



Mineral carbonates used for agricultural purposes should not be subject to ETS accounting

General Principles

Mineral carbonates used in agriculture perform the same function regardless of their origin. Whether calcium carbonate is derived from natural limestone or dolomite (for which the CO₂ embedded in CaCO₃ currently incurs no EU-ETS cost), or produced through an industrial process in which CO₂ is chemically converted into a mineral carbonate (for which the CO₂ embedded in CaCO₃ currently incurs an EU-ETS cost), the resulting product is functionally equivalent when used in agricultural applications.

The key consideration should therefore not be the origin of the carbonate, but its characteristics, use and environmental behaviour. Once applied in agriculture, mineral carbonates originating from industrial processes follow the same pathway and deliver the same agronomic benefits as naturally occurring mineral carbonates.

When industrial CO₂ is converted into a mineral carbonate that substitutes natural limestone or dolomite, the resulting product should be treated in the same way as naturally occurring mineral carbonates (of which the inherent CO₂ (as carbonate) is not covered by EU-ETS). Any distinction based solely on the production route would create an inconsistent regulatory treatment of functionally equivalent products.

The guiding principle should therefore be that mineral carbonates used in agriculture are treated consistently, irrespective of their origin. Carbon that has been chemically incorporated into a mineral carbonate destined for agricultural use should not be treated differently from carbon contained in natural limestone or dolomite used for the same purpose.

ODDA Process

The ODDA process provides a clear illustration of this principle. In this process, CO₂ from industrial sources is chemically incorporated into precipitated calcium carbonate (synthetic lime). No CO₂ is released to the atmosphere during this utilisation step, as the carbon becomes part of the mineral carbonate itself.

The resulting synthetic lime is used in CAN fertilisers or applied directly for agricultural purposes. Functionally, it replaces the natural limestone or dolomite used in the conventional CAN fertiliser production route. From both an agronomic and environmental perspective, there is no meaningful distinction between the two products.

Moreover, the ODDA process performs better than the conventional CAN-fertiliser production route when assessed from a life-cycle perspective. It avoids the extraction and transport of virgin limestone or dolomite, makes productive use of industrial carbon streams (that would otherwise be emitted) and does not generate phosphogypsum, a major by-product of conventional fertiliser production routes. As a result, its overall climate performance is more favourable than that of traditional fertiliser production methods.

Applying a less favourable ETS treatment to this production route than to conventional alternatives relying on quarried limestone or dolomite (which are covered by the ESR – Effort Sharing Regulation and therefore not priced) would be inconsistent with the objectives of European climate policy and the principle of technology neutrality.

Sugar Industry Example

A similar example can be found in the sugar industry. During sugar refining, carbonate-rich by-products are generated (starting from natural limestone) and subsequently used as soil improvers or agricultural lime. Here too, the CO₂ used in the process is incorporated into the final material rather than being released during production .

These materials serve the same purpose as conventional agricultural lime derived from quarries. Distinguishing between them solely on the basis of origin is therefore not justified. Both products ultimately become part of the same agricultural carbonate cycle and fulfil the same agronomic function.

Conclusion

The relevant question is not how a mineral carbonate is produced, but whether the resulting product is equivalent to mineral carbonates already used in agriculture. Mineral carbonates originating from industrial processes are functionally indistinguishable from natural limestone and dolomite when used as liming materials, soil improvers or fertiliser components.

This applies equally to precipitated calcium carbonate produced through the ODDA process and to agricultural lime generated by the sugar industry. In both cases, carbon is chemically incorporated into a mineral carbonate that substitutes conventional lime products and delivers the same agricultural function.

Consistent application of the principles of product equivalence, proportionality and technology neutrality therefore requires that these materials be treated in the same manner as natural mineral carbonates used for agricultural purposes, and therefore should not be subject to EU-ETS accounting.

Proposal

In response to this issue, we propose that Article 12(3b) of the ETS Directive be amended as follows as part of the current revision:

“3b. An obligation to surrender allowances shall not arise in respect of carbon dioxide emissions which are considered to have been captured and utilised in such a way that they have become:

(a) permanently chemically bound so that they do not enter the atmosphere under normal use, including any normal activity taking place after the end of the life of the product, or

(b) chemically bound so that they will be primarily emitted in activities listed in Annex I and subject to a surrender obligation under Article 12(3), or

(c) chemically bound in mineral carbonates produced through an active and controlled utilisation process and used for agricultural purposes, including as liming materials, soil improvers or components of fertilisers.

*The Commission shall adopt delegated acts in accordance with Article 23 to supplement this Directive concerning the requirements for considering that greenhouse gases have become permanently chemically bound or chemically bound as referred to in the first subparagraph of this paragraph, **including the method for determining the quantity of carbon dioxide emissions covered by point (c)**, and list the types of utilisation that are considered to meet or not to meet these requirements. Those delegated acts may determine de minimis thresholds for the risk of not meeting those requirements and may introduce measures, such as partial surrender requirements, to address carbon leakage risks when these thresholds are exceeded.”*