A European Strategy for Hydrogen

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The Committee on Industry, Research and Energy adopted the own-initiative report by Jens GEIER (S&D, DE) on a European Strategy for Hydrogen.

As hydrogen produced through electrolysis with electricity from renewable energy sources is a clean alternative to fossil fuels and can be used for various purposes, including feedstock for industrial processes, fuel cells and energy storage, it can make a valuable contribution to the achievement of a just transition towards a clean energy system. It can help to decarbonise hard-to-decarbonise sectors in which direct electrification is not yet possible or cost-efficient. However, hydrogen represents only a small part of the European energy mix and 95% of our hydrogen production is currently based on fossil fuels.

The EU needs to develop a sustainable hydrogen economy that aims at making clean hydrogen competitive as soon as possible.

EU hydrogen strategy

Members stressed the need to maintain and further develop EU technological leadership in clean hydrogen through a competitive and sustainable hydrogen economy with an integrated hydrogen market. They emphasised the necessity of an EU hydrogen strategy that covers the whole hydrogen value chain, including the demand and supply sectors, and is aligned with national efforts to ensure that sufficient supplementary renewable electricity generation infrastructure is built for the production of renewable hydrogen and to bring down the costs of renewable hydrogen.

Members welcomed the hydrogen strategy for a climate-neutral Europe proposed by the Commission, including the future revision of the Renewable Energy Directive, as well as the growing number of Member State strategies and investment plans for hydrogen.

The report stressed that hydrogen produced from renewable sources is key to the EU’s energy transition, as only renewable hydrogen can sustainably contribute to achieving climate neutrality in the long term and avoid lock-in effects and stranded assets.

Hydrogen classification and standards

Members consider that a common legal classification of the different types of hydrogen is of utmost importance. The Commission’s proposed classification seems to be a good solution according to the report. However, different names for the same type of hydrogen, such as renewable and clean hydrogen, should be avoided.

The Commission is called on to provide, as early as possible in 2021, a regulatory framework for hydrogen that ensures standardisation, certification, guarantees of origin, labelling and tradability across Member States, and to also use the upcoming revision of the EU Emissions Trading System (ETS) to examine what changes are needed to unlock the full potential of hydrogen to contribute to the EU’s climate goals, taking into account the risks of carbon leakage.

Citizen engagement

Members stressed that citizen engagement will play an important role in the implementation of a fair, successful, participative and inclusive energy transition.

Moreover, in order to have a properly functioning EU hydrogen market, people with specialised skills are needed, especially with regard to safety. The Commission should adopt an action plan aimed at guiding Member States to develop and maintain dedicated training programmes for workers, engineers, technicians, and the general public, and to create multi-disciplinary teaching programmes for economists, scientists and students.

Hydrogen infrastructure

There is an urgent need to develop infrastructure for hydrogen production, storage and transport, to incentivise adequate capacity-building, and to develop demand and supply in parallel.

The report highlighted the financial benefits of placing hydrogen production facilities close to renewable energy production sites or on the same site as demand facilities. It urged the Commission and the Member States to ensure that any potential future gas infrastructure is compatible with pure hydrogen.

Hydrogen demand

Given that the main lead markets for hydrogen demand are industry, air, maritime and heavy-duty transport, Members believe that, for these sectors, roadmaps for demand development, investment and research needs should be established at EU level.

Members noted that there are obstacles in some of the current regulatory frameworks to the use of hydrogen. Therefore, they encouraged the Commission and the Member States to adapt those regulatory frameworks in order to stimulate hydrogen demand and to eliminate disincentives such as legal uncertainties.

Recalling that the transport sector is responsible for a quarter of CO2 emissions in the EU and is the only sector where emissions have not been reduced compared to the 1990 baseline, the report underlined the potential of hydrogen to be one of the instruments used to reduce CO2 emissions in transport modes, in particular where full electrification is more difficult or not yet possible. The deployment of refuelling infrastructure is necessary to boost hydrogen use in the transport sector. In this regard, Members stressed the importance of revising the TEN-T (trans-European transport network) Regulation and the Alternative Fuels Infrastructure Directive to ensure the availability of publicly accessible hydrogen refuelling stations across the EU by including concrete objectives to integrate hydrogen infrastructure in transport systems.