Europex Response to ENNOH's Public Consultation on Hydrogen Quality

Brussels, 30 March 2026

Europex welcomes the opportunity to contribute to ENNOH's consultation on hydrogen quality. This submission outlines our views on the functional, operational, and regulatory architecture of the future European hydrogen system. It addresses infrastructure development, purity standards, and cost allocation.

1. What do you consider to be the main purpose of hydrogen quality monitoring?

The primary purpose is to establish hydrogen as a standardised commodity. This allows standard contracts to be used, supports exchange-based trading and provides the transparency necessary for accurate price signals and cross-border market integration.

2. Several studies have been carried out and position papers have been issued on this topic. In your view, what is the main decision that needs to be made at this stage?

The most important decision is to formally standardise hydrogen as a commodity. This will lay the groundwork for a trading-friendly market model, including the early establishment of virtual trading points and liquid spot markets.

3. Do you agree that one of the most important principles is to build a single, interconnected hydrogen network without distinctions between hydrogen grades or types?

Yes. Having a single network prevents market fragmentation and supports a gas market model. It enables the creation of a virtual trading point where all volumes are fungible, which maximises liquidity and ensures efficient price formation across European markets.

4. Do you agree that storage facilities represent the most critical link in the hydrogen value chain?

Storage is a necessary component of balancing, but the market model itself is equally important. To provide the flexibility that market participants require, storage must be integrated into exchange-based balancing mechanisms.

5. How do you assess the role of hydrogen transmission network operators (HTNOs)?

HTNOs must act as neutral market facilitators. This involves managing the network to

support exchange-based balancing, ensuring non-discriminatory access and providing data transparency to inform investment decisions.

6. Do you agree that specifying hydrogen quality at entry points is a necessary and sufficient condition for HTNOs, provided that hydrogen is delivered at exit points in accordance with the entry specifications?

While entry-point quality specifications are necessary, they are not sufficient on their own. HTNOs must also ensure that quality at exit points remains consistent with these specifications in order to protect the integrity of standard trading contracts.

7. How do you assess the role of hydrogen distribution network operators (HDNOs)?

HDNOs facilitate the participation of smaller producers and local consumers in the wider commodity market. Their primary obligation is to guarantee that local injections do not compromise the standardised quality on which wholesale trading depends.

8. Do you identify any specific considerations or challenges related to terminals?

Terminals are entry points that must meet strict quality standards to ensure that imports are compatible with the European grid. Without proper standardisation at these interfaces, imported volumes cannot be traded on European platforms without incurring additional costs and technical barriers.

9. What do you consider more important: reaching a consensus on a unified hydrogen purity level in Europe, or primarily reaching a consensus on contaminants thresholds?

Consensus on both is required. Contaminant thresholds address technical safety, while a unified purity level makes harmonised standard contracts possible across trading platforms. Neither can substitute for the other.

10. With regard to contaminants, do you believe that a consensus has already been reached on threshold values? What are the remaining areas of concern?

Consensus is still developing. The main concern is that the thresholds should not be set so restrictively that they reduce the volume of gas that is eligible for trading. Standards must strike a balance between technical necessity and the requirements of a liquid market.

11. Do you think that standardisation bodies such as CEN/CENELEC should receive a clear mandate from the European Commission to issue specifications recognised by all Member States?

Yes. A clear mandate is essential for establishing a common European rulebook. This is a prerequisite for exchange-based trading and the use of standard contracts across different jurisdictions.

12. Do you identify any areas of concern related to hydrogen production?

The main concern is integrating diverse production sources into a single market without fragmenting it. In particular, for green hydrogen, the certificate market must function efficiently on a cross-border basis so that producers can realise the value of their product through a liquid market for Guarantees of Origin (GOs).

13. With regard to natural hydrogen (white hydrogen), do you foresee potential challenges in the event of an expansion of this type of production?

Any expansion would require clear rules on how white hydrogen fits within existing commodity and certificate frameworks. It must meet the same standardised quality levels as other production sources in order to be traded on common platforms.

14. Different levels of purity are required depending on end uses. Do you believe that, if a globally high level of purity were specified across all interconnected European networks (e.g. >99.97%), local purification units (e.g. for fuel cells) could be avoided?

A high-purity standard across the backbone would eliminate the need for local purification in most cases. While some particularly sensitive users may still require additional polishing, a robust network standard would reduce transaction costs and simplify trading for the vast majority of market participants.

15. What do you consider to be the main priorities regarding data provided by HTNOs through a transparency platform?

The priority is data that supports price discovery, such as real-time flows, storage levels and quality specifications. This information serves as a primary investment signal for market participants and infrastructure developers alike.

16. Do you foresee significant innovation opportunities that could reduce hydrogen purification costs?

Yes. Lower purification costs mean that a wider range of production methods can meet commodity-grade quality requirements, thus broadening the supply base and supporting market liquidity.

17. Do you identify a need for investment in developments related to hydrogen quality?

Investment should focus on automated, real-time quality tracking. This technical infrastructure is required to underpin a reliable, exchange-based balancing system. Regulation and cost allocation.

18. In a regulated framework, what would you consider to be the optimal approach to cost allocation for hydrogen purification processes?

Costs should be allocated in a way that does not distort the commodity price. A market-based approach, in which specific quality requirements are reflected in the relevant part of the value chain, is preferable to indiscriminate cost allocation and the risk of cross-subsidisation.

19. Do you think that incentive mechanisms could be useful in relation to hydrogen quality?

The most effective incentive is a well-functioning certificate market. Properly functioning Guarantees of Origin across borders provide the necessary financial signals without distorting the underlying commodity market.

About

Europex is a not-for-profit association of European energy exchanges with 36 members. It represents the interests of exchange-based wholesale electricity, gas and environmental markets, focuses on developments of the European regulatory framework for wholesale energy trading and provides a discussion platform at European level.

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