to the Commission and ACER on 21 December 2016, and ACER has issued its opinion on 20 March 2017.

Starting with TYNDPs 2018, the ENTSOs have already implemented their joint scenario building process defined in the draft Interlinked Model and will continue with TYNDP 2020 and subsequent TYNDP editions.

The ENTSOs acknowledge that ACER opinion points out at additional potential interlinkages that are not part of the draft Interlinked Model as submitted in December 2016. In line with ACER suggestions the ENTSOs launched on 17 May 2018 a focus study on the interlinkages between gas and electricity scenarios and projects assessment.

In 2019, ENTSOG and ENTSO-E will build on the outcomes of the study to prepare the adapted version of the Interlinked Model for EC approval in view of its implementation starting from TYNDP 2020.

Scenarios for TYNDP 2020

During 2019, ENTSOG will continue the scenario development process for TYNDP 2020 that was initiated from early 2018. TYNDP 2020 will cover the 2020–2040 time horizon.

TYNDP 2020 represents the 2nd edition where the scenarios have been developed in a joint process between both ENTSOs. Following the stakeholder engagement process and data collection activities taking place in the second part of 2018, 2019 will see the construction of the scenarios, with the release of the draft information in Q3 before the Final TYNDP 2020 Scenario Report is released in Q4 2019.

As a major element of the draft Interlinked Model, submitted by the ENTSOs to the Commission and ACER in December 2016, the scenarios process has been built upon from the previous edition with views given on the full energy system and improved processes for determining the impacts of potential developments to the gas and electricity systems.

ENTSOs joint scenario development process, as part of the draft Interlinked Model, will build on continued cooperation between ENTSOG and ENTSO-E, allowing for the evolution of policy and technology to be considered, and for the experience gained from TYNDP 2018 to be factored in.

Further evolutions may take place in terms of the gas and electricity sectors' interlinkages that may be identified as relevant for the scenario development process.

TYNDP 2020

During 2019, in parallel to the publication of the final TYNDP 2018 report, ENTSOG will start developing TYNDP 2020 to be published at the end of the year 2020. This will build on ENTSOG and ENTSO-E further aligning their TYNDP timelines.

In 2019, in addition to the development of the scenarios, ENTSOG will start the data collection process for TYNDP 2020.

Following the EC's recommendation on "Guidelines on equal treatment and transparency criteria to be applied by ENTSO-E and ENTSOG when developing their TYNDPs" as set out in Annex III 2(5) of Regulation (EU) No. 347/2013, ENTSOG elaborated its "Practical Implementation Document (PID) for developing the 10-year network development plan (TYNDP) 2018". During 2019 ENTSOG

will update the Practical Implementation Document in view of its application to the projects submitted for TYNDP 2020.

The data collection for infrastructure projects to be included in TYNDP 2020 will then start in the second half of 2019, and ENTSOG will subsequently publish the list of projects. TYNDP 2020 will build on the collected data to provide a comprehensive overview of infrastructure projects. All infrastructure projects intending to apply for the fifth selection of Projects of Common Interest will have to be submitted to the TYNDP 2020.

To this purpose, in 2019 ENTSOG will continue improving the project data collection process so as to allow for increased reliability of project data and the inclusion of renewables gas projects.

Maps 2019

Since its creation ENTSOG has developed different maps, on a voluntary basis. These maps are welcomed by institutions and stakeholders as a highly useful overview.

Every year ENTSOG publishes the System Development Map and starting from 2018 will publish either the Capacity Map, or the TYNDP Map with all the projects included in TYNDP, on a bi-annual basis.

In 2019, ENTSOG will issue the System Development Map and Capacity Map, which can be purchased or downloaded from the ENTSOG website.



Image courtesy of National Grid

Programme of Activities

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

SCENARIOS AND INFRASTRUCTURE	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
TYNDP 2018²⁾												
Draft report public consultation												
PS-CBAs												
Formal submission to ACER												
Final report edition												
SUPPORT ACTIVITIES												
Support to TSOs with GRIPS												
Support to Regional Groups on the PCI selection process												
TYNDP 2020												
Scenario development and stakeholder process												
Project Implementation Document												
Project collection												

■ Activity periods
 ■ Key deliverables visible to external stakeholders
 ■ Uncertain workload



Image courtesy of SGI

2) Note: Application of the updated CBA Methodology for the preparation of TYNDP 2018 will require that the Commission can approve it in accordance with TYNDP 2018 timeline. Any delay on the approval of the CBA Methodology by Commission will likely impact the Draft TYNDP 2018 Report release.

