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Climate change: MEPs advocate push for renewable hydrogen, integration of energy systems

MEPs set out measures to help Europe decarbonise its energy system, industry and transport sectors in two reports adopted on Monday.

The reports were adopted in the Industry, Research and Energy committee (ITRE), in response to the European Commission's hydrogen and energy system integration strategies, which aim to pave the way towards a more efficient and interconnected energy sector, driven by the twin goals of a cleaner planet and a stronger economy.

Hydrogen produced from renewable sources is key to Europe's energy transition as only renewable hydrogen can sustainably contribute to achieving climate neutrality in the long term, MEPs say, in a report adopted with 46 votes to 25 and 5 abstentions. Hydrogen is however not yet competitive and the Commission and Member States should incentivise the value chain and market uptake of the fuel, when produced from renewable energy sources.

They welcome the Commissions' consideration of various incentives at the demand side. The focus of hydrogen demand should be on sectors for which its use is close to being competitive or that cannot be decarbonised by other technological solutions, namely industry, air, maritime and heavy-duty transports, they say.

Towards a classification of different types of hydrogen

MEPs stress the need of a classification of the different types of hydrogen. A rapid agreement on a uniform EU-wide terminology is necessary, and the distinction should be made absolutely clear between renewable and low-carbon hydrogen, they say. MEPs highlight that renewable hydrogen can be produced from wind, solar and hydropower (including pumped storage). Fossil-based hydrogen should be phased out as soon as possible. The scheme should also be applicable to imported hydrogen in order to avoid carbon leakage, and would also help inform consumers.

The report also calls for assessing the possibility of repurposing existing gas pipelines for the transport and underground storage of hydrogen. The repurposing of gas infrastructures can be relevant in certain sectors of emissions-intensive industries, and any potential future gas

infrastructure should be compatible with pure hydrogen.

The text also calls on the Commission to come forward with an EU strategy for clean steel, which should include an appropriate focus on the use of renewable hydrogen.

Energy system integration

A separate report adopted on Monday, with 60 votes to 11 and 5 abstentions, advocates the integration of energy systems – when the system is planned and operated as a whole, linking different energy carriers, infrastructures, and consumption sectors – in order to improve energy efficiency and reduce costs for society.

MEPs say that the twin green and digital transitions of the energy networks will require unprecedented public and private investment in infrastructure modernisation and new infrastructure development, as well as investments in buildings renovation and R&D.

This strategy, especially in the aftermath of the COVID-19 pandemic, should support a climate neutral economy, strengthen energy security, boost jobs and protect health and the environment, say MEPs. They set out measures to optimise, decarbonise and balance energy systems, inter alia through energy efficiency gains, decarbonising transport and heating, and further develop interconnections between Member States' electricity grids.

MEPs also highlight the advantages of a 'multi-directional' system where consumer play an active role in energy supply. Member States shall ensure that all citizens have the right to produce, consume and store their own energy individually or as a community, they say.

Quotes

"The majority of politicians dealing with industrial policy in the European Parliament has given a strong signal for the importance of renewable hydrogen for Europe's decarbonisation" said rapporteur on the hydrogen strategy Jens Geier (S&D, DE). "Hydrogen from renewable energy sources is key for the European energy transition. The ITRE-committee supports that renewable hydrogen is the only long-term sustainable type of hydrogen. The report also underlines the importance of a European hydrogen market and a fast deployment of hydrogen infrastructure. EU Member States now need to invest accordingly. Incentives for the demand-side and international partnerships are necessary to create a market for hydrogen" he said.

"All Europeans must have guaranteed access to cheap, non-polluting energy for lighting, heating and work. But this is only possible if energy can easily cross borders!" said rapporteur on Energy system integration Christophe Grudler (Renew Europe, FR). "This report therefore proposes serious options for achieving our objectives: accelerating decarbonisation, ensuring the balance of networks, building interconnections, facilitating the deployment of renewables, developing digitalisation, and extending storage and local production".

Next steps

Both reports will be put to a vote by the full House in plenary session on the 26th of April.

Background

The European Green Deal, published on 11 December 2019, sets a goal for Europe to become climate-neutral by 2050 and one of the pillars of achieving this is through being able to support and push for the supply of clean, affordable and secure energy. One challenge ahead is intrinsically related to the production and consumption of energy, which in 2018 accounted for 75 % of the EU's emissions of greenhouse gases (GHG) while the EU's energy needs relied on the importation of 58 %, mainly oil and gas.

In order to address this challenge, the energy system should be transformed in such a manner that it becomes green, sustainable, affordable, efficient and circular. The change should come in the form of the usage of waste and products to produce energy; an increase in the use of electricity from renewable sources; and usage of low carbon fuels - such as hydrogen - where electricity is not a solution.

Hydrogen today represents around 2% of the Union's energy mix, of which 95% is produced by fossil fuels, releasing 70 - 100 million tonnes of CO2 annually, while at the global level being responsible for 2.5% of greenhouse gas emissions, with less than 1% of the current hydrogen production being used as an energy carrier. Research shows that renewable energies could supply up to 100% of the European energy mix in 2050, of which hydrogen could account for a share of up to 20%, between 20% and 50% of energy demand in transport and between 5% and 20% in industry.

Demand for hydrogen is almost entirely supplied from fossil fuels, with 6% of global natural gas and 2% of global coal going to hydrogen production, while less than 0.1% of global dedicated hydrogen production today comes from water electrolysis.

Further information

Committee on Industry, Research and Energy
Procedure file – hydrogen strategy
Procedure file – energy system integration
Meeting documents
EP research: EU hydrogen policy: Hydrogen as an energy carrier for a climate-neutral economy
EP research: Sector coupling: how can it be enhanced in the EU to foster grid stability and decarbonise?
Powering a climate-neutral economy: Commission sets out plans for the energy system of the future and clean hydrogen

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