

March 2023

DRAFT DELEGATED ACT ON GREENHOUSE GAS SAVINGS FROM RFNBOS & RECYCLED CARBON FUELS

CEMBUREAU POSITION

CEMBUREAU is deeply concerned by the Draft Regulation setting out a methodology for GHG emission savings from renewable fuels of non-biological origin (RFNBOS) and recycled carbon fuels (RCFs).

By proposing a phase-out date of 2041 for the use of industrial CO₂ in RFNBOS and RCFs, the draft Delegated Act takes an approach which is both counterproductive and unjustified:

- Such phase-out date ignores the reality of EU industrial installations which are faced with unavoidable CO₂ emissions, and for which Carbon Capture and Utilisation (CCU) is a critical technology.
- RFNBOS using industrial CO₂ make a decisive contribution to climate mitigation by supporting the decarbonisation efforts of both cement and transport sectors and reducing reliance on fossil fuels. Cutting off a valuable source of CO₂ supply without an impact assessment on the availability of CO₂ for the production of RFNBOS is premature and unjustified.
- It is indeed unlikely that alternatives to industrial CO₂ (biogenic and atmospheric through direct air capture) will be available in sufficient quantities by 2040, casting doubt on the availability of RFNBOS/RCFs at this date, if industrial CO₂ cannot be used.
- The phase-out date threatens ongoing and planned CCU projects in the cement industry and the EU's industrial leadership on green investments.
- The distinction made in the Delegated Act between sustainable and non-sustainable sources of CO₂ does not find support in the Renewable Energy Directive (RED) legislation which is referred to as the basic Act. By making such policy choice, the Commission exceeds the powers concerned upon it by the Delegated Act procedure.

CEMBUREAU urges the EU institutions to reconsider as soon as possible the status of industrial CO₂ as feedstock for sustainable fuels and allow for the use of industrial CO₂ until at least 2050.

The use of industrial CO₂ in RFNBOS/RCFs is essential to decarbonise the cement sector

- The European cement industry has an ambitious decarbonisation agenda. CEMBUREAU published its [Carbon Neutrality Roadmap](#) in May 2020, and EU cement companies have established their own climate commitments and decarbonisation plans¹.

¹ Please see CEMBUREAU [map of ongoing decarbonisation projects](#).

- Carbon Capture, Utilisation and Storage (CCUS) is a key technology to decarbonise cement production, as our sector faces unavoidable process emissions. These unavoidable process emissions come from the calcination of limestone, and amount to 60%-65% of cement manufacturing's total CO₂ emissions. CCUS is therefore essential for the sector to meet its carbon neutrality ambitions.
- A large number of CCUS pilot and demonstration projects have been launched by cement companies across Europe, with the first of them becoming operational as early as 2024. The pipeline of investments is particularly strong – for instance, the latest ETS Innovation Fund call awarded over 500 million Euros to three cement CCUS projects.
- Whilst a number of these projects aim at permanently storing the captured CO₂ in geological sites (CCS), some others aim to re-use the captured CO₂ in products (CCU), typically in RFNBOs.
- Such ability to re-use CO₂ in RFNBOs is particularly critical for our sector, as a significant part of the 200 cement kilns located in the EU are landlocked with no direct access to CO₂ storage sites. It is therefore essential for our industry to consider alternatives to the geological storage of CO₂², and RFNBOs offer an essential investment opportunity.
- Suggesting that the CO₂ captured from industrial installations would not be considered as “avoided” in 2041 therefore directly threatens the decarbonisation pathway of a large number of cement plants across the EU.

RFNBOs/RCF using industrial CO₂ make a decisive and immediate contribution to climate mitigation, allowing to cut reliance on fossil fuels

- In its reasoning, the European Commission seems to consider that using CO₂ from industrial sources past 2041 would go against the objective of carbon neutrality by 2050.
- At the same time, however, the Commission acknowledges in the Draft Delegated Act that, while sources of carbon that can be captured should become scarce in the medium- to long-term on the trajectory towards climate neutrality by 2050, they will still exist in hardest-to-abate emissions which include precisely the cement industry's process emissions.
- CEMBUREAU recognises that RFNBOs/RCFs using industrial CO₂ are not a fully “*net zero solution*”, to the extent that the captured CO₂ is re-emitted into the atmosphere when the fuel is used.
- However, such fuels still make a decisive contribution to climate mitigation in the short to medium term, by considerably reducing the amount of CO₂ emissions, allowing hard-to-abate transport sectors to decarbonise, and reducing reliance on fossil fuels.
- Furthermore, by setting an overall Greenhouse Gas saving criteria of 70%, EU legislation *de facto* ensures that such fuels will meaningfully reduce CO₂ emissions.