Security of Supply

4

Objectives | Key Deliverables and Activities
Supporting Activities | Programme of Activities

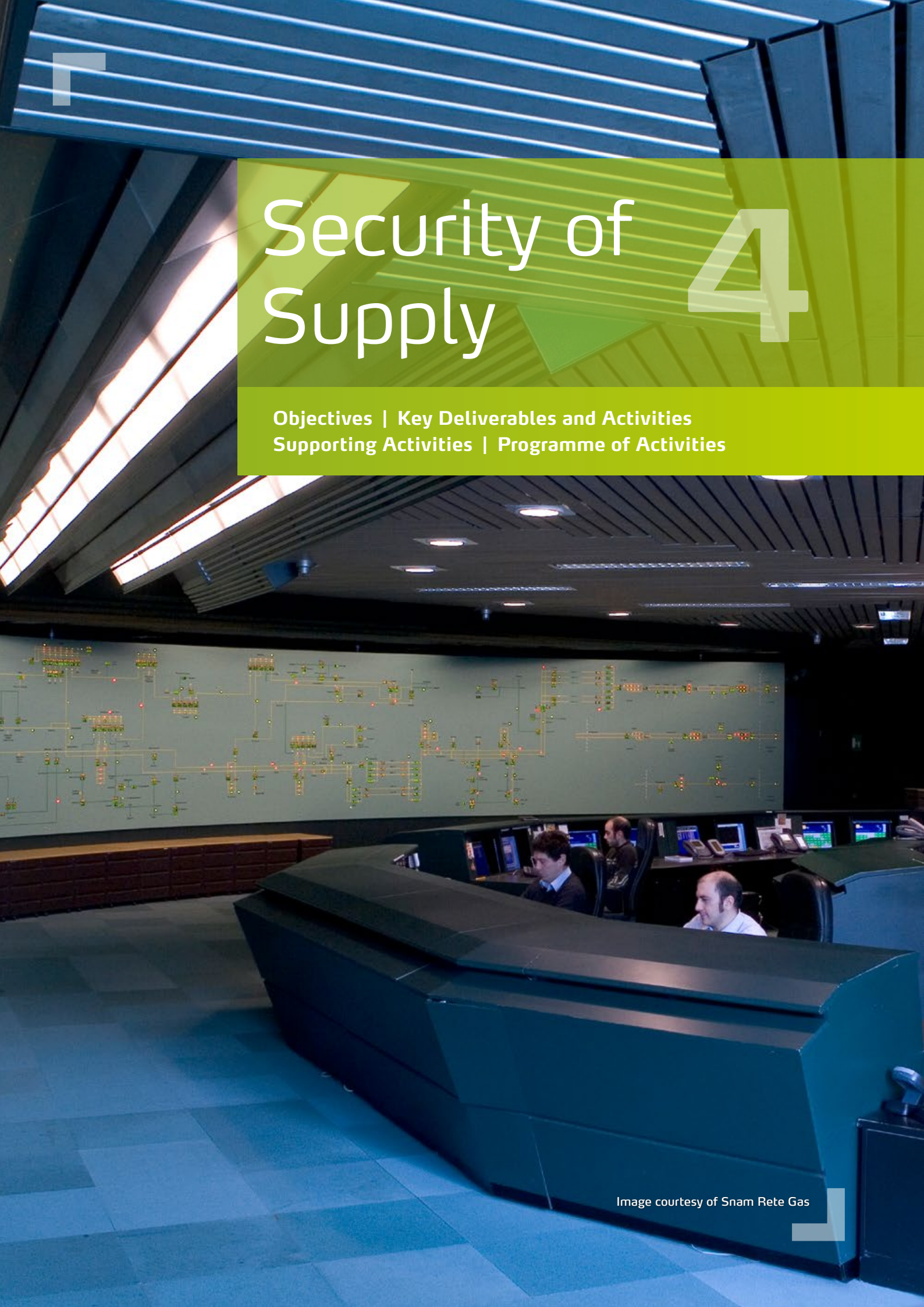


Image courtesy of Snam Rete Gas

After the gas crises of 2006 and 2009, the EU reinforced its security of gas supply notably by adopting the first security of gas supply Regulation No. 994/2010 in 2010. On 28th October 2017 revised Regulation No. (EU) 2017/1938 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No. 994/2010 entered into force. The new rules ensure a regionally coordinated and common approach when choosing the security of supply measures among EU Member States.

The regulation also defines the role of ENTSOG in ensuring the security of gas supply. ENTSOG has also been tasked 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).

Objectives

- ▲ Facilitate regional cooperation for security of supply (SoS) and operational issues
- ▲ Within the framework of the revised SoS regulation, to facilitate the functioning of the Regional Coordination System for Gas (ReCo System for Gas) as CNOT for emergency conditions (Art 8(3)c) Regulation (EC) No. 715/2009).
- ▲ Support the GCG and relevant stakeholders in the implementation of the revised SoS regulation and the assessment of European Security of Supply.
- ▲ Provide support to institutions and stakeholders in the provision of gas demand and supply outlooks and reviews.

Key Deliverables and Activities

- ▲ Summer Supply Outlook 2019
- ▲ Summer Supply Review 2018
- ▲ Winter Supply Outlook 2019–2020
- ▲ Winter Supply Review 2018–2019
- ▲ Support functioning of ReCo System for Gas
- ▲ Support to Gas Coordination Group

Outlooks and Reviews

SUMMER SUPPLY OUTLOOK 2019 AND SUMMER 2018 REVIEW

ENTSOG aims at publishing its Summer Supply Outlook 2019 in April 2019, so that stakeholders be informed very early in the injection season. To develop this report, ENTSOG will build on the experience gathered since 2010 taking due account of ACER opinions and stakeholder feedback. The report will benefit from the latest development of IT/R&D activities in the fields of modelling, supply and demand approaches.

Summer Supply Outlook will assess the ability of the European gas infrastructures to provide flexibility while enabling shippers to fill storage in preparation of the winter. This report assesses the level of service provided by infrastructures considering the latest trends in supply and demand and does not intend to forecast market behaviour. As for all Supply Outlooks since 2013, EC and Member

States, through the GCG, will be able to ask ENTSOG for specific situations they would want to be assessed.

