

## **Joint position paper of the Pentalateral Energy Forum on the regulatory framework for hydrogen**

### **Shared ambitions towards a well-functioning and sustainable internal market for hydrogen**

In their 'Joint political declaration on the role of hydrogen to decarbonize the energy system in Europe' of 11 May 2020, the Ministers for Energy from the Member States of the Pentalateral Energy Forum have expressed their shared ambition to 'enable a forward-looking hydrogen infrastructure and liquid market in the near future'. The Ministers called upon the European Commission to take a flexible, fit-for-purpose approach to the development of a European regulatory framework for hydrogen. The Penta Member States therefore welcome the ambition by the European Commission to include hydrogen in the upcoming Hydrogen and Natural gas Decarbonisation Package.<sup>1</sup> In this position paper, recalling their shared ambition of 'designing a long-term vision for 100% renewable hydrogen', the Penta Member States would like to share their joint vision on the development of a flexible early regulatory framework for hydrogen, as well as the prerequisites for a fast growing and sustainable hydrogen market.

The market for hydrogen as an energy carrier is still immature and under development. While projects of a common interest under the TEN-E and IPCEI frameworks will play an important role in the formation of a physically linked hydrogen system, the national hydrogen strategies and related regulatory measures by the Penta Member States illustrate that early hydrogen markets and infrastructures will to a large extent develop along national pathways and conditions. Where a number of strategies foresee regional, national and cross-border networks already to emerge during the early stage of market development, other strategies emphasize the role of clusters in which producers and consumers are connected in local clusters which may gradually evolve into interconnected systems. Against this background, the Penta Member States see a need to develop a flexible regulatory framework supportive to the implementation Member States' national hydrogen strategies, including common definitions and a harmonized certification system, aimed at the creation of a well-functioning and sustainable internal market for hydrogen.

### **Common positions by the Penta Member States on the early regulatory framework for hydrogen in the European market**

#### *1. Common regulatory principles with flexibility based on national and market conditions*

The early regulatory framework for hydrogen should be reflective of, and evolve with, the market and national conditions. At the same time, where hydrogen networks are foreseen, harmonized principles should be in place which are aimed at the promotion of an internal market in hydrogen without distortions to trade, while avoiding stranded assets. Key regulatory principles should allow Member States the flexibility to find a balance between the interests of both investors and early network users:

- During early market development, during which the risk of underutilization of hydrogen infrastructure still exists, the choice for a negotiated or regulated non-discriminatory third party access regime should be left to the Member States;
- Joint operation of natural gas and hydrogen networks should be allowed for the efficient sharing of expertise and overhead;
- The regulatory framework should be flexible to allow Member States to explore future options for sustainable network tariffication structures in light of the development of hydrogen networks, the phasing out of natural gas, and synergies between hydrogen and

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<sup>1</sup> European Commission, 'Combined Evaluation Roadmap/Inception Impact Assessment - Hydrogen and Natural gas markets Decarbonisation Package', 10 February 2021.

electricity networks. Such mechanisms should, however, not result in the cross-financing of national hydrogen, gas or electricity networks among network users from other Member States.

*2. Integrated network planning between hydrogen and electricity should be promoted*

As synergies are expected between national and cross-border hydrogen networks and electricity networks, and as hydrogen pipelines are expected to consist partially out of repurposed natural gas pipelines, an integrated approach between hydrogen and electricity planning is essential and coordination with natural gas aimed at repurposing is required. Such an integrated and coordinated approach should ensure cost-effective network development, be based on forward-looking and realistic demand projections in order to avoid stranded assets, and should prevent that the development of hydrogen networks using repurposed infrastructure, while transiting to a climate neutral integrated energy system, negatively affects security of supply in the internal market for natural gas. Integrated network planning should, initially at least at the scenario-level, encompass hydrogen and electricity networks and assets. It is important that Member States are allowed to take appropriate measures and provisions to ensure the efficient deployment of large electrolyzer facilities, including their location, particularly with a view to overall system flexibility and efficiency between electricity and hydrogen networks.

