

Low carbon hydrogen delegated act public consultation

A Eurelectric response paper

Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:

- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

Dépôt légal: -

WG Thermal & Nuclear
WG Power & Gas Interactions
WG RES & Storage

Contact:
Carl SOMMERHOLT, Adviser – Nuclear –
csommerholt@eurelectric.org

Eurelectric welcomes the opportunity to provide feedback to the draft delegated act on low carbon hydrogen and fuels. Our consultation response is focused on the rules envisioned for the electrolytic pathways and focused on four issues: (i) the lack of nuclear sourcing methodology before 2028 (cf. article 3 of the proposed DA); (ii) the outdated upstream emission values for nuclear; (iii) lack of legal certainty for support schemes; and (iv) electricity grid GHG emissions data availability.

1. Lack of nuclear sourcing methodology puts projects at risk

Eurelectric regrets that a GHG emissions reduction methodology for nuclear power sourcing through PPA and direct connection is not included in this draft delegated act. Postponing the discussion for more than 3 years will further hinder deployment of numerous hydrogen projects and the development of the nascent European hydrogen industry.

Indeed, the proposed delegated act would leave unclear the regulatory framework on hydrogen for industrials seeking for long term PPAs for their power supply, following the Electricity Market Design (EMD) reform completed in 2023. Such a missing building block would create a major legal uncertainty, and consequently jeopardises financial investment decisions from industrial end-users who intend to rely on this type of supply for their decarbonization process. Indeed, nuclear PPAs lower the carbon intensity of hydrogen and its derivatives, enabling them to meet the 70% reduction in CO₂eq emissions. Excluding them will also raise the production costs of e-fuels or other hydrogen derivatives (e.g. low-carbon steel).

In consistency with the RFNBO delegated act, low carbon electricity through PPAs or direct connection should be enabled adhering to rules for additionality, temporal and geographical correlation. Similarly, it should also consider the refurbishment of the nuclear assets.

2. Upstream nuclear emission factor is overestimated

We notice that the reference value provided in table 3 in the Annex (cf. part C) are based on outdated studies, leading to three to four times overestimation. The reference value therefore needs to be updated.

The data provided in the RFNBO delegated act and the draft LCF delegated act are actually taken from a JEC Well-to-Tank report V5 study, extracted from the Global Emission Model for Integrated Systems (GEMIS) databases. However, these data appear outdated, as the sources of data date back from :

- 2002 for data on uranium enrichment,
- 2005 for data on uranium extraction and processing,
- 2011 for data related to the manufacture of nuclear fuel.

The discrepancy between the 1.2 gCO₂e/MJ value and the most recent studies comes from positive developments achieved in the last fifteen years at both the extraction stage (the main source of emissions in the upstream factor) and the uranium enrichment stage. First, a new technique called “in situ leaching” (ISL), which requires less diesel fuel, is more and more used to extract uranium. It consumes less diesel than open-pit and underground mining. According to the IAEA's Red Book, the share of ISL mines is rising steadily, from 45% of uranium tonnage mined worldwide in 2013 to 63% in 2021. Second, all uranium enrichment worldwide is now based on the ultracentrifugal gas process. It is up to 50 times less energy-intensive than the previous gaseous diffusion process.

Taking these technical progresses into account would therefore enable to calculate a more accurate upstream nuclear emission factor.

In this purpose, Eurelectric members have computed below the most recent data available to prove its reasoning.

Sources	Upstream nuclear emission factor : uranium mining, enrichment and fuel fabrication (primary energy)	
	gCO ₂ eq/MJth	gCO ₂ eq/kWhth
Delegated act RFNBO	1.20	4.32
UNECE 2022	0.32	1.16
CEA 2014 (JRC 2020)	0.24	0.87
CEA 2018	0.19	0.68
EDF 2022	0.19	0.69

3. Lack of legal certainty for support schemes

Recital 2 introduces uncertainties as it clearly states that DG Competition could impose additional criteria for the methodologies for carbon accountability that differ from those described in the current delegated act. Projects are designed according to the delegated act rules and need to visibility on the long run. Changing the methodology due to additional constraints would be detrimental to the overall design of the project. Recitals and more generally the delegated act should support legal certainty. This is why we are asking for recital 2 to be deleted.

4. Electricity grid GHG emissions data availability

Eurelectric takes note of the methodology proposed to calculate GHG emission intensities of electricity in Annex of the proposed Delegated Act. Considering that Article 20.a of the Directive 2023/2413 (i.e. RED II) requires Member States to ensure that power TSOs publish the share of renewable electricity and GHG emissions content of electricity supplied in each bidding zone at regular (hourly) intervals, those TSOs should make such data available to prove the instantaneous carbon intensity of the power grid, to accurately reflect it in the carbon intensity of outputs.

Eurelectric pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability



Union of the Electricity Industry – Eurelectric aisbl
Boulevard de l'Impératrice, 66 – bte 2 – 1000 Brussels, Belgium
Tel: + 32 2 515 10 00 – VAT: BE 0462 679 112 • www.eurelectric.org
EU Transparency Register number: [4271427696-87](https://ec.europa.eu/transparency/regexp1/index.cfm?do=entity.entityDetail&id=4271427696-87)