Along with its Summer Supply Outlook 2019, ENTSOG will also deliver on a voluntary basis the Summer 2018 Review: a description of the behaviour of the gas market during the summer months of 2018 on the basis of the observed daily gas flows and prices. It will provide the opportunity to investigate the short-term demand and supply trends and especially the dynamic of the gas demand for power generation. The Review will cover any relevant event taking place during the period.

This analysis will then be factored in the Research and Development activities for further improvement of ENTSOG approach for future deliverables.

WINTER SUPPLY OUTLOOK 2019-2020 AND WINTER 2018 – 2019 REVIEW

ENTSOG aims at publishing its Winter Supply Outlook 2019-2020 in October 2019, so that stakeholders be informed very early in the withdrawal season. To develop this report, ENTSOG will build on the experience gathered since 2010 taking due account of ACER opinions and stakeholder feedback. The report will benefit from the latest development of IT/R&D activities in the fields of modelling, supply and demand approaches.

Winter Supply Outlook will assess both the possible evolution of UGS inventory along different winter cases as well as the resilience of the European gas infrastructures under peak conditions. This report assesses the level of service provided by infrastructures considering the latest trends in supply and demand and does not intend to forecast market behaviour. As for all Supply Outlooks since 2013, EC and

Member States, through the GCG, will be able to ask ENTSOG for specific situations they would want to be assessed.

Along with the Winter Supply Outlook 2019–2020 ENTSOG will also deliver on a voluntary basis the Winter 2018–2019 Review, a description of the behaviour of the gas market during the winter months of 2018–2019 on the basis of the observed daily gas flows and prices. It will provide the opportunity to investigate the short-term demand and supply trends and especially the dynamic of the gas demand for power generation. The Review will cover any relevant event taking place during the period.

This analysis will then be factored in the R&D plan for further improvement of ENTSOG approach for future deliverables.

REGIONAL COOPERATION (RECO) SYSTEM FOR GAS

ENTSOG will ensure facilitation of the existing ReCo System for Gas as a CNOT for emergency conditions, including a common incidents classification scale, and other supporting documentation for the ReCo Teams. ENTSOG will also investigate the need to implement a ReCo Team South East

and potential interactions with other critical infrastructure operators and other stakeholders in crisis situations. In 2019, it will continue to facilitate knowledge sharing amongst TSOs regarding operational procedures in emergency conditions.

Supporting Activities

Support to Gas Coordination Group (GCG)

- Support of the EC and the GCG in the implementation of the revised SoS regulation. Follow upon any tasks given to it by GCG.
- Through the GCG and when preparing Supply Outlooks, ENTSG will continue to encourage Member States (MS) to feedback on particular cases of interest.
- Support the TSOs and MS in the risk assessment for the defined groups based on the results of the Union-wide simulation.
- Support the TSOs and competent authorities in the establishment of the preventive action and emergency plans.
- Support the TSOs and competent authorities to agree on the technical arrangements for the application of the solidarity principles.

Technical cooperation between Member States, Energy Community and third-country TSOs

- Support Energy Community contracting parties and third countries transmission system operators concerning security of supply
- Further support the EC in their activities concerning gas flow monitoring in Ukraine as well as in the EU-Russian Work Stream 3 energy dialogue
- Continue to host meetings External Contact Platform (ECP), a platform developed by ENTSG and the Energy Community Secretariat, to strengthen ENTSG's cooperation with non-EU gas transmission companies, including those from the Energy Community countries

Programme of Activities

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

SECURITY OF SUPPLY	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
SUMMER SUPPLY OUTLOOK 2019 & REVIEW												
Summer Supply Outlook 2019												
Summer Review 2018												
WINTER SUPPLY OUTLOOK 2019/20 & REVIEW												
Winter Supply Outlook 2019/20												
Winter Review 2018/19												
Support to GCG												
ReCo System for Gas												

■ Activity periods
 ■ Key deliverables visible to external stakeholders



Transparency Requirements

5

Objectives | Key Deliverables and Activities
Supporting Activities | Programme of Activities



Image courtesy of SGI

ENTSOG activities on the Transparency topic relate to management of the transparency obligations including TSOs' publications on their websites and the Transparency Platform and Regulation on Energy Market Integrity and Transparency (REMIT). REMIT and its Commission Implementing Regulation (EU) No. 1348/2014 introduced additional publication and reporting obligations to the market participants, aimed at supporting market monitoring, fostering open and fair competition in wholesale energy markets. These obligations are also dealt with in the Transparency Area in ENTSOG.

