CEMBUREAU
The European Cement Association

POSITION PAPER

EU CLIMATE TARGET FOR 2040

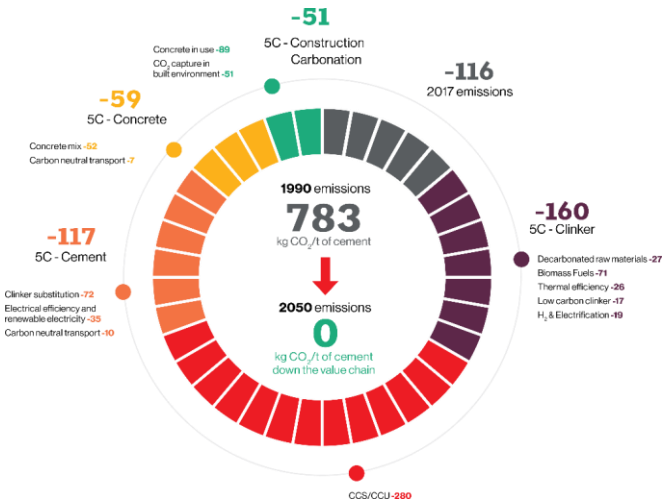
CEMBUREAU contribution

June 2023

CEMBUREAU, the European cement association, welcomes the Commission's consultation on the 2040 target plan.

Decarbonisation pathways for the EU cement industry

CEMBUREAU's Carbon Neutrality roadmap lays out the industry decarbonisation pathways until 2050. The sector is currently deploying significant investments (please see CEMBUREAU's map of innovation projects for more information) with a clear focus to reach carbon neutrality in 2050.



To reach carbon neutrality down the cement and concrete value chain at a 2050 horizon, the EU cement industry will use a variety levers, consisting in a mix of:

- Conventional/existing technologies: improvements to the thermal efficiency of cement kilns; replacement of fossil fuels by non-recyclable waste and biomass waste; use of decarbonated raw materials; lower clinker-to-cement ratios; increased electrical efficiency...
- Breakthrough technologies: Carbon Capture, Utilisation and Storage (CCUS) is particularly critical for the sector and is in fact indispensable to reach carbon neutrality given the inherent process emissions linked to cement production.

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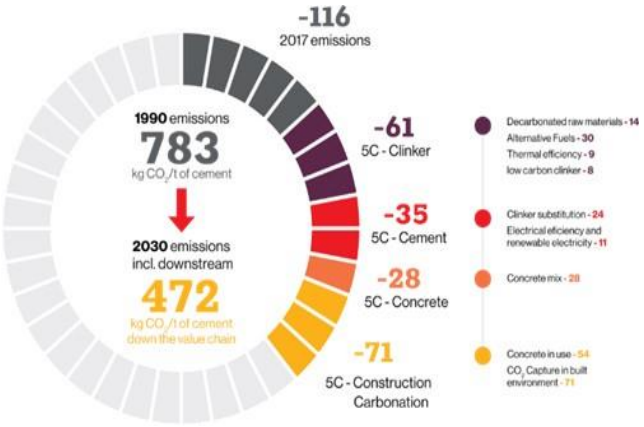
At a 2030 horizon, the roadmap anticipates a reduction of gross CO2 emissions by 30% for cement and 40% down the value chain compared to 1990. As summarised in the attached chart, emissions reduction happening between now and 2030 will be largely based on existing technologies. It is however important to note that a number of carbon capture projects are currently being developed, with a number of them reaching commercial deployment before 2030[1].



CEMBUREAU will consider updating its roadmap and looking specifically at the date of 2040. At a high-level, a few remarks can be made:

- The coming years leading up to 2040 will be critical to deploy Carbon Capture, Utilisation and Storage (CCUS) at scale in the sector. The sector estimates that by 2030, about 12-15 million tons of annual CO2 injection capacity will be required by the EU cement industry. A favorable framework for both Carbon Capture and Storage, and Carbon Capture and Utilisation, is essential (please see below section).
- Circular economy (to leverage the full potential of concrete recycling), the ability to use waste streams to lower the sector's fuel emissions (co-processing), as well as the zero-rating of biomass, will be critical. Similarly, a proper assessment of the availability of clinker substitutes will be essential for the clinker-to-cement ratio reduction pathway.
- The availability of low-carbon energy will be essential to reduce the sector's emissions, as the deployment of breakthrough technologies require significant amounts of electrical energy. By 2030, the electricity consumption of the cement sector will evolve between -0.2% and +10% depending on scenarios, whilst at a 2050 horizon, such increase will be between 68% and 170%[2]. The fact that decarbonisation will lead to higher energy demand should be fully considered by policymakers (e.g. review of conditionality provisions relating to energy audits in the EU ETS Directive).
- There will still be residual emissions in the EU cement sector in 2040, as the majority of plants is unlikely to be equipped with carbon capture at this stage.

