POSITION AND HYDROGEN & GAS PACKAGE

October 2023

Recommendations ahead of Trilogues on the Gas & Hydrogen Package

As Trilogues have commenced, the European Industrial Gases Association, EIGA, would like to share its two main concerns in relation to the gas and hydrogen package.

Summary

Specificities of the hydrogen market:

Different from natural gas market

Hydrogen is produced with different characteristics and constraints depending on its use:

as a feedstock > specific technical requirements, high purity > smaller volumes > for the B2B market > private pipelines > highly competitive market

as an energy carrier > lower quality requirements, blending possible > bigger volumes > potentially a public service > large pipelines > regulated market

EIGA's recommendations:

A regulated public hydrogen backbone (to replace natural gas in energy corridors) and unregulated private hydrogen pipelines should coexist under the Gas and Hydrogen Package.

At least, a permanent derogation from unbundling and third-party access rules should be granted at EU level for such industrial private infrastructure.

Ammonia dissociation units should be considered as competitive Hydrogen production units, like methane reforming or electrolysis and should not be regulated as infrastructure operable by TSOs.

Hydrogen (H2) has a critical role to play across a decarbonized economy, building on the already significant role it plays in industry today. In light of this, it is important that the EU carefully considers the framework which will govern hydrogen markets, and the infrastructure and actors which underpin those markets.

The liberalization of the natural gas (and electricity) market was meant to allow the private sector to compete with public monopolies where public infrastructure was already very widely/densely developed. But natural gas and industrial gases are not the same, and the hydrogen infrastructure and market dynamics are very different from natural gas. Therefore, regulatory interventions may not bring the desired results. On the contrary, over-regulating a nascent market will not incentivize private companies to continue investing nor attract new investment in the EU.

*The Industrial Gases sector believes that **a regulated public hydrogen backbone (to replace natural gas in energy corridors) and unregulated private hydrogen pipelines should coexist under the Gas and Hydrogen Package**. At least, a permanent derogation from unbundling and third-party access rules should be granted at EU level for such industrial private infrastructure. Third-party access will not have the intended effect and will actually be detrimental to the development of the hydrogen production:*

Regarding the hydrogen networks

Industrial gas pipeline operators supply hydrogen as feedstock in a competitive market

EIGA Members own and operate hydrogen pipeline infrastructure in Europe and around the world. They have decades of experience in the safe production, transportation, and handling of this product, and provide an important service to industries who depend on reliable and stringent specification supplies of high purity H2 mainly as an essential feedstock. The industrial feedstock H2 market is liberalized and competitive: customers have the choice between self-production or outsourcing, either onsite or delivered via pipeline.

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Industrial gas pipelines supply dedicated clients with ultra-high purity H2 under strict contractually-set technical standards

Private hydrogen pipelines, linked with dedicated hydrogen production, have been developed to serve industrial customers in a cost-efficient way, meeting stringent technical specifications (high purity H2 - between 99,95 and 99,99%) for their processes and offering security of supply. These industrial customers decided to outsource their hydrogen needs to industrial gas specialists that take the liability in terms of safety, purity, pressure and reliability. Even **the smallest impurities in hydrogen supply to customers with sensitive processes can cause great damage**. Hydrogen used as a feedstock cannot be substituted by alternative molecules and requires a high purity with only a very limited tolerance in terms of fluctuations, contaminants and pressure. The current **H2 supply pipelines have been tailor-made to ensure safe and reliable supply to industrial customers with specific high purity and needs and have not been developed to have extra-capacity for third parties**. Linking them to the public backbone would put the purity and related security of supply at risk.

Industrial gas pipelines are (technically) different from the future H2 backbone

As a comparison, long-distance Natural Gas pipelines are meant to transport larger volumes: according to the European Hydrogen Backbone initiative[1], diameter sizes for medium and large pipelines range 90 - 120 cm (when current industrial H2 gas private pipelines represent around 1600 km with a diameter mainly ranging from 5 to 30 cm). **Only a lower purity will be achievable in such a backbone** due to dissolved impurities, condensates, etc. in the repurposed pipelines. Moreover, such a backbone, with hydrogen that will be mainly used for energy purposes, has no economic reason to transport high purity hydrogen to the extent that it can serve as feedstock.

Also, unlike the existing natural gas grid, which consists of large volume pipelines and has access to storage facilities and LNG terminals, **industrial gas pipelines have much less operational flexibility;** imposing those regulatory conditions on the existing industrial gas suppliers would make it impossible to deliver according to the technical specifications contractually agreed with their clients over long-term contracts giving certainty on the supply. As such, this **puts at risk the whole value chain in industrial hubs** and the reindustrialization of the EU and its open strategic autonomy.

Regarding ammonia terminals and hydrogen liquefaction

Regulating ammonia terminals like LNG terminals bears significant risks

As it stands, ammonia dissociation would be **the only domestic hydrogen production method subject to unbundling and third-party access under the proposed Gas & Hydrogen Directive.** Indeed, ammonia terminals and dissociation production units in ports are equated to liquid hydrogen terminals under Art.2(8) of the Directive and therefore likewise regulated. However, there are several reasons why this is not pertinent, and even bears risks for the development of hydrogen production in Europe.

