CEMBUREAU FEEDBACK TO THE COMMISSION ROADMAP ON RESTORING SUSTAINABLE CARBON CYCLES

Brussels, 07/10/2021

The European Cement Association, CEMBUREAU, hereby submits its comments on the European Commission's "*Roadmap on restoring sustainable carbon cycles*" and is looking forward to a continued interaction on the topics set out below with all relevant stakeholders in the debate.

The reflections in this note are provided in the context of CEMBUREAU's 2050 Carbon Neutrality Roadmap "*Cementing the Green Deal*" (see link) in which the cement industry sets out the technological and innovation pathways to achieve carbon neutrality by 2050. These pathways span the full value chain and assess the CO_2 reduction potential in both the manufacturing part of the business (clinker and cement manufacturing) as in the production, use and end-of-life of the end product, concrete, which is a key enabling building material for tomorrow's sustainable built environment thanks to its durability, strength, recyclability and its recarbonation potential. The CEMBUREAU Roadmap puts forward intermediate CO_2 reduction targets of 30% (cement) and 40% (over the value chain) by 2030.

Achieving the CO_2 reduction targets requires significant investments that, on their turn, are preconditioned by a stable and facilitating regulatory framework that guarantees viable investment projects with proper returns on investment.

The Roadmap published by the European Commission addresses a number of these key regulatory issues:

- ✓ ***Lack of sustainable framework for carbon use***

With two thirds of its CO_2 emissions related to the manufacturing process (calcination of limestone), the cement industry strongly focuses on carbon capture as its key technology representing 42% of is CO_2 emission reduction efforts by 2050. A significant number of Carbon Capture, Utilisation and Storage (CCUS) projects are currently under development by the European industry. The viability of the technology hinges on the way the CO_2 captured is recognized and accounted for under the regulatory framework. Given the geographic spread of cement kilns across Europe, it is clear that CO_2 utilisation is an essential avenue to explore for the sector.

As the European Commission acknowledges, the EU will still need carbon by 2050 and beyond as a feedstock to produce sustainable synthetic fuels, plastics, chemicals and advanced materials. The sustainable character of each of these uses requires a proper accounting of the CO_2, a fact that CEMBUREAU does not contest.

CEMBUREAU
55 Rue d'Arlon – 1040 Brussels - Tel : +32 2 234 10 11
secretariat@cembureau.eu – www.cembureau.eu

The core question in this debate is <u>where</u> the CO_2 will be accounted. In CEMBUREAU's view, this needs to take place at the point in time where the CO_2 is released into the atmosphere. In concrete terms, when the capturing installation transfers the CO_2 to a third party for either permanent storage, mineralization or use in further products, including synthetic fuels, there is no release into the atmosphere at the point of capture. Therefore, the capturing installation should be allowed to deduct the CO_2 from its emissions. Absent a clear rule allowing such deduction, an investment into a capture installation is simply not economically viable.

- ✓ ***Recarbonation / Buildings as a carbon sink***

Cement is made by heating limestone to very high temperatures (1450° C) allowing the limestone to be broken down in calcium oxide, the key ingredient of cement, and calcium dioxide (CO_2). Part of that CO_2 released during manufacturing is reabsorbed during the lifetime of a built structure as well as at the demolition stage where the concrete is exposed to the air. This reabsorption process, which is in fact the reverse from what happens in cement manufacturing, is a natural process which mineralizes concrete and returns it to its stone-like properties.

The absorption of CO_2 thus turns the built environment into carbon sinks and this recarbonation effect has been recognized in the Full Sixth Assessment Report of the Intergovernmental Panel on Climate Change[1]. Proper attention should be given to the recognition of this recarbonation potential for concrete which should be included in the estimation of negative emissions. In particular, it is critical that the EU fully recognises recarbonation alongside other carbon sinks. The cement industry is engaging in research projects that seek to enhance this recarbonation process and has commissioned a study[2] to calculate the CO_2 uptake in cement containing products to support improved calculation methods within the IPCC and national greenhouse gas calculations.

The recognition of the built environment as a carbon sink equally applies to industrial installations, including cement and concrete plants, and a link should be created between the ETS for industrial installations and the ETS for buildings to allow for a full value-chain approach to climate change abatement. Furthermore, any regulation impacting construction materials should take into account recarbonation as part of their life-cycle analysis.

- ✓ ***Replacement of virgin carbon fuels by sustainable streams of waste and biomass waste***

Today, the cement industry replaces 50% of its conventional fossil fuels with alternative fuels, 18% of which is biomass waste. The industry therewith avoids 22 million tonnes of CO_2 annually. The replacement of fossil fuels by non-recyclable and biomass waste and the use of alternative raw materials from these same waste streams will deliver 15% of the mission reductions in the cement industry by 2050 in a fully circular economy approach.

Facilitating policies should include the facilitation of waste shipments between EU countries and provide a disincentive to landfilling and exports of waste outside the EU.

----

[1] *Please see https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf, page 1171*
[2] *Please see https://www.ivl.se/download/18.72aeb1b0166c003cd0d64/1541160245484/B2309.pdf*