

*ENTSOG response to the European Commission [public consultation on the EU Hydrogen Strategy](#)*

**ENTSOG supports the European Hydrogen Strategy**

Representing 44 EU gas transmission system operators (TSOs) – ENTSOG welcomes the European Commission (EC) plan to **place the EU Hydrogen Strategy at the core of the green recovery**, together with the Industrial Strategy, Energy System Integration Communication, sustainable finance taxonomy and the revision of TEN-E Regulation. We also wish to express our interest to join and support the works of the European Clean Hydrogen Alliance, as we strongly believe that **existing gas grids, once adapted where necessary, will provide a key building block of a cost-efficient transition to a H2 economy.**

**To allow for effective impetus and scale, all types of H2 should be considered**

**We note the EC's choice to focus on end-use when establishing the H2 economy**, through direct decarbonisation of industry, heat and transport, and through sector coupling to maximise the potential of intermittent renewables. Evidence<sup>1</sup> and growing industry consensus suggest that H2 has a key role in efficient decarbonisation of all sectors, not only those difficult to electrify.<sup>2</sup>

Clean H2 should contain an **inclusive definition for renewable, decarbonised and low carbon H2**, produced from electricity and from gas, combined with CCUS. Studies<sup>3</sup> indicate that decarbonised and low carbon H2 is expected to be significantly cheaper than renewable hydrogen until 2040. Relying on renewable hydrogen alone will most likely lead to a more expensive energy transition and a slower GHG reduction. ENTSOG reiterates its view that low-carbon hydrogen will deliver necessary volumes to enable the markets and allow for scale-up of renewable hydrogen.

**Guarantees of Origin and Certificates System is key**

The Strategy should ensure incentives for market participants to invest in industrial-scale H2 production. The most cost-effective and efficient tool to do this is a robust EU-wide scheme for guarantees of origin (GOs) for all renewable, decarbonised and low-carbon gases, **effectively connected to the EU ETS, as another carbon abatement solution** (next to trading emission allowances).<sup>4</sup>

**A full value chain approach and synergies with Energy System Integration<sup>5</sup> are needed**

ENTSOG favours a **systemic view<sup>6</sup>** and prepares for gas grids to play an important role in connecting H2 production, consumption, storage centres and efficient import. The Strategy needs to consider the full value

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<sup>1</sup> See: [ENTSOG 2050 Roadmap for Gas Grids](#) and ENTSOG's response to EC public Consultations on Energy System Integration as well as [ENTSOG's answer to EC public consultations on revision of TEN-E regulation](#).

<sup>2</sup> EU-wide hydrogen demand and supply developments up to 2050 are also key elements of the ENTSOG and ENTSOE scenarios for the [2020 Ten Year Network Development Plan](#) towards EU 2050 climate neutrality objectives.

<sup>3</sup> See: [https://www.energynetworks.org/assets/files/FINAL\\_Project%20Altair\\_Hydrogen%20cost%20to%20customer.pdf](https://www.energynetworks.org/assets/files/FINAL_Project%20Altair_Hydrogen%20cost%20to%20customer.pdf).

<sup>4</sup> Its use should be identified and confirmed by means of a market-based GO scheme, allowing for all energy vectors to compete on an equal basis regarding the carbon reduction benefits.

<sup>5</sup> ENTSOG believes in **Hybrid Energy System, with properly interlinked electricity and gas systems, provided by converting electricity to hydrogen**. See: [ENTSOG 2050 Roadmap on Gas Grids](#), p15.

<sup>6</sup> See footnote, 1 and 2 and *Future of gas infrastructure* section on [ENTSOG webpage](#).

chain perspective, involving producers, infrastructure, customers, and appliance manufacturers. This requires proper planning and gas quality and capacity management, to avoid a downstream injection point monopoly effect. P2G facilities will require careful siting and sizing that would support the electricity system needs and H2 demand. The Strategy should address current **taxation regimes that provide a barrier to market integration of P2G**.

Looking at H2 clusters and H2 backbone networks, the Strategy should reflect **regional specificities in the EU**<sup>7</sup> which will determine exactly how H2 is produced and used. Member States may allow for dedicated H2 systems and/or blending solutions, depending on conditions. The Strategy should design mechanisms for cross border coordination aiming at H2 market liquidity and Security of Supply.

#### **Build on gas markets' and grids' success**

A H2 system connecting supply, demand and storage centers is very similar in its nature to the natural gas system. Natural gas and H2 markets should align and ideally evolve into a single set of market rules, where possible. An **open and non-discriminatory access** to the system fosters competition and thereby reduces energy costs for consumers. Adopting similar **regulatory principles for H2 transport as applied to gas** is to the benefit of all market participants.

**Clarification of gas TSOs active role in supporting the development of a European hydrogen economy**, as well as in leading on hydrogen networks development, can contribute to the overall goal and the actions listed in EU Hydrogen Strategy.<sup>8</sup>

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<sup>7</sup> Some ENTSOG members are actively working on identifying first national strategies for hydrogen backbone infrastructures and creating partnerships aiming at first hydrogen value chains experiences. Other members are examining their grids' readiness for hydrogen, for blending and preparing for cross border coordination of hydrogen developments. The following are TSOs projects/national developments, R&D programme examples: [ENTSOG IPP platform](#), [German hydrogen initiative](#), [Portuguese National Strategy on Hydrogen](#) and British [Hydrogen National Transmission System \(HyNTS\) programme](#).

<sup>8</sup> The gas TSOs have experience in developing the framework for the currently well-functioning gas markets as well as having sound technical and operational knowledge to overcome current barriers and maximise the value that hydrogen can bring to the European green transition.