

Certification of Low-carbon Fuels
FuelsEurope recommendations on the Delegated Act specifying a methodology for
assessing greenhouse gas emissions savings from low-carbon fuels
Article 9(5) of the Gas Directive

25 October 2024

FuelsEurope believes that low-carbon, and renewable fuels in combination with renewable electricity and hydrogen are the best solution to decarbonise both the transport sector and industrial value chains. They offer unmatched advantages to the European Union's economy to achieve net-zero CO2 emissions in 2050, while enhancing the EU security of energy supply, supporting the competitiveness of the EU industry, and lowering the energy transition bill citizens and society have to pay. We also believe it is essential that a level playing field is maintained between RFNBOs/RCFs and low carbon fuels (LCF) and we therefore support that consistency with the methodology for assessing GHG emission savings from RFNBOs and RCF is ensured, as indicated in Article 9.5 of Directive 2024/1788. In particular, LCF can be co-processed with renewable fuels to the benefit of a higher-feed rate of production units, or used as back-up to overcome the intermittent nature of renewable inputs. By maximizing the load factor of manufacturing assets, enabling an appropriate flexibility in LCF production can make EU's liquid and gaseous fuels supply more secure, more resilient and leverage GHG savings to a higher scale at a more affordable cost to European citizens. FuelsEurope is urgently calling for an EU strategy for liquid fuels and products. We are keen to contribute to the Open Public Consultation on the Delegated Act specifying a methodology for assessing greenhouse gas emissions savings from LCF with the recommendations summarized here below and further detailed in the core of this document.

To establish a robust GHG emissions methodology for low-carbon fuels, we call on the Commission to:

- 1 Establish a clear line of sight for investments;**
- 2 Broaden the clarification of the determination of carbon intensities and shares of multiple outputs co-processed in the same unit across legislations;**
- 3 Urgently clarify the conditions for low-carbon power sourcing;**
- 4 Handle emissions consistently across different EU legislations;**
- 5 Extend the eligibility of CO2 stemming from industrial gases beyond 2040;**
- 6 Reward certified unit-specific performance values and use default value backed by scientific evidence and state-of-the-art methodologies;**
- 7 Protect first-movers from the evolution of nascent and evolutive legislations referenced in the Delegated Act;**
- 8 Anticipate the integration of the certification of low-carbon fuels in the Union Database;**
- 9. Ensure equivalent requirements for imports of renewable and low-carbon fuels.**

Background information

While renewable fuels of non-biological origin ('RFNBOs') and recycled carbon fuels ('RCFs') are defined in Directive (EU) 2018/2001 ('RED')¹, the 'low-carbon fuels' ('LCF') designation is defined in Directive (EU) 2024/1788 ('Gas Directive')². Article 9 of the Gas Directive empowers the Commission to adopt a Delegated Act specifying the methodology for assessing the GHG emissions of LCF. This article also outlines several principles to guide the development of the upcoming Delegated Act. In particular it indicates that the methodology shall be consistent with the methodology for RFNBOs and RCFs. FuelsEurope supports the overarching objectives of these principles.

The following remarks are intended to suggest improvements to the draft shared in the public consultation.

1. Establishing a clear line of sight for investments.

As requested by policy-makers, this LCF Delegated Act is articulated on the wet paint of REDII's RFNBO/RCF secondary legislation³. Investments and financial investment decisions in renewable and low-carbon hydrogen and fuels are currently stalling in the EU and vibrant elsewhere. This threatens the competitiveness of the EU, hinders the implementation of the European Hydrogen Strategy and the Green-Deal's net-zero emissions ambition by 2050. **Investments in fuel manufacturing assets extend over decades**, making regulatory certainty a prerequisite. We urge policy makers to establish and stabilize now a clear and consistent set of rules for assessing GHG emissions savings from low-carbon fuels consistent with RFNBO and RCF. **These rules must be - and must stay - technology neutral over the long term.** The LCF Delegated Act will add to an already complex regulatory landscape. Inconsistencies and blind spots across legislations need to be removed and upfront attention should be paid to details. No clarification effort should be spared to elaborate a **comprehensive, incentivizing and enabling framework for investors.**

2. Broadening the clarification of the determination of carbon intensities and shares of multiple outputs co-processed in the same unit across legislations.