Regulation is only needed in case of market distortions

Applying unbundling and third-party access to hydrogen liquefaction facilities, ammonia terminals and ammonia dissociation presupposes that these would be monopolistic activities linked to a developing hydrogen market. But there are several reasons why hydrogen liquefaction facilities, ammonia terminals and ammonia dissociation facilities do not need to be subject to such rules:

- **Ammonia is imported through a competitive market**: there are today 16 ammonia import facilities throughout Europe, with more planned. Entry barriers for developing ammonia terminals are generally low (e.g. using disused coal terminals, oil refineries or storage facilities). As a consequence, it is not justified to apply unbundling and third-party access rules thereon.

[1] *European Hydrogen Backbone report, April 2022*

- **Ammonia dissociation is a new, competitive business**: several players have announced projects[2]. Ammonia dissociation is new state-of-the-art technology that still needs to be proven at industrial scale. Different methods are being developed, and economic competition will allow for the **best technology to 'win'. European know-how** is at risk if this development is hampered.

ABOUT EIGA

EIGA is a safety and technically oriented organisation representing the vast majority of European companies producing and distributing industrial, medical and food gases. The member companies closely co-operate in technical and safety matters to achieve the highest level of safety and environmental care in the handling of gases. EIGA is in frequent contact with Standardisation and Regulatory Organisations and Authorities as well as trade and industrial organisations.

[2] Air Liquide in Antwerp (BE); Air Products in Rotterdam (NL), Hamburg (DE) and Immingham (UK); Uniper in Wilhelmshaven (DE); BP in Wilhelmshaven (DE), RWE in Brünsbüttel (DE), Green Energy Park KRK in KRK Island (CR)

Annex 1

Recommendations ahead of Trilogues on the Gas & Hydrogen Package - Proposed amendments

We propose the following amendments, started from the Commission's text with changes by the Council marked in green (as per the General Approach of 28th March) and highlighted our changes in blue:

A regulated public hydrogen backbone (to replace natural gas in energy corridors) and unregulated private hydrogen pipelines should coexist under the Gas and Hydrogen Package. At least, a permanent derogation from unbundling and third-party access rules should be granted at EU level for such industrial private infrastructure.

New Recital

Existing hydrogen pipelines serve EU industries through the supply of hydrogen, used for non-energy purposes as feedstock. As this infrastructure serves broadly different needs and objectives than the public hydrogen market, such pipelines should not be defined as 'hydrogen network' under the scope of this Directive.

Article 2 - Definitions

(20) 'hydrogen network' means a network of pipelines used for the transport of hydrogen of a high grade of purity with a view to its delivery to customers, but not including supply; nor hydrogen pipelines constructed for hydrogen used for non-energy purposes as feedstock.

Article 47 - Existing hydrogen networks

1. Member States may provide for regulatory authorities ~~decide~~ to grant~~, upon request,~~ a derogation from the requirements of one or more of Articles 31, 62, 63, ~~and~~ 64 and 65 of this Directive, and Articles 6 and 47 of [recast Gas Regulation as proposed in COM(2021)~~xxx~~ 804] to hydrogen networks that belonged to a vertically integrated undertaking on [date of entry into force]. ~~The derogation shall be limited in scope to the network capacity in operation on [date of entry into force].~~

2. The derogation ~~shall be limited in time and~~ shall expire:

(a) where the vertically integrated undertaking submits a request to the regulatory authority to end the derogation and such request is approved by the regulatory authority;

(b) where the hydrogen network benefitting from the derogation is connected to another hydrogen network;

~~(c) where the hydrogen network benefitting from the derogation or its capacity is expanded by more than [510%] in terms of length or capacity compared to [date of entry into force of this Directive];significantly; or~~

(d) ~~at the latest on 31 December [20305].~~ where the regulatory authority concludes by decision that the continued application of the derogation distorts ~~would carry the risk of impeding~~ competition or adversely affects~~ing~~ the efficient deployment of hydrogen infrastructure or the development of the hydrogen market in the Member State or the Union.

3. Regulatory authorities may request operators of existing hydrogen networks to provide them with all information necessary for the execution of their tasks.

Ammonia dissociation units should be considered as competitive Hydrogen production units, like methane reforming or electrolysis and should not be regulated as infrastructure operable by TSOs.

Definition: (8) ‘hydrogen terminal’ means an installation used for the offloading of liquid hydrogen and the ~~transformation~~ conversion of liquid hydrogen ~~or liquid ammonia~~ into gaseous hydrogen for injection into the hydrogen network or the natural gas system, or for the offloading of liquid ammonia, or for the liquefaction of gaseous hydrogen and its onloading for export, including ancillary services and temporary storage necessary for the ~~transformation~~ conversion process and subsequent injection into the hydrogen network or the natural gas system, but ~~not~~ excluding any part of the hydrogen terminal used for storage and any installation used for hydrogen production operations such as ammonia dissociation facilities.

Recital: (73) Terminals for the offloading ~~transformation~~ of liquid hydrogen or liquid ammonia, and the conversion of liquid hydrogen into gaseous hydrogen constitute a means of hydrogen import, whereas liquefaction of gaseous hydrogen constitutes a means of exporting to outside the borders of the European Economic Area, but they compete with other means of hydrogen transport. While third-party access to such terminals should be ensured, Member States should have the choice of imposing a system of negotiated third-party access with a view to reducing administrative costs for operators and regulatory authorities.