Objectives

- ▲ Analyse stakeholder feedback and implement new functionalities on the Transparency Platform that will improve the usability and user-friendliness of the published data.
- ▲ Support TSOs in improving data consistency in line with legal obligations.
- ▲ Explore possibilities for developing a concept and scenarios that would enhance the possibilities for publication of Inside Information on the Transparency Platform.
- ▲ Explore user needs and resource requirements for providing additional seminars and courses on how to effectively use the TP.
- ▲ Follow-up on reporting provisions as well as data collection processes for TSOs and ENTSOG under REMIT obligations. ENTSOG will support TSOs during the implementation of further reporting obligations.
- ▲ Analyse legal transparency requirements coming from EU legislation such as Regulation (EC) No. 715/2009, Regulation (EU) No. 1227/2011, Regulation (EU) No. 1348/2014, Regulation (EU) 2015/703, Regulation (EU) 2017/460, Regulation (EU) 2017/459 etc.
- ▲ Cooperate with other ENTSOG business areas to fulfil transparency requirements coming from relevant network codes and liaise with relevant ENTSOG WG to identify synergies in fulfilling these obligations.
- ▲ Follow up on the standing TP stakeholder satisfaction survey and organise the annual workshop on transparency to receive feedback from stakeholders.

Key Deliverables and Activities

Transparency Publications

- ▲ Further enhance ENTSOG Transparency Platform with functionalities improving the usability and user-friendliness of the published data.
- ▲ Analyse issues and suggestions raised by stakeholders, i.e. via public workshops, Functionality Platform, satisfaction surveys or the TP Help Section.
- ▲ Support the TSOs in improving data completeness and consistency.
- ▲ Support the TSOs in any improvements or updates made to REMIT requirements.
- ▲ Follow and implement the transparency requirements coming from the Network Codes.
- ▲ Support TSOs from Energy Community Contracting Parties concerning their transparency publications on ENTSOG TP

REMIT

- ▲ As Registered Reporting Mechanism, ENTSOG will continue to provide fundamental data to ACER REMIT Information System as defined in Article 9(1) of Reg. (EU) 1348/2014.
- ▲ The activities on REMIT includes continuous improvements to the graphical user interface that will enable the gas TSOs to publish inside information as Urgent Market Messages (UMMs) on the Transparency Platform if they wish to do so.
- ▲ ENTSOG and the gas TSOs are actively supporting the continued work on improving REMIT and working closely together with ACER's Market Integrity and Transparency department.

Supporting Activities

Transparency Publications

- ▲ Facilitate required data collection processes when required by the legislation, e.g. the information for ACER's 2019 Congestion Monitoring Report.
- ▲ Support TSOs from Energy Community Contracting Parties concerning their transparency publications on ENTSOG TP.

REMIT

- ▲ Support the Agency's REMIT department with input on REMIT implementation and developments.

Programme of Activities

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

TRANSPARENCY REQUIREMENTS	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Facilitate required data collection processes												
Support Energy Community CPs												
Support ACER's REMIT departments												
Continuous platform improvements												
Data consistency support to TSOs												
Concept for UMM publication												
Organise TP user courses and tutorials												
Follow-up on REMIT requirements												
Cooperate with ENTSG business areas on transparency requirements and support with projects concerning TP												
Stakeholder satisfaction survey												
Public workshop on Transparency												

 Activity periods

 Key deliverables visible to external stakeholders

 Uncertain workload

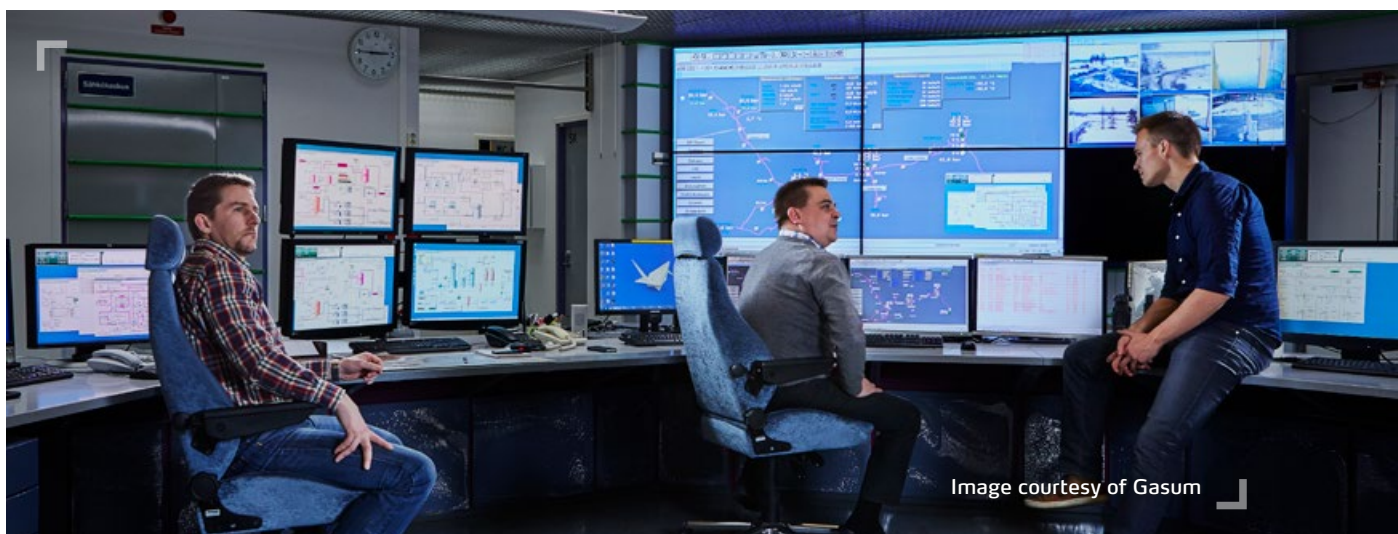


Image courtesy of Gasum

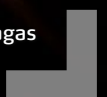


Research & Development

6

Objectives | Key Deliverables and Activities | Programme of Activities

Image courtesy of Enagas



Objectives

Regulation No. 715/2009 requires that the ENTSG Annual Work Programme contains a list and description of its research and development activities. ENTSG is committed to working towards and promotion of innovation and improvement of processes of its Members activities, in 2019 and beyond.