As EU fuels manufacturers are actively converting their existing assets at brownfield units and investing in R&D for innovative greenfield ones, it is **essential to establish clear and comprehensive guidelines** for units where **LCF are processed together with RFNBO, RCF, biofuels**, and potentially conventional fuels. So far, the European legislation tends to assign

¹ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast).

² Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (recast).

³ Commission Delegated Regulation (EU) 2023/1185 of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels.

each fuel category to reside in its own legislative ‘swim-lane’. **It is vital EU legislation enables hybrid options** across different feedstocks and technology pathways and the possibility to transform the second-to-none technology expertise of EU stakeholders into **competitive, affordable and bankable business cases**. In practice industrial stakeholders compete by combining multiple feedstocks and technology pathways in their manufacturing assets. This aspect applies for both domestic and export markets and will be of growing importance for future developments worldwide. Therefore, fuels manufacturers need **clear and business-supportive rules for allocating the shares and carbon intensity (CI)** in the final co-processed fuel and non-fuel outputs.

The LCF Delegated Act articulation and consistency with CI rules in RFNBO/RCF Delegated Acts and RED’s co-processing Delegated Act⁴ is essential and needs to be clarified to lead to a comprehensive and business-supportive simplification of the rules. **Future needs for interpretation should be brought to the bare minimum to prevent the recourse to non-binding EC guidelines** (e.g., the current Q&A on RNFBO and RCF Delegated Acts). In the few instances where needed, Commission guidance must be made readily available, updated and possibly trimmed. Moreover, these clarifications should also be included in the Delegated Act for RFNBO when this is reviewed, to maintain consistency between both regulations.

In particular, the current definition of the share of LCF proposed in this draft does not seem to be consistent with the share definition of RFNBO and LCF in Regulation (EU) 2023/1185⁵. Therefore, we suggest that point 3 of the Annex is modified as follows to ensure consistency between both regulations and in order to avoid that the same fuel is claimed as both low carbon and RFNBO/RCF:

*« 3. If the output of a process does not fully qualify as low-carbon fuels other than recycled carbon fuels, the fraction of low-carbon fuels other than recycled carbon fuels shall be determined by dividing, **the result of deducting from the total relevant energy into the process the relevant renewable energy into the process and the relevant energy input qualifying as a source for the production of recycled carbon fuel into the process**, by the total relevant energy inputs into the process. »*

3. Urgently clarifying the conditions for low-carbon power sourcing.

FuelsEurope regrets the **uncertainty introduced on low-carbon power sourcing** by Art.3 of the draft LCF Delegated Act. We recommend to look for an optimal combined treatment of low-carbon power supply with that of renewable power in the RFNBO/RCF Delegated Act that will

⁴ Commission Delegated Regulation (EU) 2023/1640 of 5 June 2023 on the methodology to determine the share of biofuel and biogas for transport, produced from biomass being processed with fossil fuels in a common process.

⁵ Commission Delegated Regulation (EU) 2023/1185 of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels.

enable the EU to compete on the global LCF and hydrogen markets, maximise domestic production and attract investors on our continent. We appreciate the need to resist the temptation of jumping to solutions on this is critical matter and the need to diligently assess the impact of any modification, so that overall emissions are reduced over low carbon value chains. However, this debate started in 2019 with the revision the EU taxonomy adopted since 2021. We urge the Commission and Member States to act jointly and swiftly to remove that uncertainty and finalise the assessment indicated in Art. 3 before July 2028. **Our industry cannot afford to wait until July 2028 without risking further postponement of FIDs** for manufacturing assets impacting both renewable and low-carbon hydrogen and fuels. This uncertainty exposes the EU to significant carbon leakage and divestments in conventional production units jeopardizing the energy security of the European continent.

