

24 October 2024

IOGP Europe's response to the public consultation on the Methodology to determine the greenhouse gas (GHG) emission savings of low-carbon fuels Delegated Act

Low-carbon hydrogen, gases, and fuels are essential components for the EU to achieve its decarbonisation targets. This Delegated Act is essential to provide the clarity and predictability needed to support the scaling up of the low-carbon hydrogen market in Europe. It should ensure technological neutrality and incentivize reductions in greenhouse gas (GHG) emissions. This methodology is important for creating a European market for low-carbon hydrogen and fuels and ensuring investor confidence to take Final Investment Decisions (FIDs), both in the EU as well as in jurisdictions that can serve the EU market. However, IOGP Europe has identified certain critical gaps and ambiguous provisions in the current methodology that still need to be addressed, and therefore, we propose the recommendations below.

Use of the actual values for project-specific elastic inputs in absence of methane intensity methodology (Annex Point 7)

- The DA does not provide clarity that low-carbon fuel (LCF) producers are allowed to use actual values for elastic inputs (e.g. across the natural gas value chain), if and where available. Making this option available would incentivize GHG emission reductions along the whole natural gas value chain, as well as other elastic inputs with lower carbon intensity, enabling long-term investments while driving down emissions associated with LCF.
- The absence of the requirements for calculation before August 2027 of upstream methane intensity in the to-be-developed methodology set by the Commission in accordance with Article 29(4) of Regulation (EU) 2024/1787 creates uncertainty, especially for projects nearing or already past Final Investment Decision (FID). Therefore, the Commission should come forward with a first draft of such methodology as soon as possible in consultation with the industry, so LCF producers can gauge its effects early on.
- Furthermore, to avoid delays in project investments, it is essential that, until the methodology is published, project developers are allowed to apply other methodologies for determining the upstream methane intensity for approval by authorities in their respective jurisdiction¹, and to deploy this methodology for reporting of their upstream methane intensity in accordance with Article 12 of Regulation (EU) 2024/1787 (for projects in the Union) or Article 27(1) and Article 28(1), (2) and (5) of Regulation (EU) 2024/1787 (for projects outside the Union) throughout the asset's lifetime. Moreover, the expeditious equivalency designations with the EU Methane Regulation of regulation in third countries that can be key hydrogen export markets and allowances for data use as reported in those jurisdictions will improve near-term clarity and support the development of low carbon fuels supplies for Europe.
 - We recommend using data from the actual production process, also for elastic inputs that are not obtained from an incorporated process. Therefore, in the Annex, Point 7 we suggest that “shall” in the first sentence in the second paragraph is replaced with “may”, and the addition of the following sentence at the end of the paragraph: *“Projects can demonstrate better performance than default values (for CO₂, N₂O and methane emissions) through actual values for project-specific inputs.”*

¹ For the EU is the National Competent Authorities



- Reporting of CO₂ emission of upstream oil and gas is already required in most jurisdictions, including the EU, under the EU ETS-MRR regulation EU 2018/2066.
- The current text is focused only on methane emissions in natural gas production. For the GHG emissions across the other parts of the natural gas value chain, the current text relies too much on the definition of ‘incorporated processes’ (included in footnote 4), which is not clearly defined and leaves too much uncertainty for the other GHG emissions across the natural gas value chain.
- This draft DA does not include definition of relevant terms like “upstream emissions”. Therefore, it is also unclear whether those definitions will align with the methodology to be developed under the Methane Regulation. For example, there has been discussion lately on whether or not to include transport emissions under the Methane Regulation, while under this DA, it is clearly included for inputs.
- It would be beneficial to clarify that for upstream methane emissions, it is allowed to use retrospective yearly methane intensity data (which is the basis for the EU MER regulation) as the basis for this methodology is set to be a period of a maximum of 1 month.
- We recommend that this Delegated Act provide a grandfathering clause to ensure project developers that the methodology and thresholds are fixed at the time of project FID and remain unchanged throughout the asset's lifetime. The current Delegated Act under consultation lacks this certainty. This should, however, not prevent early movers from capitalizing on any additional flexibilities introduced pursuant to Article 3 of this draft DA, and provide a realistic timeframe for all projects having taken FID before the end of 2030.

Consistency with RFNBO and Recycled Carbon Fuels methodology and the use of default values

- We welcome the intention to integrate all the new requirements established by the Hydrogen and Decarbonized Gas Market Directives also into the RFNBO Delegated Act 2023/1185 to ensure consistency between the methodologies. As stated above, we consider that actual values should be used to account for emissions. However, if 'standard values' are to be used, there is a need for consistency between various legislations.
 - There is a need to clarify why different values are used for natural gas in other methodologies. In Annex Part B of this DA, the 'standard values' for Upstream GHG emissions (gCO₂eq/MJ) for natural gas, are notably higher than those specified in the RFNBO Delegated Act 2023/1185, and they also differ from the values in the FuelEU Maritime Regulation.
 - Before setting any adjustment for determining the ‘standard values’, is important to allow Competent Authorities / EC to gather enough data stemming from Article 12 of the EU Methane Regulation obligations
 - We recommend including direct reference to 70% in Article 1 to ensure consistency with the text of the Directive and ensure a stable regulatory framework.
 - Proposed text: “The greenhouse gas emissions savings from low-carbon fuels, other than recycled carbon fuels, shall meet the threshold set in Directive 2024/1788 Article 9(2), and be determined in accordance with the methodology set out in the Annex.”
 - We propose that the methodology under this DA also provides the flexibility for shorter time intervals to calculate greenhouse gas emissions intensity of low-carbon fuels other than the average for the entire production of fuels occurring during a period of one calendar month.