Key Deliverables and Activities

Promoting TSO Innovative Activities

To efficiently build on its Members (TSOs) efforts to promote innovative technologies, business models and partnerships across the value chain, as well as the TSOs cooperation with market participants, ENTSG have initiated the identification process to map TSO Research, Development and Innovation (RDI) activities.

In 2019, ENTSG will actively engage with its Members to further build this data base of RDI activities and will ensure the platform for communication and exchange of best

practices applied by EU TSOs in terms of technology development, business models and partnerships in RDI. The purpose of this exercise is increased representation of the TSOs input into the discussion on existing regulatory barriers and on the enablers needed for promotion of the innovation in the gas sector during the energy transition.

It is planned to present these activities via the ENTSG public website in 2019, in varying formats (e.g., documents, videos, photographs, etc.).

Gas Market Design Task Force

The Gas Market Design Task Force (GMD TF) has been established primarily to contribute to the debate launched by the Quo Vadis EU gas regulatory framework study commissioned by the European Commission. In 2019, it will continue to evaluate any proposed changes to the current regulatory framework in the EU gas sector. GMD TF will also examine innovative TSOs solutions which could support the achievement of the current EU goals of reducing the carbon emissions.

ENTSG's GMD TF will work closely with its Members in 2019 and beyond to develop sustainable gas projects, to facilitate the use of power-to-gas and the use of gas for transport, heating and industry. ENTSG will also provide support to its Members regarding any new TSO products and services which could meet the requirements for the future role of gas.

Regulation Training

SECTOR COUPLING TRAINING FOR ENERGY MARKET DESIGN AND OPERATION

ENTSOG has observed that its joint work with stakeholders on the interactions with other sectors needs to be supported by more intense, cross sectoral knowledge sharing. Electricity and gas regulatory processes have been decoupled, the understanding of key challenges faced by the two sectors evolves quickly and respective contributions of gas and electricity to the future energy system and decarbonisation are in the design phase now.

Sector integration will likely require a greater coordination of the electricity and gas sectors and systems. This should be undertaken to ensure proper understanding of both sectors by experts, regulators and decision makers who usually come from a specific background (electricity or gas). On this basis, ENTSOG will consider cooperation with external training organisations to facilitate training to explore what sector coupling could mean in terms of market design and operation, but also in infrastructure planning, development and system operation as well as the incentives for promoting innovation in and between the two sectors.

ONLINE TRAINING FOR GAS NETWORK CODES

In 2018, ENTSOG collaborated with the Florence School of Regulation (FSR) in the development of an online course to promote the regulatory knowledge of the gas Network Codes, facilitating the understanding of their regulatory background, design and implementation. The course was

endorsed by ACER and the EC, was largely attended and received positive feedback from participants. Due to its success, ENTSOG plans to repeat this course jointly with FSR in 2019.

Joint Functionality Process Improvements

In 2019 it is anticipated that ENTSOG will provide further joint ACER and ENTSOG issue solutions to issues posted by the stakeholders on the Functionality Platform.

In 2018, alongside the first issue solution delivery, the Functionality platform as a pilot project was about to finish. During the pilot phase, ACER and ENTSOG had collected suggestions for improvement from stakeholders as well as

from within both organisations. Suggested improvements applied to the process itself, as well as the Functionality platform. It is planned that the collected input will be analysed and transformed into project steps in 2019, with implementation of improvements to update the process further. The aim of the exercise is to make the Functionality process more efficient, transparent and smoother for the involved stakeholders.

Hydrogen and Gas Quality

Work on this topic in 2019 includes provision of the third Long-Term Gas Quality Outlook (Gas Quality Outlook) for TYNDP 2020. ENTSOG continues improving the gas quality reference data and the modelling assumptions used for the long-term gas quality monitoring outlook for the Gas Quality Outlook. With reference to the TYNDP 2020, the Gas Quality Outlook includes an analysis of how renewable gases may impact the different regional outlooks in the long term.

In addition, ENTSOG will cooperate with CEN in the pre-normative work for harmonisation of Wobbe Index. Cooperation will also take place with CEN, Marcogaz and EASEE-gas regarding the injection of hydrogen and other renewable gases into transmission networks. ENTSOG will continue its dialogue with stakeholders along the gas value chain in the field of gas quality and will deliver a workshop related to gas quality and interoperability to achieve this in 2019.

Cybersecurity

In 2019, ENTSOG IT will continue with its programme to protect its information assets from Cybersecurity attacks. The programme also ensures that ENTSOG delivers on its obligations for the General Data Protection Regulation (GDPR) which came into effect in May 2018. This ongoing programme includes the development and implementation

of policies, controls and governance that balances the need to protect ENTSOG and its members against Cybersecurity attacks with the need to run the organisation.

Additionally, ENTSOG will continue its coordination and dialogue with relevant parties in the field of Cybersecurity.