4. Handling emissions consistently across different EU legislations.

Piling up eligibility criterion in different pieces of legislations creates a conundrum of blind spots and leaves room for counterproductive interpretation. It fosters uncertainty on the fungibility of molecules for different end-uses and is a major deterrent for industrial investment.

In particular, we strongly recommend to **harmonize and simplify the handling of emissions across different EU legislations** and invite the Commission to pay attention to the following points:

e_u

The Annex of the draft Delegated Act states in Art. 13 that the emissions from the combustion of the fuel shall refer to the total combustion emissions of the fuel in use, including the emissions from the combustion of carbon from biological origin (e_u term).

Compliant biomass has already captured CO₂ from the atmosphere; therefore, it should be considered that the **CO₂ emitted from biomass is equal to the CO₂ contained in that biomass input** and thus making **net CO₂ emissions in low-carbon fuels and RCF equal to zero** (e_u + e_{ex-use}=0 for biogenic carbon). This same provision should be amended in the RFNBO/RCF GHG methodology Delegated Act.

e_i

Art. 7 of the Annex to the methodology states that the GHG emissions from elastic inputs shall be determined based on values from table in Part B. Art 16. of the Annex also states that emissions from inputs shall include emissions from their associated transport and storage. It is **not clear whether the values in Part B include such transport and storage values of emissions.**

e ex-use

Emissions accounting from diverting a rigid input from its initial use or fate, must be consistently addressed between LCF and RFNBO/RCF.

The addition of carbon sources eligible for RCF in the LCF Delegated Act is logical and welcome and should be reproduced in the RFNBO/RCF Delegated Act. Yet, it deserves attention for implications in the eligibility of products in downstream legislations. RCF are defined by the Renewable Energy Directive⁶ (RED) as made only from fully circular carbon (“*from liquid or solid waste streams of non-renewable origin which are not suitable for material recovery in accordance with Article 4 of Directive 2008/98/EC*”). LCF manufactured from similar inputs should therefore not be considered of fossil origin but of circular origin.

Art.10 of Annex A of the draft LCF Delegated Act clearly states that non-CO2 carbon could receive e ex-use credits as the phrasing of the paragraph explicitly acknowledges ‘**all forms of carbon**’ provided at least one of the listed conditions in subparagraphs (a) to (f) is met. However, conditions listed from (a) to (e) refer only to ‘captured CO2’. Condition (f) is the only one in the list applicable to the generic ‘carbon’ term:

- (f) *the carbon stems from inputs qualifying as a carbon source for the production of recycled carbon fuels “*

This articulation would mean that non-CO2 carbon sources are eligible for e ex-use credits only if from RCF feedstock. Non-CO2 carbon from biological origin or stemming from RCF/RFNBO combustion could not receive the credits. This is inconsistent with the paragraph’s header but also with the RFNBO/RCF GHG methodology Delegated Act and downstream provisions agreed in the ETS MRR⁷ (Monitoring and Reporting Regulation - read below). To align both Delegated Acts, condition (c) and (d) of LCF methodology need to be changed:

- (c) *the ~~captured CO2 carbon~~ stems from biofuels, bioliquids or biomass fuels complying with the sustainability and greenhouse gas saving criteria set out in Article 29 of Directive (EU) 2018/2001*
- (d) *the ~~captured CO2 carbon~~ stems from ~~the combustion of~~ renewable fuels of non-biological origin or low-carbon fuels complying with the greenhouse gas saving criteria set out in Article 29a of Directive (EU) 2018/2001 and in this Regulation;*

e ccu

The possibility to account for net emission savings from carbon captured and permanently chemically bound in long-lasting products is a **welcomed addition to the LCF Delegated Act.**

⁶ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast).

