The European lime industry call for an update to lime's emissions factor in the EU ETS to reflect recarbonation benefits, boost competitiveness, and promote sustainability

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Following the European Industrial Summit in Antwerp on 11 February, and ahead of the European Council on 19-20 March, EuLA, along with many other European leaders, stress the need to reinforce industrial competitiveness, safeguard strategic value chains, and accelerate climate action in a pragmatic and economically responsible way. **In line with this ambition, the European lime industry calls for the integration of recarbonation into the emission factor for lime, for process emissions only, under the EU Emissions Trading System (EU ETS).** This adjustment will:

- Improve the competitiveness of European lime producers,
- Increase accuracy and environmental integrity in EU climate policy, and
- Foster innovation and enable lime to act as a vehicle for CO_2 capture, transport and permanent mineral storage

1. Lime: Strategic industry but unfairly accounted for

Lime is indispensable to more than 200 applications across the EU's industrial ecosystem, including steel production, construction materials, environmental protection, water treatment, and agriculture. However, lime is a hard-to-abate industry as the production results in unavoidable process emissions due to the calcination of limestone. These process emissions represent 69% of total CO_2 emissions from lime production and are fully accounted for under the EU ETS.

However, what current EU ETS accounting fails to account for is that lime products spontaneously reabsorb CO_2 during their use phase through a scientifically established process known as recarbonation.

2. Recarbonation is a permanent, scientifically recognised CO_2 sink

A study conducted by Politecnico di Milano shows that, on average, more than one-third of lime's process emissions are reabsorbed within the first year of use.[1] According to Campo et al. (2021), in European lime applications, a quantity of CO2 equivalent to 33% of process emissions generated during lime production are permanently (re-)absorbed from the atmosphere within the first year. The Intergovernmental Panel on Climate Change (IPCC) recognises mineral carbonation – which encompasses recarbonation – as a permanent storage mechanism, as the resulting carbonates are thermodynamically stable.[2] **In other words, lime production emits CO_2, but lime products**

[1] Grosso et al. (2020). 'Literature review on the assessment of the carbonation potential of lime in different markets and beyond ', Assessment on Waste and Resources (AWARE) Research Group, Politecnico di Milano (PoliMI), https://eula.eu/wpcontent/uploads/2023/11/LITERATURE-REVIEW-ON-THE-ASSESSMENT-OF-THE-CARBONATION-POTENTIAL-OF-LIMEIN-DIFFERENT-MARKETS-AND-BEYOND.pdf

[2] IPCC Special Report on Carbon Dioxide Capture and Storage (SRCCS), Chapter 7, Mineral Carbonation and Industrial Uses, p. 210 and p. 211, 2005.

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permanently reabsorb a substantial share of that CO_2 over their lifecycle. The EU ETS currently recognises only the emission phase of this chemistry, not the absorption phase.

Methodological work at the IPCC is ongoing to reinforce its conclusions on recarbonation and to develop methodologies for the national GHG inventories. However, since 2006, recarbonation and its emission factor have been documented and recognised by IPCC.[3] EuLA therefore urges EU policymakers to integrate it now. Recognising this scientifically established uptake would justify a corresponding downward adjustment of the emission factor linked to process emissions under the EU ETS. This would not constitute a subsidy. It would correct an accounting omission and better reflect net emissions in line with scientific evidence.

3. A measure without public cost

Failing to account for recarbonation overestimates lime's net climate impact. In the context of high carbon prices and increasing competitive pressure from outside the EU, this has direct implications for industrial resilience and investment decisions. Establishing an emission factor for process emissions would reduce unjustified compliance costs and improve the playing field for EU producers, without requiring public funding.

In addition, recognising a process-related emission factor under the EU ETS could provide a baseline for the development of mineralisation methodologies under the Carbon Removal and Carbon Farming Certification Framework, thereby enhancing consistency across EU instruments and addressing existing methodological uncertainties.

4. A proportionate and science-based adjustment

The European lime industry fully accepts responsibility for its emissions. However, accountability should be complete. If the lime industry is accountable for what it emits, it should also be recognised for what it permanently absorbs. Recognising recarbonation would enhance the scientific credibility of EU climate policy, strengthen industrial competitiveness, and align regulatory practice with material reality.

We invite your support in initiating discussions at the EU level to integrate recarbonation into lime's emission factor under the EU ETS and to mandate the necessary technical assessment to implement a science-based adjustment.

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[3] IPCC Emission Factor Database, EFDB - Basic Search