Ongoing Enhancement to the PDWS and TP

ENTSOG owns and maintains a data repository and reporting solution (Professional Data Warehouse System, or PDWS). This solution supports the activities of the business areas. The system will be enhanced further to fulfil the needs of its users, which will include development of additional reports and automated extracts. Following public consultation, ACER will likely update the REMIT schemas requiring ENTSOG reporting modifications.

The Transparency Platform (TP) is part of the PDWS and publishes data provided by TSOs. Further enhancement requests originating from the TP users will be assessed and developed. For example, a suite of tools will be explored to enhance data completeness and data consistency. Development might be required change the representation of interconnection points in line with CAM NC.

Programme of Activities

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

TRANSPARENCY REQUIREMENTS	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Promoting TSO Innovative Activities												
Regulation Training												
Joint Functionality Process Improvements												
Cybersecurity												
Hydrogen and Gas Quality												
Gas Quality workshop												
Ongoing Enhancement to the PDWS and TP												

Activity periods
Key deliverables visible to external stakeholders
Uncertain workload



ENTSOG Supporting Activities

7

Objectives | Key Deliverables and Activities

Image courtesy of Snam Rete Gas



Objectives

With the support of its members and the guidance of its steering bodies the General Area coordinates and supports the work of ENTSOG. It prepares, arranges and coordinates the various General Assembly and 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, General Area Team supports ENTSOG planning, management and execution.

The General Team also prepares the strategic processes aimed at defining the ENTSOG profile and taking care of the consistent application of those strategic orientation lines in organisation practice. To establish and maintain the most efficient structure to support all organisational Business Areas (i.e. Market, System Development and System Operation) and the related working groups (WGs). That includes the planning and building up of financial and human resources but also the communication flow within the association and to its stakeholders.

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



Key Deliverables and Activities

Legal

The ENTSG Legal Team ensures compliance of ENTSG with 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 2019, 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 Task Forces (TFs) established or to be established with the aim to follow the discussions and legislative proposals shaping the future gas market reform. The Legal Team will also support the System Development team by providing legal assistance to include but not limited to (i) the further development and implementation of the CBA methodology, as regularly updated, including the consistent and interlinked gas and electricity model, and (ii) the continuing development of the TYNDPs.

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

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

On a day to day basis, the Legal Team provides legal assistance and advice to the management, the Board and the General Assembly in terms of governance. The Legal Team will also support ENTSG's further IT development, notably in terms of cyber security and personal data protection, from a legal perspective.

Finance and HR

FINANCE

ENTSG is an international non-profit association (AISBL) established according to Belgian law and is now comprised of 45 Member TSOs. The highest decisive body of ENTSG is the General Assembly which meets four times a year. ENTSG 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, ENTSG 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

HUMAN RESOURCES

ENTSOG is committed to delivering the documents foreseen by the Three-Year Plan for gas and to actively promoting stakeholders to pursue the targets stipulated by the Third Energy Package. This requires a well-prepared recruitment pipeline so that ENTSOG will have the relevant resources and competences to perform the requested activities.

By the end of 2018, the ENTSOG Team in Brussels will consist of forty-one persons and a replacement plan commenced the previous year to replace seconded persons whose contracts had expired.

ENTSOG is comprised of seconded staff from its members – typically seconded for 3–5 years – and therefore the organisation is under dynamic change and ready to offer new opportunities. The ENTSOG staff consists currently of

18 different nationalities and representing 17 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 European Commission, 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 to mitigate risks which may affect the business continuity of the association.

ENTSOG STAFF	31.12.2017	31.12.2018
General Manager	1	1
Business Area Managers	3	3
Manager / Advisers	33	33
Senior Assistants	3	3
Assistant	1	1
TOTAL	41	41

Communications

It is the aim of ENTSOG to always communicate its activities in a transparent manner.

The Communications Team provides support to managerial activities as well as promoting the activities of ENTSOG to its members and the external environment. One of the tasks will be to monitor the activities and public opinions of relevant stakeholders. This can be achieved by contributing to consultations, participating in conferences and fora as discussion partner or speaker but also maintain a close dialogue with media representatives. One of ENTSOG's primary aims is to involve the relevant market participants/stakeholders in its work. This requires well-prepared stakeholder management and well-structured and efficient workshops, as well as an accurate updated website to communicate the work undertaken effectively and to enhance ENTSOG's visibility and recognise its efforts. In 2019, a newly redesigned website will continue to be updated with input and information from Members, as well as ongoing updates on ENTSOG activities.

