

EuLA feedback on the Commission's Consultation on CRCF Methodologies for Certifying Permanent Carbon Removals

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EuLA, the European Lime Association, represents European non-captive lime production through its 24 covered Member States (companies & national associations). Lime is one of the essential building blocks of modern industry. It is used in many essential processes, such as making construction products, producing iron and steel, treating contaminated land, purifying drinking water, making sugar and even cleaning flue gases from industrial, waste and power plants. Lime and its derivatives are also important additives for making paper, glass, and agricultural products.

1. Introduction

The European Lime Association (EuLA) welcomes the European Commission's proposal for delegated regulation under Regulation (EU) 2024/3012, establishing certification methodologies for permanent carbon removals. This is an important step in building a credible, transparent, and robust framework for carbon removals.

The lime industry is committed to achieving climate neutrality by 2050 and has significant potential to become a net carbon sink through:

- Reducing fuel-based emissions by switching fossil fuels to renewable alternatives such as sustainable biomass.
- Capturing and storing process and combustion emissions (CCS and BioCCS).
- Spontaneous recarbonation and enhanced carbonation of lime-based materials used in industrial, environmental and construction applications.

2. Key Observations on the Proposed CRCF Methodologies

2.1 Positive Elements

- Recognition of geological storage as a permanent solution: Aligns with lime industry engagement with carbon capture and storage (CCS) technologies.
- Methodologies for BioCCS: Relevant for lime kilns fuelled up to 100% with biomass, enabling the capture and storage of the biogenic fraction of emissions.
- Framework for Biochar Carbon Removal (BCR) could indirectly support carbon-negative lime-containing materials.

2.2 Key Gaps and Clarifications

A. Enhanced Carbonation of Lime Products not Covered

The current draft Delegated Regulation focuses on engineered removal activities like DACCS, BioCCS and BCR.

Despite strong scientific evidence, carbon reporting frameworks fail to credit spontaneous recarbonation and enhanced carbonation. As a result, this omission ignores lime's CO₂ sink function, penalising a sector with significant abatement potential and overestimates the net CO₂ emissions of lime products.

For example, exposing lime or lime-containing wastes to concentrated CO₂ or optimizing curing conditions can dramatically increase or enhance CO₂ absorption. These processes are additional, quantifiable, permanent, and meet CRCF's QU.A.L.ITY criteria (quantification, additionality, long-term storage, sustainability). Studies have shown:

- Enhanced carbonation processes can significantly increase CO₂ uptake (e.g., 39–56% for steel slags and 27–34% for flue gas residues).
- Excluding “baseline” spontaneous recarbonation creates a contrary outcome, wherein well-understood removal processes remain uncredited despite being permanent and scientifically verifiable. It creates challenges for accurate MRV, as it risks overestimating net emissions and underestimating the contribution of lime to long term storage.

From the lime industry’s perspective, the absence of a methodology for enhanced carbonation has negative implications:

- The climate impact of lime is overestimated in life-cycle assessments, potentially leading to distorted comparisons with alternative materials
- The incentive to replace lime with alternative materials may be distorted despite lime’s long-term carbon sequestration potential.
- Enhanced carbonation opportunities (e.g., crushing slags, optimised curing, increased surface exposure) are overlooked, even though they could qualify as additional under CRCF criteria. This gap contrasts with existing voluntary market approaches (e.g. Puro Earth methodologies for carbonated materials), which demonstrate that credible MRV for recarbonation removals is already feasible.

EuLA’s position: Enhanced carbonation of lime products should be recognized as a carbon removal pathway. The framework should distinguish between baseline spontaneous recarbonation that occurs spontaneously and actively enhanced carbonation that operators undertake as a climate action.

Enhanced carbonation of lime products is a scientifically validated, significant, and permanent carbon sink. An adjusted emission factor that integrates spontaneous recarbonation will permit the deduction of spontaneous recarbonation from process emissions and absorbed CO₂. This adjusted emission factor would establish the baseline for quantifying additional CO₂ removals from enhanced carbonation. This enables crediting under the EU CRCF and the issuance of certified credits under the Voluntary Carbon Markets (VCM).

By doing so, the CRCF can credit real negative emissions in the lime value chain without compromising integrity or double-counting.

