

ENTSOG 2050 ROADMAP

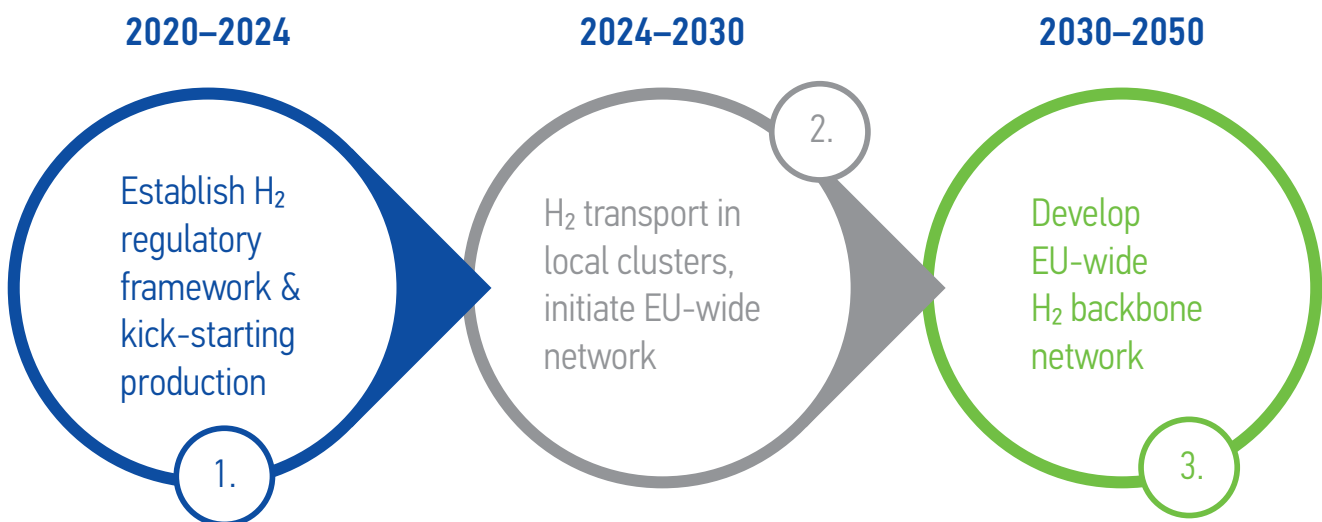
ACTION PLAN ▶



DELIVERING ON THE ENTSOG 2050 ROADMAP FOR GAS GRIDS

ENTSOG's response to the European Commission's Energy System Integration and Hydrogen Strategies

In December 2019, European Network of Transmission System Operators for Gas (ENTSOG) launched its 2050 Roadmap for Gas Grids, which identified the central role that gas grids will need to play in delivering the European Green Deal objective of a zero-carbon energy system by 2050.



ENTSOG Approach to the European Hydrogen Economy, ENTSOG, 2020.

To take consumers perspective into account and in light of EC's Strategies, ENTSOG has updated its seven Recommendations in the 2050 Roadmap, making sure that **gas TSOs continue to fully deliver on their role** – developing and managing Europe's gas infrastructure. Building on accumulated expertise of gas TSOs, existing TSOs' land use rights, we believe that quicker and more cost-efficient

energy transformation is in a direct reach within the timescales proposed by EC's strategies.

After an intensive dialogue with our stakeholders from **gas, electricity and hydrogen value chain**, we consider that the following principles will underpin gas TSO's actions in delivering on the EU's energy objectives:



INFRASTRUCTURE: Delivering Europe's future energy networks

- **Over the next three decades Methane, Blending and Hydrogen Pathways' will coexist** and be inherently interlinked. These Pathways will gradually evolve into the EU's decarbonised future gas network.
- **The development of first 'no-regrets' hydrogen backbone should be a priority for the EU, and needs to start now, already through its design in the TYNDP 2022.** The rapid development of the Hy-

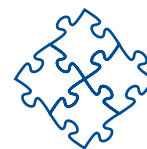
drogen Grid, based on **repurposing existing pipelines** combined with new dedicated infrastructure when necessary, will be vital. The EC sees that initial development will be through 'clusters'. **However, to avoid fragmentation of hydrogen markets, promoting its competitiveness and security of supply, the hydrogen clusters need to be connected in the short-term by the infrastructure with open access.**

MARKETS: Same market principles for all gases including hydrogen



- **Allowing low-carbon hydrogen to play its full role in kick-starting the market** will help to tap early decarbonisation gains by creating cost-effective hydrogen for industrial and transport use. Initial industrial demand will to a significant extent be covered by hydrogen produced from natural gas combined with carbon capture and storage or through pyrolysis. It is important to keep an inclusive approach to all production technologies, including renewable and decarbonised hydrogen coming from biogas, thermo-gasification, synthetic gases.
- **GHG externalities must be determined on an objective basis and life cycle analysis needs to be applicable to all energy sources** to enable consumers to make objective decisions regarding energy choices. To enable this, the EU will need to (i) establish clear definitions on hydrogen considering life-cycle emissions, and (ii) rapidly develop a harmonised, EU-wide accountable guarantees of origin and certification system based on life cycle analysis for all energy carriers and technologies, to enable customers to know the GHG content of their gas.
- **The emerging hydrogen market requires regulation following core principles – third party access and non-discriminatory network access** – need to fully apply from the start, ensuring that markets develop competitively. The Internal Gas Market has proven its worth over decades and has delivered many benefits. It needs to form the basis of the development of the emerging hydrogen system, ensuring that the EU continues to benefit from an open and competitive gas market.

GAS TSOs AS SYSTEM INTEGRATORS in the emerging hybrid energy system



- **TSOs can play a role of system integrators between gas compositions (methane-hydrogen) and energy carriers (molecules and electrons):**
 - a) **for the gas and hydrogen system:** Since the current legal framework at EU level does allow for hydrogen to be blended into existing gas infrastructure, and energy consumers are currently assessing their decarbonisation options, it is important that European gas TSOs play key role in contributing to the 'hydrogen agenda';
 - b) **for the gas and hydrogen markets:** Multiple new grid management will be required: gas quality handling, digitalisation and data sharing, hydrogen connections and balancing, dual capacity management, and conversion services;
 - c) **for the Energy System Integration:** In the sector coupling context, gas TSOs cooperating with electricity TSOs can serve the transition well when building on their accumulated technical, operational, market organisation expertise.

ENTSOG strongly supports a coordinated and cooperative stakeholders' process related to the gas and hydrogen value chain and believes that such approach will bring benefits to the EU gas and hydrogen consumers, and to the wider delivery of the European Green Deal.

More about the ENTSOG 2050 Roadmap Action Plan:
<https://www.entsog.eu/roadmap-action-plan>

Contact:
ENTSOG.Communications@entsog.eu



ENTSOG AISBL
Avenue de Cortenbergh 100
1000 Brussels, Belgium

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