This is required to maintain consistency with the RFNBO/RCF DA as is required under the provisions in Art 9 of the Gas Directive.

- The Commission should clarify why midstream emissions for natural gas appears as “not applicable.” in Annex Part B.

More options for the use of low-carbon intensity electricity are needed - Article 3, Annex Point 3

- We regret there are no options to recognize low-carbon intensity electricity sources other than renewable fuels of non-biological origin (RFNBOs) compliant power. The provision in Article 3 of this DA to review the potential inclusion of other low-carbon power sources is insufficient because it would come too late for projects nearing FID before 2028. We, therefore, recommend that:
 - Rules that recognize low-carbon power and its specific contribution to emissions reduction should be introduced so that low-carbon intensity electricity sources should be recognized, at least when their use does not contribute to the heating value of the fuel²³. Such changes should also be reflected in the methodology for RFNBOs⁴.

Certification and the use of the Union Database for Biofuels (UDB) – Recital 4

We are concerned that the intention to use the Union Database for Biofuels (UDB) will create practical hurdles, especially for projects outside the EU.

- The Commission should recognize that the carbon intensity (CI) of feedstocks and low-carbon fuels transported via grids outside the EU will be recognized (based on mass balancing principles) and that LCF produced using these feedstocks can be certified by Voluntary Schemes and registered in the Union database when imported in the EU.
- The EU needs to develop rules or work with 3rd countries to enable use of feedstocks and low-carbon fuels shipped across grids outside the EU leveraging tracking schemes already in place in these 3rd countries.

Carbon Capture and Storage - Annex Point 17

- The recognition of CO₂ storage in third countries is welcomed. However, it's important to avoid complex government-to-government procedures and to adopt a flexible approach by providing certain flexibility when demonstrating alignment with EU legislation.
 - The text should clarify that, where applicable, certification bodies working under the Voluntary Certification Schemes can determine if applicable jurisdictional laws and regulations shall provide for appropriate monitoring, reporting and verification requirements to detect leaks, and implement remediation as required to ensure environmentally safe geological storage of CO₂ in alignment with the purpose of Directive (EU) 2009/31/EC. Alternatively, if the applicable national law does not have regulations aligned with the purpose of the Directive (EU) 2009/31/EC, project developers should be allowed to demonstrate safe geological storage through third-party verification of compliance with the requirements of ISO 27914:2017⁵, similar to the approach reflected in the EU Taxonomy, i.e. Regulation (EU) 2020/852. This ISO standard fall under the remit of ISO/TC 265, which covers

² For example for power used in feedstock, H₂ and CO₂ transport and storage activities

³ The Commission should ensure consistency between this DA and Art. 3 of ReFuelEU AVIATION [Regulation \(EU\) 2023/2405](#).

⁴ Commission Delegated Regulation (EU) 2023/1184

⁵ Update expected published in 2025/2026



technical aspects of CCUS, including CO₂ storage. Moreover, storage sites that are consistent with the requirements of this ISO standard should be recognized as satisfying the criteria for permanent sequestration of CO₂, as this supports a consistent global basis and simplifies the processes for carbon intensity verification and certification.

- Proposal to amend the paragraph after point (c) in Annex Point 17:
“The applicable jurisdictional laws and regulations that regulate geological storage sites shall provide for appropriate monitoring, reporting and verification requirements to detect leaks, and remediation as required to ensure environmentally safe geological storage of CO₂ in alignment with the purpose of Directive 2009/31/EC, i.e. to deliver permanent containment of CO₂ in such a way as to prevent and, where this is not possible, eliminate as far as possible negative effects and any risk to the environment and human health. If the applicable national law does not have regulations aligned with the purpose of the Directive (EU) 2009/31/EC, project developers should be allowed to demonstrate safe geological storage through third-party verification of compliance with the requirements of ISO 27914:2017, similar to the approach reflected in the EU Taxonomy, i.e. Regulation (EU) 2020/852.
- We believe that further discussions are necessary to practically and pragmatically enable the recognition of CCS operations outside the EU. This is important to avoid constraints that could undermine EU competitiveness when importing low-carbon fuels from other jurisdictions.
- Potential inaccuracies in the text under Annex Point 17:
 - In the first paragraph, the text reads ‘...shall be taken into account under e_p as follows’, which we think should be ‘...shall be taken into account under e_{ccs} as follows’.
 - There is a risk of interpretation that CO₂ emissions from capture, transport, and injection of CO₂ are to be counted twice under both e_{ccs} as well as e_p.
 - Under (a), the text ‘... as well as all material replacements (due to losses or degradation)’ should be clarified (e.g., in a footnote) that this refers only to consumable chemicals and excludes emissions from the manufacture of machinery and equipment.
 - The second and third last paragraphs seem overlapping and potentially conflicting with earlier sections with references to ETS-MRR. Suggest to review if these paragraphs are needed.