B. BioCCS Compatibility with the Compliance Market

EuLA welcomes the draft methodologies for BioCCS but has questions about how BioCCS will work with the EU ETS and other compliance regimes. Under current ETS rules, CO₂ that is captured and permanently stored in a permitted geological site is treated as not emitted. However, there is no mechanism to issue allowances or credits for biogenic CO₂ removals, meaning operators have no direct incentive for BioCCS. This creates a funding gap and raises important questions about how BioCCS should be treated under the CRCF.

- BioCCS should be accounted in line with the compliance market – all MRV has been in place and can be easily utilized. EuLA notes positively that the draft Annex makes extensive reference to Implementing Regulation (EU) 2018/2066 (the ETS MRV regulation) for measurement standards. This alignment should continue, ensuring that data and procedures from compliance monitoring can directly feed into CRCF certification. In practice, a lime plant capturing biogenic CO₂ should be able to use its ETS-verified emissions data to certify removals, streamlining the process.
- Scope 3 emissions should not be included in the calculation of the stored BioCCS. EuLA urges caution in how far “scope 3” considerations are taken. Any emissions for the transport of CO₂ to storage should not overly reduce the credited removals, especially if those emissions are accounted for elsewhere. (Notably, under the ETS framework, transport network operators for CO₂ will be regulated to account for any fugitive losses as fossil emissions, preventing double counting of leakage.) In summary, only emissions directly associated with the capture and storage process should be netted off the BioCCS removal, and those calculations should stay consistent with ETS methodologies.
- Transport of CO₂ should not have an effect on the amount of BioCCS – as this will be handled through the CNO, who becomes an ETS and all leakage will be fossil emissions

RED should be the benchmark for sustainable biomass, and nothing stricter should be applied. EuLA strongly supports the draft text that biomass used in BioCCS should meet Renewable Energy Directive (RED II) sustainability criteria, ensuring a level playing field where CO₂ removal is not made harder than energy use. At the same time, we are concerned that CRCF Annex 2.3.4.3 “Biomass” appears to require inclusion of supply chain GHG emissions and non-CO₂ gases in emission factors. This goes beyond ETS practice, where biogenic CO₂ is neutral and only fossil emissions are counted. EuLA calls for CRCF rules to align fully with RED II and ETS, excluding such additions to avoid penalising BioCCS and creating inconsistent MRV.

EuLA’s position: EuLA calls for aligning CRCF crediting with ETS accounting (to prevent any overlaps or gaps) and ultimately for creating a pathway whereby permanent biogenic CO₂ removals count toward compliance obligations. This will further unlock investment in BioCCS.

C. Lack of Methodologies for Long-Term Product Storage

The delegated act focuses on DACCS, BioCCS, and Biochar. Lime-based building materials and industrial residues (e.g., sand lime bricks, flue gas residues) can provide permanent carbon storage if properly accounted for. Lime-based materials (e.g., mortars, bricks, flue gas residues) offer long-term CO₂ storage if properly cured and exposed. The CRCF currently omits any methodology for these solid material-based sinks, despite their potential.

3. Recommendations

3.1 Support Enhanced Carbonation as Additional

- Develop dedicated CRCF methodologies for enhanced carbonation of lime-based materials, leveraging voluntary carbon market experience and ICROA-aligned principles.
- Treat enhanced carbonation measures as eligible CRCF projects.

3.2 Avoid Double Counting and Leakage

- Differentiate clearly between baseline spontaneous (non-additional) recarbonation and enhanced (additional) carbonation in CRCF design, so that only the extra CO₂ removed (beyond what would spontaneously occur) is credited.
- Avoid overlapping with EU ETS accounting but provide pathways for recognition under CRCF or other complementary schemes.

3.3 Ensure Alignment for BioCCS

- Integrate BioCCS into the compliance market structure rather than isolating it within VCM mechanisms.
- Avoid inclusion of Scope 3 emissions in storage calculations under CRCF.
- Use RED sustainability criteria as the ceiling standard for biomass feedstocks in BioCCS.

4. Conclusion

The CRCF delegated regulation is an important milestone in EU climate policy. However, to ensure its integrity and effectiveness, the framework must:

- Recognise enhanced carbonation as a legitimate CDR pathway.
- Develop specific methodologies for enhanced carbonation (preferably using sector-level emission factors) under CRCF.
- Position BioCCS within the compliance logic, not just voluntary markets.
- Expand recognition of product-based long-term storage solutions.

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