Europex Response to ENNOH Public Consultation on Future Hydrogen Network Codes

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Europex welcomes the opportunity to contribute to ENNOH's consultation on the future of hydrogen network codes and considers the Groundwork Paper to be a valuable contribution towards defining the functional, operational and regulatory architecture of the future European hydrogen system. Establishing a coherent, competitive and investment-enabling market framework will be critical to the effective development and scale-up of hydrogen markets in Europe. Against this background, we set out below several key principles that we consider central to the creation of an efficient, open, transparent and trading-oriented hydrogen market capable of supporting decarbonisation, security of supply and European competitiveness.

Fundamental design choices and the need for structural consistency

The Groundwork Paper outlines various principal themes for hydrogen system development. However, several key commercial aspects of the supporting operational framework remain undefined. Greater clarity is needed on market access conditions, delivery points, balancing responsibilities and the organisation of trading activities. Without a consistent foundation, individual clusters may evolve according to diverging local practices, leading to operational inconsistencies and increased costs for future harmonisation. Establishing a uniform approach from the outset will enhance predictability for investors and mitigate the risk of market fragmentation during the ramp-up phase.

Many of the foundational design choices set out in the Groundwork Paper appear to rest on the assumption that hydrogen consumption will be relatively stable, on the basis that large industrial users are expected to constitute the main source of demand. We question this assumption. Flexibility is not only playing an increasingly central role in the electricity sector, it is also likely to become a valuable asset across other forms of energy consumption, including hydrogen. While we support the paper's focus on large (industrial) consumers, given that widespread household consumption appears unrealistic in light of current and foreseeable supply constraints, several initiatives in Member States already envisage the deployment of flexible hydrogen-fired power plants to support the stability of electricity generation. This suggests that hydrogen demand profiles may be more dynamic than assumed and that flexibility considerations should be more explicitly reflected in the fundamental market design choices.

Market-based arrangements during and after the ramp-up

ENNOH's Groundwork Paper acknowledges that hydrogen infrastructure is likely to develop progressively, with regional systems emerging ahead of broader interconnection. However, the paper provides limited detail on the functional arrangements required to enable trading during this formative phase. In our view, the hydrogen commodity market should remain simple, standardised and easily tradable, with guarantees of origin and other certificates handled separately from the commodity to avoid complexity.

The early introduction of virtual trading points, standardised spot products, transparent order books and clearly defined nomination schedules would facilitate efficient price discovery and help prevent an excessive reliance on bilateral arrangements, which may prove difficult to unwind as the market matures.

Allowing non-market-based balancing measures during the ramp-up phase of the hydrogen market is acceptable in light of its early stage of development and the potential for illiquid market segments. Nevertheless, such measures (for example, bilateral agreements) should be strictly limited to a last-resort role. Exchange-based balancing products should constitute the default mechanism for balancing the hydrogen grid, with clearly defined fall-back options available only where such products are temporarily unavailable or insufficiently liquid. Establishing this hierarchy of balancing tools would allow the market to develop organically, without requiring regulators to prescribe a fixed timetable for transitioning between different system arrangements.

Implications of financing and cost allocation for market participation

Investment support will be necessary, particularly in the early years of market development. However, financing instruments and cost-allocation rules should be designed to preserve neutral access and avoid creating barriers for new entrants. To ensure that support mechanisms do not entrench market positions or discourage liquidity, it is essential to assess the interaction between long-term capacity commitments, allocation methodologies and secondary trading.

Transparent methodologies, together with forward visibility of charges, would enable market participants to manage risk effectively and contribute to a stable and predictable investment environment.

While long-term capacity booking contracts can provide investment certainty during the ramp-up phase, the role and benefits of short-term booking options should not be overlooked. Even at an early stage of market development, flexibility and short-term capacity booking complement the availability of short-term balancing and enable market

participants to make use of well-established procedures from liquid markets from the outset.

Finally, discussions on capacity design and allocation should also consider implicit capacity allocation as an option worthy of further assessment.

Call for interoperability, transparency and consistent stakeholder involvement

Several technical areas warrant further attention, including hydrogen quality standards, measurement methodologies, data exchange and operational protocols. Early coordination is recommended to minimise the risk of incompatible regional clusters and to avoid costly future realignments. We also see value in more structured stakeholder involvement, encompassing both commercial design and technical implementation. Early and regular engagement will support practical alignment, reduce uncertainty and accelerate collective learning.

Conclusion

A well-designed European hydrogen system requires a robust and transparent framework that promotes competition and open market participation. Early clarity on functional structures, trading arrangements, financing mechanisms and technical alignment will provide a strong foundation for future market development. Europex welcomes expanded stakeholder engagement and remains committed to supporting the further growth of the European hydrogen 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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