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Subject: recommendations for the Delegated Act on Low-Carbon Hydrogen

Nucleareurope, the trade association representing the European nuclear industry, welcomes the upcoming Delegated Act concerning the assessment of greenhouse gas emission savings from low-carbon hydrogen. We believe that a few key considerations could enhance the robustness and fairness of the methodology proposed, as outlined below:

1. Accurate Emission Factor for Nuclear Electricity

The current draft adopts a generic upstream emission factor for nuclear electricity based on outdated data, which does not reflect recent advancements in the nuclear fuel cycle. Studies by UNECE¹, CEA², and EDF³ indicate that the upstream emission factor for nuclear fuel is between 0.19 and 0.32 gCO₂eq/MJth, translating to an emission factor of 0.58 to 0.97 gCO₂eq/MJe for nuclear electricity. This discrepancy highlights the need to revise the default emission factor to reflect contemporary data accurately.

We suggest that the Delegated Act incorporate these updated figures, providing a more accurate reflection of nuclear power's low-carbon footprint. Moreover, the act should allow for the use of local data from recent national statistics and accredited sources to determine the emission factors

¹ https://unece.org/sites/default/files/2022-04/LCA_3_FINAL%20March%202022.pdf

² <https://www.sciencedirect.com/science/article/pii/S0360544214002035>

³ <https://www.edf.fr/groupe-edf/produire-une-energie-respectueuse-du-climat/lenergie-nucleaire/notre-vision/analyse-cycle-de-vie-du-kwh-nucleaire-dedf>

for nuclear electricity, ensuring the methodology remains objective and based on the latest scientific data.

2. Inclusion of Power Purchase Agreements (PPAs)

PPAs are a vital tool for linking electricity generation to hydrogen production. The Delegated Act should recognise the specific carbon content of electricity sourced through nuclear PPAs, which differ from the grid average. This approach would align this act with the RFNBO delegated acts, which require PPAs to meet geographical and temporal criteria. By doing so, the EU can incentivise investments in clean energy and ensure that the hydrogen produced really is low carbon.

The EU's electrolysis industry needs a clear definition of electrolytic low-carbon hydrogen that leverages Europe's strengths and facilitates the effective launch of our electrolytic value chain. Recognising PPAs in the Delegated Act will support the ramp-up phase of hydrogen production, providing a steady supply before hydrogen storage and transport infrastructures become fully operational.

3. Project-Based Approach to Emissions Measurement

Adopting a project-based approach to measuring emissions will allow for a more nuanced and accurate assessment of GHG savings. Each hydrogen production project is unique, with varying inputs, technologies and processes. A project-based approach would ensure that emissions are assessed in context, encouraging innovative solutions and technologies that contribute to overall emission reductions.

4. Grid Electricity and Direct Connections

The Delegated Act should cover all relevant electricity sourcing options for electrolyzers producing low-carbon fuels. This includes grid electricity in countries or bidding zones with low-carbon power generation mixes and direct connections to nuclear power plants, including future Small Modular Reactors (SMRs). The emission factors for grid electricity should be based on annual average values with a location-based approach at country or bidding zone levels.

We believe that by incorporating these suggestions, the Delegated Act will better align with the EU's ambitious climate goals, ensuring that the hydrogen sector can grow sustainably and equitably. We appreciate the Commission's efforts in developing this regulatory framework and are keen to support its successful implementation.

Thank you for considering our recommendations. We look forward to further dialogue and collaboration.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Y Desbazeille', followed by a long horizontal line extending to the right.

Yves Desbazeille

nucleareurope Director General