

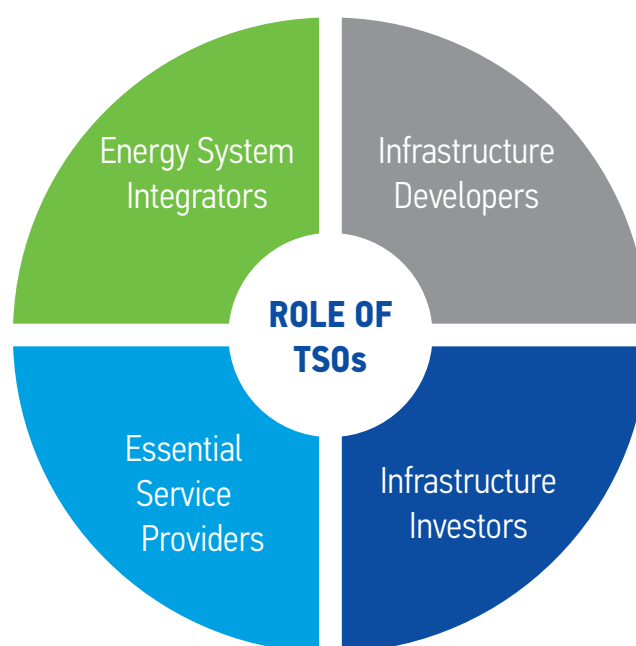
# ENTSOG 2050 ROADMAP

## ACTION PLAN ▶



### GAS TSOs AS SYSTEM INTEGRATORS IN THE EMERGING HYBRID ENERGY SYSTEM

Gas TSOs will play various roles in ensuring the successful development of the emerging low and zero-carbon gas market. With this update of the 2050 Roadmap for Gas Grids, ENTSOG sets out the following key actions and commitments:



Key actions and commitments for TSOs, ENTSOG, 2020.

#### 1. TSOs as system integrators – facilitating smooth handling of gas compositions (methane-hydrogen) and of interfaces between 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 a key role in contributing to the 'hydrogen agenda';
- b) **for the gas and hydrogen markets:** Multiple new services inherently linked to 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.

#### 2. TSOs as infrastructure owners and developers

Future hydrogen networks and the existing gas grid will be deeply interlinked. Much of the future hydrogen grid will be based on repurposed existing gas pipelines. It is therefore logical that **gas and hydrogen will be operated by existing gas TSOs**, which have the necessary technical and commercial experience to facilitate the required investments, and to efficiently operate an increasingly integrated and complex gas system.

As stated in the EC's Strategies, it should be clarified in all Member States that **TSOs** (together with DSOs, and gas storage and LNG terminal operators) **may own, plan, build and operate dedicated hydrogen networks, including the repurposing of natural gas pipelines** to ensure the cost-effective development of a hydrogen backbone. With respect to the existing limited hydrogen grids already in existence, a case-by-case solution will need to be found.

Carbon capture and storage (CCS) is expected to develop and grow, serving both industrial plants and producers of natural gas based low-carbon hydrogen. The question whether grids for **CO<sub>2</sub> transport should be owned by existing gas TSOs or specific CO<sub>2</sub> system operators** is one that should be decided by each Member State depending on specific national circumstances. However, provisions should be made at EU level to confirm that gas TSOs can legally undertake such activities.

### 3. TSOs as contributors to market take-off

ENTSOG fully subscribes to the unbundling rules that separate networks from energy production and supply as one of the foundations of the EU's future hydrogen backbone. However, these rules need to be applied in a practical manner, reflecting the needs and realities of EU citizens. This approach has been an integral part of the Internal Energy Market to-date, permitting derogations from unbundling and Third-Party Access (TPA) requirements when fully justified, and e.g. indeed permitting electricity TSOs to invest in electricity storage under certain conditions in the context of the Clean Energy Package. Similarly, gas TSOs could be allowed to invest into selected new infrastructure elements, if this is **in the public interest and does not distort the market.**

**ENTSOG considers that in certain limited circumstances it may be in the interests of EU citizens and industry that gas TSOs play a role in the initial stages of the emerging hydrogen market.** Given their unique role as TSOs, they may be able to cover gaps in the emerging market or contribute to reducing the cost of hydrogen during market take-off phase, caused by the high level of risk associated with the early stages of a new, highly regulated market.

Any such activity would need to be strictly regulated and ensure that no conflict of interest between market activities and infrastructure activities would result. Whilst this issue requires additional study, ENTSOG considers that it would be appropriate to envisage a certain **flexibility for Member States to take a case-by-case approach** to this question, based on the facts on the ground, at least during the initial 'market take-off' phase.

### EUROPEAN CLEAN HYDROGEN ALLIANCE AND SET PLAN

The EU Hydrogen Strategy highlights the promotion and steer the development of pilot projects that support hydrogen value chains from 2020 onwards. To ensure a coordinated and inclusive development of this activity, **ENTSOG has become a member of the European Clean Hydrogen Alliance and SET Plan on Energy Efficiency in Industry.**

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

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