



Equinor welcomes the publication of the Inception Impact Assessment highlighting options for a framework that enables the development of hydrogen networks and infrastructure, and that facilitates the development of hydrogen markets through the deployment of large-scale production and use of low-carbon and renewable hydrogen.

We particularly welcome the acknowledgement that fair competition is needed between all available technologies to meet the EU's ambitious climate and energy targets. A resilient European economy can be built in a socially acceptable manner by developing cost efficient and secure energy solutions that focus on green-house gas emission reductions and the deployment of renewables.

Equinor agrees with the EU commission's view that hydrogen is essential for a future low carbon energy system by providing a solution to decarbonise the hard-to-abate sectors.

With this in mind, Equinor takes the opportunity to emphasise key aspects of a future-proof hydrogen and gas decarbonisation framework:

- Technology neutral support mechanisms are required to incentivise investments and innovation along the entire hydrogen value chain, from production through infrastructure to demand. Pre-empting technology specific targets will fail in recognising the varying and evolving emissions intensity and costs, as well as location and system related merits, of each technology.
- Enabling the gradual development of the hydrogen market and infrastructure should guide future legislation of hydrogen and gas networks. Although the Third Energy package can be a model for a hydrogen market, the regulatory framework for hydrogen should recognise the low level of market maturity and should be implemented in stages of market maturity rather than fully from the beginning. Learning from the EU experience of developing a functioning gas market, three phases can be foreseen to develop the hydrogen market as detailed in the EUC's hydrogen strategy:
 - early infrastructure & market initiation
 - expanding infrastructure & market build-up
 - extensive infrastructure & market maturity and commerciality

While this implies a fit-for-purpose regulatory approach, visibility, predictability and stability are required for all actors of new value chains, investors, developers and consumers. In this context, it is essential that firm regulatory principles be established early on (ex. unbundling, 3rd party access, transparency, non-discrimination), that a regulatory roadmap be developed from the outset and for that authorities have a collaborative and closely involved approach.

- The revision of the gas package should include a clear and comprehensive terminology for renewable and low carbon gases based on scientific characteristics and life-cycle greenhouse gas emissions to be used across all legislative proposals.
- It is necessary to establish a comprehensive, manageable, EU-wide cross-sector certification scheme to evaluate and value standardised full life cycle GHG emissions intensity of all renewable and low-carbon energy carriers consolidated under one primary legislative proposal.

- For the coming decades, a substantial part of the EU's energy needs will continue to be met by natural gas, an abundant, secure, and affordable source of energy that represents the ideal platform to accelerate the development of the hydrogen economy through large scale, low-carbon hydrogen production from natural gas with CCUS as well as renewable hydrogen. It is crucial to safeguard the benefits of the EU internal gas market while developing and integrating a market for hydrogen and low-carbon gases. Utilising and expanding on existing energy systems, notably the natural gas infrastructure, provides a platform for rapid and more cost-efficient integration of renewable and low-carbon gases.
- The establishment of carbon dioxide infrastructures, pipelines and shipping routes, is crucial to achieve climate neutrality by providing a technology-ready and cost-efficient means to neutralise residual industrial emissions and establish a strong platform for the hydrogen economy by enabling large-scale low-carbon hydrogen.
- In the short-term, developing value chains to convert the energy and feedstock in industrial clusters to hydrogen will provide substantial rapid emission reduction gains. Solutions for industrial clusters can serve as backbones for further infrastructure developments, that can reduce the ensuing costs to reach more distributed sectors such as transport, heating and power. To achieve this, infrastructure operators should develop and operate pipeline infrastructure (for natural gas, hydrogen and CO₂) under the principles of the 3rd energy package and each building block - production, storage, transportation and consumption – in the value chain will require support to establish sound business models.
- The regulatory framework for decarbonisation of the gas sector, building on the achievements of the Internal Gas Market, should enable all infrastructure alternatives:
 - building new dedicated hydrogen pipelines,
 - repurposing existing gas networks to 100% hydrogen, and
 - blending hydrogen in natural gas networks,
 based on their decarbonisation and cost efficiency merit and best fit on a case-by-case basis without jeopardising the security of supply of the natural gas network and the liquidity of the natural gas market.
- Equinor supports the commitment to increased liquidity, competition, and consumer protection in driving the future low-carbon gas markets. We also support aligning, where beneficial, the electricity market and gas market designs while considering and safeguarding sectorial differences. To this end, we look forward to coordinated network planning between systems (joint TYNDP for natural gas, hydrogen, electricity, mobility, heating and cooling) to facilitate the integration of renewable and low-carbon gases into the broader energy system.
- The cost-efficient flexibility and storage attributes of the existing gas sector should be valued and monetised (including by the electricity sector) in utilising and re-purposing existing natural gas infrastructure to complement the constraints of an increasingly intermittent electricity system, for short-term balancing purposes and to ensure seasonal supply security (cover peak demand in winter). Hydrogen storage should abide by the 3rd Energy Package principles.
- Quality specifications should facilitate rather than restrict blending, transport, and transit of different gases and of gases of different sources, renewable and low-carbon, indigenous and imported. To create a pan-European market for hydrogen and manage low-carbon gas qualities across borders, common quality definitions should be established whereby a TSO may not refuse gas on quality grounds as long as that gas meets common standards. To enable different hydrogen production technologies, the common standards should be of 98% hydrogen purity.