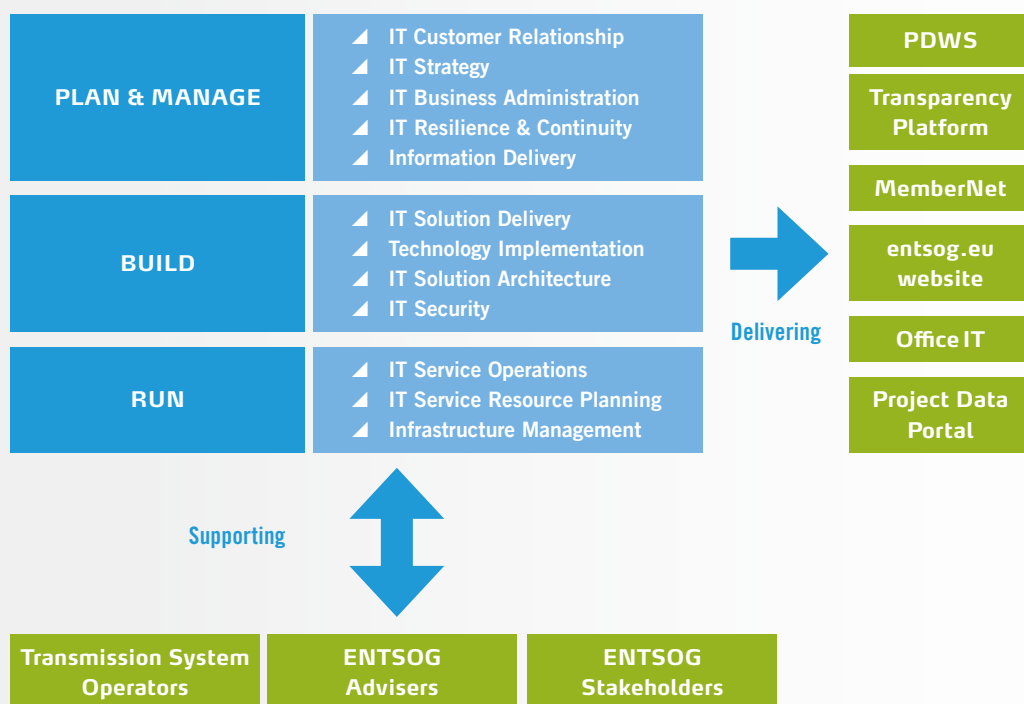
Consistent external communication is managed by a small communications team, who is responsible for the coordination for all publications (e.g., the Annual Plan and Annual Work Programme) and is in dialogue with members within the organisation, the EC, ACER as well as with key external stakeholders.

The team contributes to the strategic processes, aimed at defining the ENTSOG profile and taking care of the consistent application of those strategic orientation lines in the practices of the organisation. The team has been tasked with further development of the ENTSOG network, with raising awareness of policy processes and with organising the internal knowledge sharing on upcoming regulatory developments and with strengthening of internal communication. The Communication Team also watches the consistency of ENTSOG communications towards stakeholders, media and broader public.

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, 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)
- ▲ Project Data Portal
- ▲ Transparency Platform (TP)
- ▲ Content Management Solutions
- ▲ Website
- ▲ Office IT – Network, Laptops, Mobile phones, etc.

Following a review of its IT systems in 2018, ENTSOG will plan the replacement/upgrade of ENTSOG's IT assets in the coming years to deliver secure, integrated and cost-effective IT solutions for ENTSOG.