⁷ Commission Implementing Regulation (EU) 2024/2493 of 23 September 2024 amending Implementing Regulation (EU) 2018/2066 as regards updating the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council.

We advise this provision is mirrored in the RFNBO/RCF GHG methodology Delegated Act. Carbon in solid state resulting from pyrolysis processes is not consumed as a fuel but used as a feedstock in a variety of industrial end-uses and should be captured under the e_{ccu} term instead of in e_{ccs} which should capture solid carbon permanently stored in a geological storage. These measures should stay consistent with Delegated Regulation (EU) 2024/2620⁸.

Special case - Refinery Gas (RG) used as input to manufacture Low Carbon Hydrogen

The current formula for calculating the GHG emissions intensity of refinery gas (RG) triggers the definition of a 'rigid input' meaning it is being diverted from a previous or alternative use. The hydrogen produced from RG must carry the burden of two upstream emission sources: the RG, and the replacement fuel to cover this diversion. However, the hydrogen produced is itself the replacement combustion fuel to cover the diversion, which is disadvantageous to the use of RG as a feedstock for H₂ production, so we propose that it is recognized as a circular process. The Delegated Act should recognize that the primary purpose of the hydrogen produced could be to act as a replacement fuel. To do this, emissions of the RG only should be considered as input emissions.

Consistent treatment with downstream regulations

A consistent and clear downstream treatment of eligible carbon sources across legislations is also indispensable.

FuelsEurope welcomes the revision of the ETS MRR that recently attributed LCF with a zero-emission factor alongside their renewable counterparts (i.e., biofuels; RFNBO; and RCF). However, the eligibility criteria of carbon sources defined in articles 3(38e), 3(38f), 3(38h) and 3.39a(4) of this legislation appear inconsistent for 'synthetic low-carbon fuels':

Article 39a(4): *"Synthetic low-carbon fuels shall be zero-rated when their carbon content has been subject to the prior surrendering of allowances under Directive 2003/87/EC, **unless** that captured carbon is **zero-rated carbon** as defined in Article 3(38f) of this Regulation"*

Even positively assuming the ambiguous '**unless**' term as equivalent to '**or**', further ambiguity surfaces from the following definitions in the MRR:

Article 3(38f) 'zero-rated carbon' means carbon contained in a fuel or material that belongs to the zero-rated carbon fraction of that fuel or material.

Article 3(38e) 'zero-rated carbon fraction' means:

⁸ Commission Delegated Regulation (EU) 2024/2620 of 30 July 2024 supplementing Directive 2003/87/EC of the European Parliament and of the Council as regards the requirements for considering that greenhouse gases have become permanently chemically bound in a product

- (i) *in case of a fuel, the sum of its zero-rated biomass fraction, its **zero-rated synthetic low-carbon fraction** and its zero-rated RFNBO or RCF fraction without double counting of any carbon;*
- (ii) *in case of a material, its zero-rated biomass fraction.*

*Article 3(38h) 'zero-rated synthetic low-carbon fraction' means the ratio of carbon stemming from a synthetic low-carbon fuel that complies with the criteria of **Article 39a(4)** of this Regulation, to the total carbon content of a fuel;*

These definitions confirm sustainable biomass is zero-rated. But, as far as '**zero-rated synthetic low-carbon fraction**' is concerned, the definition that should clarify the **Article 39a(4)** refers back to itself, creating a circular reference. Consequently, the ETS MRR is unclear whether eligible sources of CO₂ for RFNBO or RCF production can apply to LCF and contradicts/ inhibits the LCF draft Delegated Act. We advise the Delegated Act for LCF is referenced in the MRR and the MRR is revised to remove that ambiguity.

Adding subsequent eligibility criteria to LCF in any downstream legislation questions the fungibility of LCF and low-carbon hydrogen (LCH) in potential end-uses. As this practice deters investments it should be corrected and discontinued.