It is unlikely that alternatives to industrial CO₂ will be available at a 2040 horizon

- The proposed cut-off date for industrial CO₂ hinges on the availability of alternative sources of CO₂ (biogenic and atmospheric through Direct Air Capture - DAC) in sufficient quantities to deliver the RFNBOs/RCF production needed by the EU transport sector. However, this proposal is not based on an impact assessment of EU needs for CO₂ and the availability of CO₂ sources in the coming decades.

² Apart from storage in geological sites, the cement industry is exploring other forms of permanent storage, such as mineralisation – however, current research shows that the volumes of CO₂ that can be stored through mineralisation are small. As a result, other forms of industrial CO₂ use will be needed to achieve the CO₂ captured target set out above such as use in chemicals, algae, food and drinks, building materials and fuels.

- CEMBUREAU supports the use of atmospheric and biogenic CO₂, but it is indeed unlikely these sources will supply enough carbon for RCFs and RFNBOs to be produced in sufficient quantity at a 2040 horizon. By 2050, the EU will need between 300 Mt and 500 Mt of carbon as feedstock for industrial applications³. Studies have shown that the available biogenic CO₂ in Europe is situated between 21 million tonnes and 63 million tonnes⁴. In its Sustainable Carbon Cycles [Factsheet](#), the European Commission foresees a 5 million tonnes production from DAC by 2030 with no clear indication of volumes thereafter.
- In fact, the Commission's own Technical Assistance document on the draft Delegated Act actually recommends using industrial CO₂ point sources as these are highly concentrated⁵.
- Furthermore, CEMBUREAU strongly believes that a longer transitional period for carbon use from stationary point sources like cement plants is needed, first because the CAPEX of such installations is still lower than for DAC, and secondly because using high amounts of energy to enrich the CO₂ from the atmosphere (which has a low concentration) whilst there are sources of CO₂ at higher concentration does not add up either from an economical or climate perspective.

A 2041 cut-off date for industrial CO₂ threatens ongoing and planned CCU projects and the EU's leadership on green investments

- A large number of projects capturing CO₂ for the production of RFNBOs/RCFs are under development in the cement sector.
- These projects involve significant investments and have been developed in contractual partnerships and consortium agreements with other industrial partners. Project investment costs vary according to the type of use but can reach up to EUR 1.5 bn, whilst the development of a viable business case for carbon use requires a pay-back period of 30-35 years. It is not possible to 'switch' from one project type (e.g. CCU for RFNBO) to another (e.g. CCS).
- A 2041 phase-out date for CO₂ from industrial sources therefore threatens the business case for these projects, at a time these are highly needed both to kickstart carbon capture investments in the cement industry. The insertion of a 'review clause' on the 2041 date does not provide legal certainty to investors.
- Furthermore, the phase-out date creates a significant risk of 'investment leakage' whereby CCU investments and the related know-how would be displaced towards regions with a more favourable regulatory framework.
- Such provision will also likely endanger the entire RFNBO supply chain, with significant implications for other sectors – from hydrogen up to the users of RFNBOs/RCFs (maritime and air transport sector and related industries).

In conclusion, a phase-out of industrial CO₂ in RFNBOs/RCFs endangers one of the EU cement sector's key decarbonisation levers and directly threatens the EU's green industrial leadership. It would have significant negative impacts in terms of on climate mitigation, EU industrial expertise and leadership, and down the RFNBOs/RCFs supply chains and in the transport sector. CEMBUREAU therefore urges the EU institutions to reconsider this approach and allow for the use of industrial CO₂ until at least 2050.

³ European Commission, Staff Working Document (2021)451 on the Sustainable Carbon Cycles Communication, p 10.

⁴ "Assessment of European biogenic CO₂ balance for SAF production", E4Tech ElementEnergy, supported by SkyNRG, Stuttgart Airport and Schwenk, November 2022

⁵ Please see [Technical assistance to assess the potential of renewable liquid and gaseous transport fuels of non-biological origin](#), Chapter 2.1.7, page 36 – Fraunhofer / Karlsruher Institut für Technologie / Energy Systems / Guidehouse