



ENTSOG calls for integrated gas and hydrogen regulatory framework



ENTSOG believes that incorporating the regulatory framework for hydrogen in the gas regulation would be the most efficient way of ensuring regulatory alignment and energy system integration between the two closely related gaseous energy forms.

- ✓ To support Energy System Integration, gas and hydrogen regulation should be integrated – to avoid creation of another separate regulatory silo.
- ✓ One integrated regulatory framework for hydrogen and decarbonised gases will be needed to facilitate the synergies between molecules - hydrogen, natural gas and biomethane.
- ✓ Future hydrogen infrastructure will be constructed largely from existing gas infrastructure (more than 65% according to the European Hydrogen Backbone report¹). Therefore, it is logical to integrate the hydrogen regulation with gas regulation for both infrastructure and market.
- ✓ Network development, technical transition and cost allocation issues will be easier to handle within one regulation and will result in numerous benefits to consumers and infrastructure operators.
- ✓ It can ensure incentives for gas TSOs to facilitate the appropriate economic and technical framework for transition of assets from natural gas to hydrogen.
- ✓ The costs for repurposing existing gas infrastructure are estimated to be only 1/4 of the cost of new hydrogen infrastructure. In addition, the gas TSOs have already achieved the 'right-of-way' for the existing gas infrastructure, which ensure not only costs savings but also substantial time savings and reduced approval uncertainties.
- ✓ The operational transition from natural gas to hydrogen and low carbon gases and the practice of repurposing will be a complex process, where security of supply and safety aspects will be crucial.

KEY QUESTIONS TO BE ADDRESSED

Question 1: Why is it worth maintaining an integrated regulatory framework for gas and hydrogen?

- ✓ Hydrogen and natural gas are not interchangeable in all applications e.g., transport fuel cells or as feedstock in energy-intensive industries. Hydrogen consumers want hydrogen.

¹ <https://gasforclimate2050.eu/publications/>

- ✓ Only few applications will require hydrogen only. Many of the future hydrogen consumers are today's gas consumers. They need hydrogen to decarbonise their industrial energy intensive processes and/or heating but want to enjoy the same level of predictability, security of supply, price convergence and market flexibility.
- ✓ As such, it makes sense that the gas provisions should serve as the foundations for the emerging hydrogen network and market. While some users require pure hydrogen (delivered through repurposed gas infrastructure), many end users, especially in the heating sector, are keen to utilise hydrogen blends. Furthermore, large gas turbine producers are currently designing units with a high tolerance of gas-hydrogen blends (Siemens already produces models which can accept blends of up to 60% by volume²). In these markets, hydrogen and natural gas can potentially be largely interchangeable.
- ✓ The main rationale for blends is economic efficiency in the build-up period where hydrogen is not able to utilise capacity in a separate system => lower costs for consumers. Another aspect is regional conditions.

Question 2: Gas and electricity markets were already mature when the discussions took place to foster competition and security of supply. Isn't it the case that the development of the hydrogen market will not be identical to natural gas market development?

- ✓ The Internal Energy Market - notably the rules in relation to natural gas - have served EU citizens and industry well by establishing a liquid, competitive and secure gas market across the EU.
- ✓ Even if starting locally, the resultant hydrogen and natural gas markets will share similar characteristics, i.e., a natural monopoly of infrastructures, used by multiple types of producers and consumers, with the purpose of transporting a commodity, and thereby facilitating its trade in the most efficient manner.
- ✓ Similar utilisation of assets requires a level playing field for planning, building, operating of those assets in an open and transparent way.

Question 3: Wouldn't it be difficult to achieve a 'gradual' regulation of hydrogen networks within the framework of existing gas laws? Isn't current gas regulation lacking sufficient flexibility?

- ✓ Flexibility can be based on the exemption procedures foreseen already in the gas regulation. Proper solutions can be built based on Article 36 (Exemptions for new infrastructure) and Article 38 (Direct lines) of the EU Gas Directive.
- ✓ ENTSOG considers that existing hydrogen networks could be exempted (under NRA supervision) from regulatory requirements (such as unbundling and third-party access) but only for a period and an end date should be identified (e.g., once supply contracts expire, once it is integrated in another, already regulated hydrogen network or by conducting regular market tests to verify market interest in accessing the pipeline).
- ✓ Exemptions should not hamper the development of a competitive market and should not create less-competitive market structures. For this reason, we believe future hydrogen pipelines should be regulated under similar principles as for the gas network.

²<https://assets.new.siemens.com/siemens/assets/api/uuid:ddb422e8-3079-452b-a6bd-0f662e1f9309/version:1588850196/hydrogencapabilitesgt-april-2020.pdf>

Question 4: Network codes are distinct to how the market works in practice; it is not certain that the hydrogen market will work in the same way. Should capacity booking be designed in the same way? Do we see the same congestion patterns justifying the auctions?

- ✓ Similar principles from the Gas Directive should be applied to hydrogen network regulation such as: unbundling, non-discriminatory third-party access and transparency.
- ✓ These principles should apply to all network providers for all types of the hydrogen network – backbone/valleys/clusters – from the outset. This will provide a level playing field between network developers, protect consumer interests and avoid the establishment of divergent practices which will be difficult to harmonise in the future.
- ✓ The only possible exception is the application of exemptions for existing ‘direct lines’ for hydrogen. There, a clear clause for end date could serve to both developing the market and providing clarity for investors.
- ✓ Any exemptions from pipelines capacity congestion management and full gas network codes application should build on principles ensuring a level playing field for all market participants and give enough certainty for investors in infrastructure from the outset.
- ✓ Close cooperation between TSOs and DSOs will become increasingly important with hydrogen and biomethane. ENTSOG supports facilitating such cooperation as well as establishing clear rules for TSO/DSO interface for management of hydrogen and gas flows.

Question 5: One could consider that the revised TEN-E regulation proposal calls for clear separation between hydrogen infrastructure and natural gas infrastructure. Should this logic be extended to the gas regulation?

- ✓ TEN-E does not call for separation of infrastructures but promotes the repurposing and retrofitting of the existing gas pipelines, as well as the integration of energy carriers (electricity, gas and hydrogen).
- ✓ Non-discriminatory, regulated third-party access has been essential in increasing the competitiveness, liquidity and overall performance of natural gas markets. It should also be implemented in respect of the hydrogen network for the same reasons, i.e., to provide a level playing field, to ensure transparency of terms and equalise market powers of actors involved in hydrogen supply chain.