

European Commission

Your date: 27.09.2024
Our ref.: TKH//ITW/Low-carbon fuels
Our date: 17.10.2024

Norwegian Hydrogen Forum's feedback to the delegated act on low-carbon fuels

Norwegian Hydrogen Forum (NHF) is the national members' association for hydrogen and hydrogen-based derivatives. Its more than 100 members represent the entire hydrogen value chain, from producers via distributors to end users, including both industry, public authorities and academia. NHF promotes its members' interests towards public authorities and decision makers and works actively to disseminate key information on hydrogen as an indispensable climate solution.

NHF appreciates the invitation to submit comments on the delegated act (DA) establishing a methodology to determine the greenhouse gas (GHG) emission savings of low-carbon fuels.

Low-carbon hydrogen is a significant contributor to the energy transition and plays a vital role in establishing a market for hydrogen. It must be ensured that producers and potential consumers have the necessary regulatory clarity to invest in low-carbon hydrogen. As there are several hydrogen production pathways with very low emission levels, it is essential to maintain a technology-neutral approach in combination with incentives to continuously reduce CO₂-intensities. This is needed to increase volume, drive down costs and develop infrastructure.

The Hydrogen and Decarbonised Gas Market Package recognises that low-carbon fuels and low-carbon hydrogen play an important role to achieve rapid reductions of GHG emissions and to support hard-to-decarbonise sectors in their transition. Using the same fossil fuel comparator of 94 g CO₂e/MJ as for renewable fuels of non-biological origin (RFNBOs), low-carbon hydrogen must meet the GHG emission reduction threshold of at least 70 %. Article 9(5) stipulates that by 5 August 2025, the Commission shall adopt DAs specifying the methodology for assessing GHG emissions savings from low-carbon fuels. A primary aim in establishing these criteria is to achieve consistency with the methodology set out in the DAs (2023/1184 and 2023/1185) assessing emissions from RFNBOs and recycled carbon fuels (RCF). The DA shall also take into account emissions due to the leakage of hydrogen as well as methane upstream emissions, CO₂, N₂O and actual carbon capture rates.

NHF welcomes the introduction of the low-carbon fuels DA and supports the principle of aligning the DAs for RFNBOs and low-carbon fuels to ensure simplicity and consistency of the rules. Swift adoption is needed to maintain momentum in ramping-up hydrogen in line with the EU's climate commitments and to safeguard industrial competitiveness.

NHF's comments in short:

- Project-specific certification of natural gas upstream emissions must be allowed.
- Low-carbon hydrogen producers must be able to sign Power-Purchase Agreements for low-carbon electricity.
- The possibility to use CO₂ from waste streams increases availability of CO₂ for e-fuels production and is a positive addition under point 10 of the Annex.
- NHF supports the Commission's decision to await further scientific evidence concerning hydrogen leakages and hydrogen's global warming potential.

Project-specific certification of natural gas upstream emissions must be allowed

The DA uses default value for upstream gas emissions that is higher than for DA RFNBO and RCF (2023/1185), but it allows for accounting of project specific emissions for methane by referring to the methane regulation (2024/1787). Until the Commission by 5 August 2027 in line with Art. 29(4) of the methane regulation has adopted a DA for calculating methane intensity, Part B of the Annex shall be used to determine the methane intensity.

While it is understandable that the Commission seeks to align the DAs for RFNBO and low-carbon fuels, it is important to underline that the purpose of the two DAs are different. Whereas the RFNBO DA is designed to maximise renewable energy inputs, the low-carbon fuels DA is first and foremost established to minimise CO₂-intensity levels. The low-carbon fuels DA should therefore incentivise hydrogen produced with the lowest-possible CO₂-intensities.

Unfortunately, the Commission's proposal for a DA is insufficient in this regard. Producers using Norwegian natural-gas for their low-carbon hydrogen can reach upstream and midstream emission levels of approximately 1.5g CO₂e/MJ. This is far below the European default 10.45 g CO₂e/MJ (excluding the potential 40 % additional penalty on the methane contribution, which would take it to 12.45). The proposal does not differentiate between hydrogen produced with very low CO₂-intensity levels and hydrogen produced with much higher levels, such as LNG shipped from long distances.

We therefore recommend that the default values are supplemented with an opportunity to use project-specific and certified values for methane, CO₂ and N₂O.

This opportunity should be added under point 7 in the Annex on elastic inputs.

Low-carbon hydrogen producers must be able to source low-carbon electricity

In keeping with the RFNBO DA approach, electricity for low-carbon hydrogen production may be either renewable, which is defined as zero emission, or applying the CO₂-intensity of the grid at national or bidding zone level. Article 3 of the DA states that the Commission shall assess the impact of the introduction of alternative pathways, notably to source low carbon electricity from nuclear power plants by 1 July 2028.

Even for natural gas-based low-carbon hydrogen production, electricity is a decisive input factor. As Norway's grid consists mostly of hydro and wind power and most likely will be regarded as zero-emission both at national and bidding zone level, the conditions in Norway for producing hydrogen with very low emissions from the electricity input are very favourable, and the draft DA reflects this. NHF does however recognize that this situation is special to Norway. NHF has members with low-carbon hydrogen projects in other EU member states. For such projects it is also possible to achieve very low CO₂-intensity levels far below the directive's 70 % threshold. Due to higher grid CO₂-intensity levels in Europe, this however requires the opportunity to source electricity from low-carbon sources (e.g. nuclear or geothermal power plants) or renewable power that is exempted from the RFNBO definition (e.g. existing renewable power).

Low-carbon hydrogen producers should therefore have the possibility to sign Power-Purchase Agreements (PPA) with low-carbon (including non-RFNBO renewable) electricity sources. This opportunity should come with no additionality requirements. This is important to ensure rapid ramp-up and cost-reductions in EU member states.

NHF recommends that the option laid out in article 3 should be included already from entry into force of the DA.

Using CO₂ from waste streams

Under point 10, CO₂ from waste streams have been added to the list of carbon sources that may be deducted from the fuels carbon footprint. This increases the availability of CO₂ for e-fuels production and enables faster emission reductions in aviation and maritime sectors. NHF therefore supports this addition.

Hydrogen leakage

Hydrogen leakages can create chemical reactions in the atmosphere and affect GHGs like methane, ozone and stratospheric water vapour, thereby causing global warming. However, as stated in recital 5 of the DA, the global warming potential has not yet been determined with the precision required to be included in the calculation of GHG emissions. The Commission therefore proposes to await further scientific evidence before including it in the DA methodology. NHF supports this proposal.

It is highly important to intensify research to establish the exact global warming effects of hydrogen, and some of our members are already contributing to this field.¹ As further data on hydrogen leakage is compiled, EU regulation should incentivise low leakage levels.

We hope the Commission will take our comments into consideration and look forward to adoption and entry into force of the DA.

With kind regards,
Norwegian Hydrogen Forum



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¹ Norwegian Research Council has financed the project [HYDROGEN – Climate and environmental impacts of hydrogen emissions](#), led by CICERO Center for International Climate Research and concluded in June 2024. The [HYway](#) project coordinated by CICERO and 11 European partners continues these research efforts.