LCF and LCH are referenced in multiple other downstream legislations and in particular in the FuelEU Maritime Regulation⁹, in the ReFuelEU Aviation Regulation¹⁰, potentially in the definition of FEETS ('Fuels Eligible to the ETS') in discussion for the mechanism to allocate free ETS allowances by 2030 to bridge the cost gap between conventional Jet and SAF for aircraft operators. Once adopted, we advise the **LCF Delegated Act is consistently referenced in these legislations to remove potential ambiguities and overlapping definitions.**

5. Extending the eligibility of CO₂ stemming from industrial gases beyond 2040.

The sunset clause set latest to 1st of January 2041 in Annex A.10 (a) of the draft LCF Delegated Act on the eligibility of CO₂ stemming from industrial sources listed under Annex I to the ETS Directive¹¹ constrains the possibility to amortize investments in collective CO₂ capture and transport infrastructure. FuelsEurope asks to extend the deadline by at least 5 years to acknowledge the time needed to bring infrastructures at scale, grow the EU's biogenic CO₂ footprint from domestic biomass wastes at scale for investments in BECCS and mature DAC technologies. We also call for this change to be applied to the RFNBO/RCF GHG methodology Delegated Act to ensure a level playing field for RFNBO, RCF and LCF.

⁹ Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC.

¹⁰ Regulation (EU) 2023/2405 of the European Parliament and of the Council of 18 October 2023 on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation).

¹¹ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC.

6. Rewarding certified unit-specific performance values and using default value backed by scientific evidence and state-of-the-art methodologies.

Per recital 4 of the draft LCF Delegated Act, a fair methodology should allow the use of certified values, if and where available. As for biofuels and RFNBO/RCF, the principle set in the RED for rewarding actual GHG savings performance should be consistently applied to LCF and LCH as soon as possible. **Default values should not be used as deterrent to discriminate technologies or distort market access. It is critical to accept unit-specific values over default values.** The LCF Delegated Act cannot cut corners with default values: they must be science-based, duly justified, publicly admitted and opened to substitution with unit-specific values determined according to admitted state of the art methodologies.

These principles are critical to enable certification by independent verification bodies against voluntary or national scheme and should apply both to domestic and imported inputs and outputs. Certification of renewables is a best-practice and a long-standing competitive advantage of the EU. It is core to the reputation of economic operators, certification bodies, and administrations alike across the European Union. It should not be hindered or weakened by the adoption of a partial LCF Delegated Act. Instead, it should continue to be used as a lever to showcase the technology leadership of European fuels manufacturers and their industrial off-takers in implementing a sound and competitive energy transition.

In particular, natural gas may come from many sources where producers have different levers and incentives to tackle production-related emissions. Therefore, default values on upstream emissions are an important component of the proposed methodology. Relying on default values for upstream emissions of natural gas means that the carbon intensity of LCH will not reflect reality. **Discouraging efforts undertaken by gas producers or importers to reduce those emissions, and rewarding only a lower default performance, would undermine the trust in the EU hydrogen market.**

In Annex A, Paragraph 7, the **hierarchy of incorporated process vs. default values vs. certification based on Methane Regulation¹² lacks clarity** on the conditions to increase the default values by 40 %, in particular in the transition period expected to last until 2027 when the methane regulation methodology is fully developed and in operation. As this 40% increase would bottleneck and discriminate negatively investment in needed and mature methane-based production pathways, FuelsEurope recommends to consider acknowledging the interim use of well-admitted default value (for instance, the regional upstream methane emission values from crude oil and natural gas listed publicly for ICAO's CORSIA scheme – [see pp. 29-33¹³](#)) or state of the art methodologies such as existing ISO standards.

¹² Regulation (EU) 2024/1787 of the European Parliament and of the Council of 13 June 2024 on the reduction of methane emissions in the energy sector and amending Regulation (EU) 2019/942.