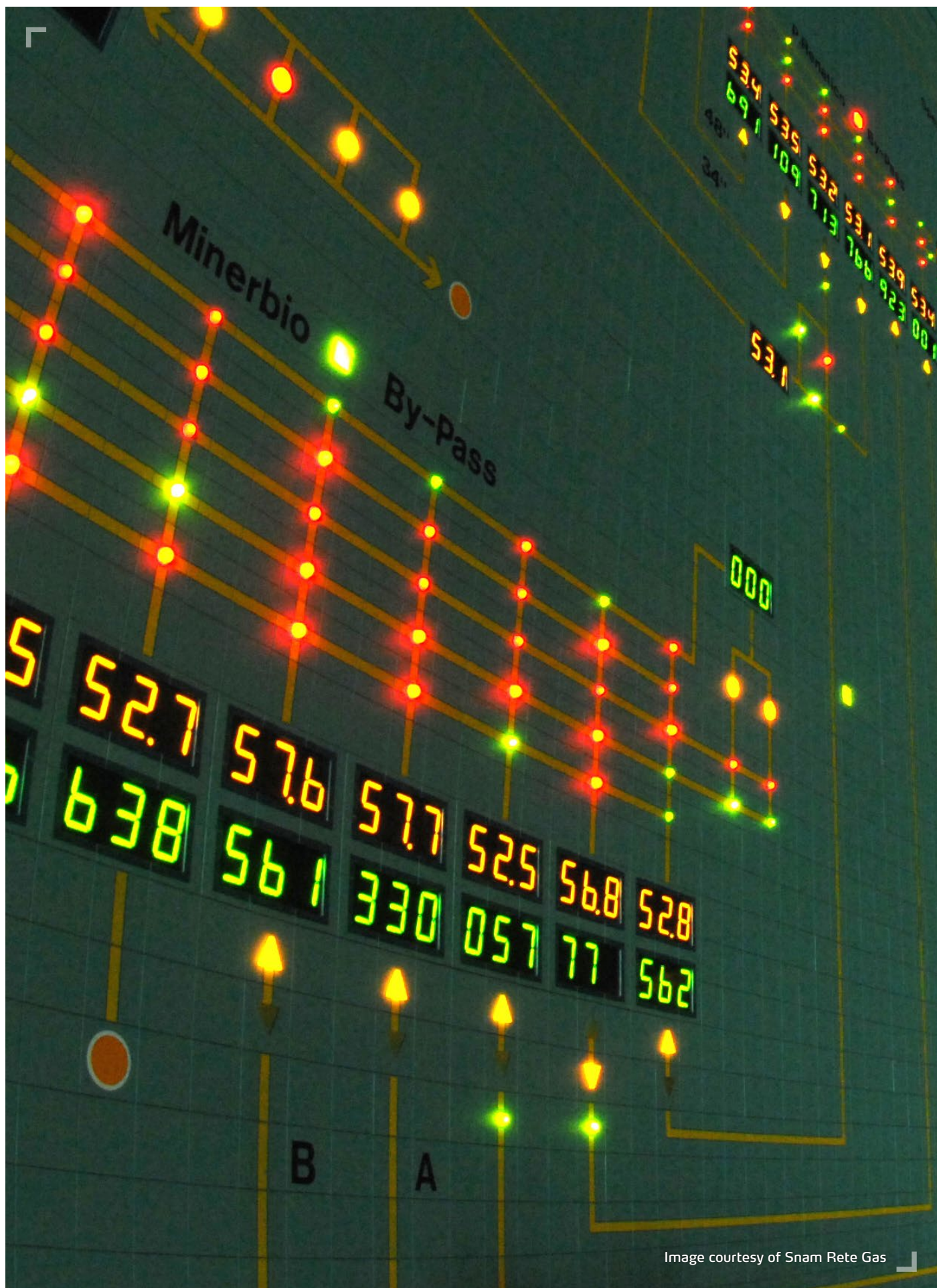


Image courtesy of Snam Rete Gas



Annex

8

Overview of ENTSOG's Regulatory
framework for its tasks

Image courtesy of GRT gaz

Overview of ENTSOG's Regulatory framework for its tasks

The tasks entrusted to ENTSOG derive mainly from the following pieces of legislation:

- ▲ Regulation (EC) No. 715/2009 of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No. 1775/2005 (so-called **Gas Regulation**)

 - Definition of the tasks of ENTSOG (Art. 8)
 - elaboration of network codes (NCs);
 - adoption of:
 - I. common network operation tools (CNOTs);
 - II. a non-binding Community-wide ten-year network development plan;
 - III. recommendations relating to the coordination of technical cooperation between Community and third-country TSOs;
 - IV. an annual work programme;
 - V. an annual report;
 - VI. annual summer and winter supply outlooks.
 - 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 Community level through ENTSOG in order to promote the completion and functioning of the internal market in natural gas and cross-border trade and to ensure the optimal management, coordinated operation and sound technical evolution of the natural gas transmission network (Art. 4);
 - TSOs shall establish regional cooperation within the ENTSOG to contribute to the accomplishment of some of its tasks (Art. 12);
- ▲ Regulation (EU) No. 1227/2011 of 25 October 2011 on wholesale energy market integrity and transparency (so-called **REMIT**)

 - market participants, or a person or authority on their behalf (as ENTSOG), shall provide ACER with a record of wholesale energy market transactions, including orders to trade (Art. 8);
 - cooperation at Union level foreseen (Art. 16);
- ▲ Commission 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 (so-called **REMIT Implementing Act**)

 - For reducing the burden of reporting on market participants and to make best use of existing data sources, reporting should involve where possible ENTSOG (Recital 8);
 - the obligation for reporting should be phased in, starting with transmitting fundamental data available on the transparency platforms of ENTSOG (Recital 11);
 - ENTSOG shall, on behalf of market participants, 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).

▲ Commission 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) No. 347/2013 of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No. 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No. 715/2009

- By 16 November 2013, ENTSOG for Gas was obliged to publish and submit to Member States, the Commission and ACER the methodology, including on network and market modelling, for a harmonised energy system-wide cost-benefit analysis at Union level for projects of common interest (Art. 11);
- It is the obligation of ENTSOG to develop and, as required, update the CBA Methodology according to Art. 11
- by 31 December 2016, both ENTSOGs were obliged to jointly submit to the Commission and ACER a consistent and interlinked electricity and gas market and network model including both electricity and gas transmission infrastructure as well as storage and LNG facilities, covering the energy infrastructure priority corridors and areas (Art. 11);
- Involvement in the process dedicated to the regional list of project of common interests (Annex III);

▲ 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 new **"SOS Regulation"**)

- 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
- 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.

- ▲ Commission 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 has facilitated the establishment of joint booking platforms (Art. 37).
 - ENTSOG is 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 shall 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. (EC 715/2019 Art. 8,8)
- ▲ Commission 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).



Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
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
CEN	European Committee for Standardisation
CMP GL	Congestion Management Procedures Guidelines
CNOT	Common Network Operations Tools
EC	European Commission
ECP	External Contact Platform
ENTSO-E	European Network of Transmission System Operators for Electricity
ENTSOG	European Network of Transmission System Operators for Gas
EU	European Union
GCG	Gas Coordination Group
GIE	Gas Infrastructure Europe
GRIP	Gas Regional Investment Plan
INT NC	Network Code on Interoperability and Data Exchange Rules
PCI	Projects of Common Interest
RDI	Research, Development and Innovation
REMIT	Regulation on Energy Market Integrity and Transparency
TF	Task Force
TAR NC	Network Code on Harmonised Transmission Tariff Structures for Gas
TSO	Transmission System Operator
TYNDP	Ten-Year Network Development Plan
WG	Working Group

Publisher	ENTSOG AISBL Avenue de Cortenbergh 100 1000 Brussels, Belgium
Design	DreiDreizehn GmbH, Berlin, Germany www.313.de
Cover picture	iStockphoto.com, DreiDreizehn GmbH



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