ENTSOG's Role

ENTSOG (European Network of Transmission System Operators for Gas) was founded on 1 December 2009, established to contribute to the completion of the internal market for gas and to achieve the European energy policy objectives of sustainability, security of supply and competitiveness.

Next Steps for Roadmap 2050

With new challenges ahead to meet EU Climate and Energy goals, ENTSOG with the expertise of its members and in dialogue with European Commission, ACER, industry and other stakeholders will collaborate to achieve the decarbonisation of the gas grids. ENTSOG will host next year a series of workshops to facilitate the discussion on how to reach net-zero GHG emissions by 2050 with gas grids, and to prepare input to the European Green Deal.

www.entsog.eu

ENTSOG 2050 ROADMAP FOR GAS GRIDS

ENTSOG 2050 ROADMAP FOR GAS GRIDS

Analysing the trend of consumer-oriented energy usage and planning, in ENTSOG's '2050 Roadmap for Gas Grids' the **European gas Transmission System Operators (TSOs) propose how to make gas grids ready for energy transition.**

The aim of the Roadmap is to provide ENTSOG's recommendations for the European Green Deal discussions and make gas **TSOs proposal on how to effectively combine well-functioning, liquid gas markets and achieved effective security of gas supply, with the commitment to decarbonisation goals.** ENTSOG members believe, that building on achievements on markets and levels of security of supply gives a solid fundament for the future with increasingly renewable, decarbonised and low carbon gases.

This Roadmap reflects our TSO members' views and offers three possible pathways forward for the Member States, industry and consumers on how to achieve net-zero Greenhouse Gas emissions by 2050 with their gas grids under:

Methane Pathway

Biogas

Synthetic methane

Blending Methane and Hydrogen Pathway

Hydrogen - SMR and Pyrolisis

Power to Gas

Biogas

Hydrogen Pathway

Hydrogen

Decarbonisation of Gas

Decarbonisation of gas supplies with biomethane and hydrogen is already taking place in Europe. Gas offers the opportunity to decarbonise all sectors at a lower cost than all-electric scenarios with the continued use of existing transmission assets and end-user facilities. Based on today's natural gas infrastructure as well as regional resources and national preferences, the 2050 gas networks will transport and store (bio)methane and hydrogen molecules. Electrolysis, Power to Gas, Pyrolysis, Steam Methane Reforming, Carbon Capture, Utilisation and Storage and biomethane production technologies deserve support to achieve scalability. **Decarbonised gas, as international energy carrier, is and will be needed even more, necessary to decarbonise also electricity, industry, heating and other sectors.**

Hybrid Energy System

ENTSOG believes that the **future EU energy system should build on a Hybrid Energy System – an interlinkage between the gas and electricity systems based on synergies between these two** international energy carriers. The Hybrid Energy System will allow the EU economy **to meet decarbonisation targets, obtain flexibility, storage options, cross-border transportation capacities and security of supply** in the most efficient way – realising synergies between the existing infrastructures. These are the values that the consumers will continue to value the most.

ENTSOG's Recommendations

TSO's future role is to manage the gas grids in a way that those assets can be enablers of transition. The choices and decisions are influenced by the overall EU climate and energy policies and will differ amongst the EU Member States. Therefore, **TSOs will manage diversity of technological choices while ensuring that achievements of the internal energy market for gas are maintained and further developed, in realities of both methane and hydrogen-based economy.** To achieve a cost-efficient decarbonisation there will be a need to review the regulatory framework and, where necessary, to amend it to **ensure the development of gas-based decarbonisation technologies.** ENTSOG proposes to work on this by reaching agreement with all institutions and stakeholders on seven topics:

ENTSOG Recommendations

1. EU Gas Market with New Gases
2. Principles for New Gases Transportation
3. European Guarantees of Origin and Certificates
4. Principles for Sector Coupling
5. Regulatory Sandbox
6. European Gas Quality Handling
7. Principles for CO_2 transportation