Solid-state Carbon – Annex Point 17

- We welcome the inclusion of solid-state Carbon e_{ccs}, recognizing its potential to facilitate pyrolysis as a low-carbon hydrogen technology. Considering the industrial demand for solid carbon products such as those produced during CO₂ emission-less methane splitting, a greater reduction in overall GHG emissions could be achieved by not requiring their permanent storage when derived from methane splitting. Allowing the use of carbon in industry, instead of requiring its permanent storage, would enable it to be counted in the e_{ccs} framework, enhancing GHG emission reductions further. Fine solid carbon products are practically never used for heating purposes, which could have justified the requirement for permanent storage proposed by the Commission. On the contrast, carbon black is used primarily as reinforcing filler in tires and other rubber products; pigment and wear protection additive in plastics, paints, and ink pigment. It is used in the EU as a food colorant when produced from vegetable matter (E153). However, there are use cases in cement production and in green steel industry also. In neither of these cases is carbon black turning into CO₂, thus it does not lead to CO₂

emissions. Other solid carbon types like graphite and graphene are also almost exclusively used for non-burning applications. While graphite has an ever increasing use in battery production, electrification and so called electric arc furnaces, graphene is yet an immature product but it is set to play a large part in the Battery industry in the near future. All these market segments gravitate more and more towards circularity and all of them are to play a significant role in the Europe's net zero efforts. As it can be seen, the market has a demand for these products, which is why we believe it's not accurate to state that it is a favourable way to reduce CO₂ emissions by permanently storing fine solid carbon products, since the market demand will then be met by industry from other sources (potentially higher CO₂ emitting processes).

- We suggest the following text to be added in the first paragraph of Annex Point 17:
'Where a process for making low-carbon fuels produces (a) carbon in solid state or (b) carbon emissions that are permanently stored in a geological storage site, that carbon may be credited to the products of the process as a reduction in emissions under e_{ccs} (in gCO₂eq/MJ fuel). The term e_{ccs} shall consider the capture rate (11) of CO₂ from low carbon fuel production, as well as all emissions from the operation activities for carbon capture, transport of CO₂ and emissions from injection into the permanent storage site shall be taken into account under e_{ccs} as follows:...
- Potential inaccuracies in the text under Annex Point 17
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 - There is a risk of interpretation that CO₂ emissions from capture, transport, and injection of CO₂ are to be counted twice under both e_{ccs} as well as e_p.
 - Under (a), the text '... as well as all material replacements (due to losses or degradation)' should be clarified (e.g., in a footnote) that this refers only to consumable chemicals and excludes emissions from the manufacture of machinery and equipment.
 - The second and third last paragraphs seem overlapping and potentially conflicting with earlier sections with references to ETS-MRR. Suggest to review if these paragraphs are needed.

Downstream transport emissions

- This draft DA contains no details on transport emissions.
 - The Commission should clarify that those emissions cover only direct emissions (scope 1). Also, in accordance with other elements of the formula in Annex Point (1), the Commission should provide realistic default values for the downstream transport. Since LCF producers have no control over the downstream transport and distribution part of the LCF value chain, default values would facilitate the emission accounting. Nevertheless, wherever actual data is available, deviation from the default values should be possible by allow for certified values.

Measurement of Hydrogen leakages - Recital 5

- We welcome that the Commission recognizes *'the global warming potential of hydrogen has not yet been unequivocally determined with the level of precision required to be included in the methodology for calculating greenhouse gas emissions'* as well as the recognition that this needs to be integrated into the RFNBO methodology to ensure consistency.
 - We recommend including a reference to the requirement for mature measurement technologies and methodologies to assess leakage rates before introducing hydrogen leakages.

Emissions from use - Annex Point 13

- Annex Point 13 provides limited clarity on how the emissions from use shall be determined. For instance, the use of ammonia as a fuel is relatively limited, and there is limited data on relevant emission factors for ammonia combustion, which take into account technologies for cleaning the exhaust gas and limiting release of N₂O.
 - We recommend that unless reliable emission factors for a low-carbon fuel is published by the European Commission, then the combustion emissions shall be based on the conversion of the carbon content of the fuel into CO₂. Consequently, for ammonia, which does not contain carbon, the emission factor should be set to 0.

Status of by-product hydrogen resulted from other processes

- The Commission should provide more clarity regarding the status of by-product hydrogen and when / how / if some of it qualifies as low-carbon hydrogen compared to recycled carbon fuels.

IOGP Europe is confident that the Commission will take into consideration our recommendations and improve this draft methodology for low-carbon fuels to give certainty to investors and enable the creation of a hydrogen market in Europe. IOGP Europe remains open to further discussions and considers that further discussions are necessary to practically and pragmatically enable the recognition of CCS operations outside the EU. This is important to avoid constraints that could undermine EU competitiveness when importing low-carbon fuels from other jurisdictions.