*3. Exemptions for existing and future commercial hydrogen networks under strict conditions*

Today, commercially operated hydrogen networks already cross the borders of Penta Member States. Other commercially operated hydrogen pipelines directly connect producers to nearby industrial customers. These hydrogen systems operate based on long-term commitments by both investors and their customers. Within the flexible regulatory framework as proposed by the Penta Member States, as far as existing and future commercial networks and pipelines have a business-to-business character, exemptions from the regulatory principles could be granted under strict conditions. Inspiration for exemptions for future commercial networks could be found in existing energy legislation for direct lines or closed distribution grids, while a more transitional approach may be appropriate for existing networks. In the longer term, exemptions should not hamper the possibility to interconnect local hydrogen clusters.

*4. Operation of electrolyzer-facilities is a commercial activity*

The Penta Member States agree that investments in, and the operation of, electrolyzer-facilities is a commercial activity that needs to be unbundled from regulated activities such as network operation. In derogation of this principle, TSOs or DSOs could be allowed to invest in, and operate, electrolyzer-facilities only under the circumstances that clear benefits for (integrated) network operation can be identified and a market test has identified a market failure by showing disinterest or inability by market entities to deliver these benefits. Such TSO or DSO involvement should 1) be temporary, 2) not involve the buying and selling of energy commodities by these system operators, and 3) be subjected to NRA approval and oversight.

*5. Lock-in effect and market fragmentation risks due to hydrogen blending in natural gas networks have to be avoided*

Risks of market and technology distortions related to hydrogen blending in methane networks must be addressed in the upcoming legislation. For the Penta Member States, considering the potential lock-in effect of hydrogen blending, the priority lies with the utilization of pure hydrogen for sectors that are otherwise difficult to decarbonize and the development of dedicated hydrogen networks. Potential trade distortions and operational safety issues in the internal market as well as lock-in effects in network and application technologies have to be avoided. Considerable differences between national hydrogen limits could undermine continuous efforts regarding gas quality harmonization and distort investment signals in the ongoing transition towards a dedicated hydrogen system. Therefore, it is important that the European Commission continues its work on transparency, gas quality harmonization and the integrity of the internal market.

6. *The emergence of an internal market in hydrogen should be supported by an inclusive institutional framework*

The gradual development of an internal market and regulatory framework for hydrogen should be supported by a facilitating institutional framework. This requires active market monitoring, data collection and reporting. Furthermore, increased interaction between the hydrogen, electricity and natural gas systems regarding network planning, gas quality and security of supply requires an unbiased and inclusive institutional framework which promotes efficient systems integration, broad stakeholder participation and regulatory oversight.

**The development of a sustainable market for hydrogen requires common definitions and system for certification**

Besides aforementioned issues related to the upcoming Decarbonization Package, common definitions for hydrogen produced by means of different primary sources and production methods, as well as a robust, transparent and easy to implement certification mechanism for hydrogen, are prerequisites for informed decision-making by consumers and the development of a fast growing hydrogen market contributing to climate neutrality in 2050. As such, the development of a harmonized certification system, in both a European and international context, should be of the highest priority for the European Commission.

**Towards a future regulatory framework for hydrogen and systems integration**

The shared ambitions by the Penta Member States toward a sustainable internal market for hydrogen requires an early flexible regulatory framework which lays down the foundation on which national and regional markets may gradually evolve into an integrated European market. In this joint position paper, the Penta Member States have emphasized the importance of common key regulatory principles, while simultaneously acknowledging that national priorities may vary in the early stages towards a hydrogen economy. As the hydrogen system matures and develops over time into an integrated part of the internal energy market, a new generation of regulation could be considered which is not only aimed at the further promotion of the internal market for hydrogen, but also embraces systems integration and its benefits to cost-effective decarbonization.

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