¹³ ICAO, *CORSIA Methodology for Calculating Actual Life Cycle Emission Values*, March 2024.

While in principle requiring data reported under the Methane Regulation, the Commission also proposes to use a default of 7g CO₂e/MJ (incl. 40% increase) in case there is no methane intensity value available. The motivation behind this provision is not provided in the draft LCF Delegated Act and deserves to be documented. If meant to address cases in which it is impossible to retrieve the data on methane intensity because suppliers of natural gas are not obligated under the Methane Regulation, this 40% increase is excessive and the LCF Delegated Act should only apply as the default value which embeds sufficient contingency on the variability of emissions. In addition, the draft LCF Delegated Act does not make clear what is the methane intensity to be used when gas is sourced from a national grid. If such value shall be calculated in accordance with the methodology set by the Commission pursuant to Article 29(4) of the Methane Regulation, we strongly believe that - in the transitional period before the adoption of such methodology - no increase should be applied over default values. On the other hand, if the increase is meant to deter fuel suppliers in scope of the EU Methane Regulation to fail their obligations, higher increase may be needed to achieve a level above 7 gCO₂e/MJ.

Similar reasoning in favour of certified values over default values should also apply whether the process is integrated or not and be considered for all the terms in the emissions' formula in Annex A of the draft Delegated Act and necessarily for upstream emissions and downstream transport and CCS.

7. Protecting first-movers from the evolution of nascent and evolutive legislations referenced in the Delegated Act.

The forthcoming Delegated Act references various evolving or emerging legislations (ruling over upstream methane emissions, hydrogen's Global Warming Potential, CCUS...). Any regulatory changes should only affect projects where investment decisions are made after these changes are adopted. **Grace periods or grandfathering clauses should be considered** to protect investments already made by first movers that have taken FIDs and obtained permitting by 2030.

8. Anticipating the integration of the certification of low-carbon fuels in the Union Database.

The certification framework for LCF should fully align with the certification framework of renewable fuels. We appreciate the Gas Directive's emphasis on using the Union Database ('UDB') to track the low-carbon molecules throughout their lifecycle. However, it is not clear how this can be implemented by LCF producers who have used third country gas grid infrastructure as there is no clarity whether they could use the UDB for imports into the EU. The UDB currently only considers the EU interconnected gas system as a single mass balance system. This limitation is consequential for third-country grids which remain currently outside the purview of the UDB. We recommend that imported LCF from third countries are also recognised within the system as this will be necessary to support the growth of a fully fungible

market. The secondary legislation addressing certification matters called by RED's Article 30 should be amended to cover the provisions called in the Gas Directive's Article 9. More importantly **it is urgent anticipate the required upgrades of the UDB's IT solution** that should trace more parameters and sustainability elements than their renewable counterparts. We recommend that FuelsEurope and other industry stakeholders are involved early in piloting this extension of the UDB to LCF/LCH.

9. Imports of renewable and low-carbon fuels.

Imports will necessarily complement domestic production. In facilitating the certification of these fuels through accredited EU Voluntary Schemes, we urge the Commission to consider the global competitiveness of the European fuels industry while **ensuring a consistent methodology for all low-carbon fuels, whether produced domestically or imported. Equivalent, fair, transparent, controllable and affordable certification requirements shall apply.** Today a non-binding EC guidance in the form of a Q&A, pointing to a white list of ETS frameworks that are deemed to achieve 'effective carbon pricing' rules over RFNBO and RCF certification worldwide. It does not warrant a level playing field between imports and domestic production, and lacks the clarity and the certainty needed by investors. It should be reconsidered, clarified and reinforced altogether for RFNBO, RCF and LCF.

FuelsEurope, the voice of the European fuel manufacturing industry. FuelsEurope represents with the EU institutions the interest of 40 companies manufacturing and distributing liquid fuels and products for mobility, energy & feedstocks for industrial value chains in the EU.

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