

Advisory Panel on Future Gas Grids Scoping document

Context

Based on European Commission's Energy System Integration and Hydrogen Strategies the gas and hydrogen value chains need to deliver on a European hydrogen economy, production, infrastructure, market and consumption – including the future role of existing gas infrastructure.

In order to deliver on European Commission's Strategies there is a "need to speed" up the repurposing of existing infrastructure as well as including the planning for a concept of European hydrogen backbone as part of the TYNDP process. 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. Also, the growing TSO-DSO and storage interdependence for uptake of new gases will require preparation of new types of both the physical and balancing services.

ENTSOG, as highlighted in the [ENTSOG 2050 Roadmap Action Plan](#), proposes to establish an Advisory Panel for Future Gas Grids to support gas TSOs and stakeholders in identifying the practical challenges and solutions in preparing the future European gas grids for the decarbonisation and transition, including the planning for an EU hydrogen backbone and ensuring its efficient interaction with existing grids. In other words: HOW do we facilitate the transition of the gas grids for the carbon neutral energy future.

The rationale for this Panel is:

- > Gas TSOs own and operate the existing gas transmission grids, which will be an important part of the future hydrogen grids.
- > ENTSOG does already have experience with TYNDP process and Energy Transition Related Projects.
- > Many gas TSOs are already active in relation to hydrogen infrastructure projects and planning – including preparatory work on the hydrogen readiness of the existing gas infrastructure.
- > ENTSOG is and will be active in the European Clean Hydrogen Alliance works
- > The Future Gas Grids Panel is supplementing the work of the European Clean Hydrogen Alliance – by focusing on bringing an overview of the more specific elements of the gas infrastructure – being technical, market-related or regulatory.
- > On even more detailed level, ENTSOG has initiated a Prime Mover Group on Gas Quality and Hydrogen Handling and continues work on Prime Mover Group on Guarantees of Origin.

Scope

The purpose of the Advisory Panel for Future Gas Grids is to ensure transparency and coordination between the entire value chain, support gas TSOs & stakeholders in identifying practical challenges and solutions for gas grids transition on, among others:

- Retrofitting/repurposing of existing gas infrastructure,
- Development of EU Hydrogen backbone,
- Analysis on the role of blending,
- Work on EU-wide approach for CO₂ infrastructure.

The panel will discuss how to convert and adapt the existing system to future needs, focusing on infrastructure, technical, market design, regulatory and organisational aspects of such transition. The discussions and outputs of the independent and more specialised prime mover groups will serve as a basis, for example Prime Mover Group on Gas Quality and Hydrogen Handling (established together with DSO organisations) and Prime Mover Group on Guarantees of Origin (co-chaired by ENTSOG and GIE).

Composition

The composition of the Advisory Panel will be a broad representation of EU-wide organisations/associations from both hydrogen and gas value chains at Secretary General level including: European Commission, ACER/CEER, producers, shippers/traders, end-users, appliance manufacturers, DSOs, LNG & storage operators, and academia/think-tanks. Experts and regional groupings (for example Gas for Climate, H2GAR and civil society) relevant for cross-border context can be invited to meetings.

ENTSOG finds it important that the size of and the representation in the Panel will be focusing on how to progress the transition of the gas grids. ENTSOG is considering how the process of inviting representatives for the panel will be done in a balanced and open way.

Detailed Agenda proposal

1. Coordinate with gas end consumers and industry their gas quality handling and future infrastructure needs. Create policy-oriented principles for cross-border and regional gas quality handling that are coordinated with gas end consumers and industry needs.
2. Inform on the practical experience of gas TSOs in terms of timing and costs of grid adaptation. Assess tolerance and safety thresholds for different levels of hydrogen concentration where blending occurs.
3. Discuss the regulatory principles for attribution of costs and benefits from the infrastructure between gas, hydrogen and electricity consumers.
4. Address the TSO-DSO interface of the grid's preparedness for reverse-flows and market products for balancing gases.

5. Address legal gaps for TSOs' conversion services and their remuneration. Establish principles for cost recovery mechanisms for gas quality handling, digitalisation, repurposing etc.
6. Develop an EU-wide approach for CO2 infrastructure, including TPA, the role of gas TSOs, transmission charges and liabilities. Include CCUS activities in planning NECPs, TYNDP.
7. Update of the existing TYNDP criteria and CBA methodology to prepare for the evaluation of decarbonisation benefits, which will be needed already in 2021 – including retrofitting and repurposing of gas systems, conversion/upgrading facilities, digitalisation of measuring and data handling, etc., as well as including energy storage and flexibility
8. Exchange with Member States on the initial national H2 Strategies and discuss to consider developing and reporting on the planned and pilot infrastructure projects, upgrades of gas networks as well as electricity and sector integration projects in National Energy and Climate Plans (NECPs) or NDPs (National Development Plans) for all types of hydrogen production.
9. Based on the Gas Directive and Regulation, discuss and align on the market arrangements relevant for hydrogen infrastructure and promote consistent application of these arrangements throughout the EU. Discuss how the existing gas network codes rules could be helpful in development of the hydrogen market
10. Process for developing the Hydrogen market arrangements, to align with process that was adopted for the creation of the gas network codes,
11. Technical aspects of trading hydrogen should broadly mirror the gas trading arrangements (trading in energy units, VTPs, separate handling of commodity and capacity, comparable transparency rules (REMIT), etc.)
12. Assess 'virtual blending' as a market tool under certain conditions to link hydrogen and natural gas systems.

Deliverable

1. The primary objective would be to create a state of art discussion among institutional actors and stakeholders on how to facilitate the gas grids transition by identifying barriers and discussing and developing solutions. The proposed deliverable would be to produce a Recommendation Report once per year and potentially to issue specific recommendation as needed. There should an efficient link to the respective workstreams on the EC side: like European Clean Hydrogen Alliance and TYNDP under a revised TEN-E.
2. Provide coordinated input to Madrid, Copenhagen and Florence Fora.
3. Establish coordination between stakeholders jointly with Hydrogen Europe, GIE, gas DSOs, regulators, etc.

4. Provide input and feedback to European Clean Hydrogen Alliance, agreed with gas and hydrogen stakeholders.

Process

Based on previous experiences, stakeholders could meet every quarter in a round table setting, either virtually or in person, depending on the current situation. The agenda, scope and deliverable will be discussed at the initial kick-off meeting to ensure alignment among all invited stakeholders.

ENTSOG's role will be to chair, facilitate and coordinate the meetings, as well as support with preparation of materials (agenda, minutes, etc). All the materials and information will be available for stakeholders on a public website [here](#).

Timeline

ENTSOG proposes to have a first kick-off meeting on 27 January 2021. This would ensure adequate debates ahead of upcoming gas legislation planned for 2021.