Level of the EU 2040 target

CEMBUREAU welcomes the Commission initiative to set an EU 2040 target but does not have a strong view on the desirable level. **A realistic pathway and supportive measures will be critical to decarbonise energy-intensive sectors like cement.** From that perspective we consider that the prolongation of the current ambition level is adequate and correct and will deliver the carbon neutral society in 2050.

It is however crucial to look in detail as to how such target would translate into different targets for different sectors of the economy (e.g. ETS and non-ETS sectors). In particular, policy-makers should ensure that:

- The 2040 target is based on a fair effort-sharing between the different sectors of the EU economy.
- The 2040 target is based on a deep analysis of decarbonisation pathways of the different sectors, with a specific focus on hard to abate sectors in the EU ETS.

[1] At present, about 38 CCUS projects are being planned and developed by the EU cement industry (8 CCS projects, 16 CCU projects, as well as 14 CCUS projects looking at both storage and utilisation).
[2] Source: TNO study for CEMBUREAU, 2023

Regardless of the level of the 2040 climate target, CEMBUREAU indeed considers that a significant focus will have to be put on supporting measures for energy-intensive sectors and a clear understanding of their decarbonisation pathways.

For instance, estimates from various stakeholders show that, given the parameters of the revised EU Emission Trading Scheme (Linear Reduction Factor, re-basing, inclusion of new sectors), the ETS cap is likely to reach zero at a 2039-2040 horizon. This raises vital questions for hard-to-abate sectors like cement, which will still have residual emissions at this stage without any clear regulatory solution on how to account for these emissions. CEMBUREAU is therefore of the strong opinion that:

- As part of the 2040 impact assessment, the European Commission should re-assess the parameters of the EU ETS, including whether the LRF – which was increased in the updated ETS Directive to accommodate a higher 2030 target – can be realistically implemented in its agreed form and the economic support measures necessary to allow for a continued operation of energy-intensive industries in Europe. It is equally critical that the burden of reducing emissions is shared between different sectors of the economy.
- A full fungibility between carbon removals and the EU ETS needs to be considered as a matter of urgency, to allow ETS installations still emitting CO2 to comply with ETS rules when the ETS cap reaches 0.
- Special attention needs to be paid to the unavoidable character of process emissions in industries like the cement sector and the potential of captured CO2 emissions to be used as substitute for fossil CO2 in industrial applications (e.g. plastics) needs regulatory recognition;
- The deployment of CCUS should be 'turbo-charged' in the coming years, to ensure that the maximum number of cement installations reaches zero emissions by 2050 (please see section below).
- More broadly a strong political focus should be put on hard-to-abate sectors. Energy-intensive sectors like cement are currently launching significant investments where very practical issues – permitting, business case, financing, infrastructure – become critical.
- A well-functioning ETS – with in particular a strong ETS innovation fund – as well as a fully watertight Carbon Border Adjustment Mechanism (even beyond 2050) are essential to realise the cement sector's ambition.

The role of an EU carbon removal target

CEMBUREAU believes that a carbon removal target may provide further incentives to scale-up carbon removal technologies – which indeed will be needed for sectors which, like cement, will still face residual emissions in the coming decades.

However, we equally believe that CO2 emission reductions, and the fast deployment of breakthrough technologies like carbon capture, should remain the priority to reach the EU's net zero target. Carbon removals should be employed as a supplementary measure where needed to enable the EU to meet its ambitions. It should also be based on sound-science (please see CEMBUREAU position paper on the EU Carbon Removal Framework).

An EU target for imported CO2 is critical for the credibility of EU climate policies

CEMBUREAU finds it crucial that EU climate change objectives do not lead to a displacement of EU industrial production to third countries, leading to effectively higher CO2 emissions that would not be taken up into account in EU inventories.

With the implementation of CBAM, the EU will have at its disposal detailed data on the CO2 content of the cement, steel, fertilizers, aluminium, hydrogen and electricity imported into the EU. Such data therefore leaves room for a possible EU indicative target of imported CO2 on these products. CEMBUREAU is of the strong opinion that such indicative target should be set up for 2040, together with effective measurement measures for imported CO2.

Achieving the 2040 Climate target will require a strong focus on CCUS and a 2040 CO2 storage target

Last but not least, CEMBUREAU would like to highlight the importance of accelerating the deployment of CCUS to reach the 2040 target.

In this respect, the 2030 CO2 injection capacity contained in the draft Net Zero Industry Act should be revised upwards and complemented with EU targets at a 2040 horizon. This latter target will provide confidence to CCUS investors that sufficient CO2 storage capacity will be available. In addition, it will be important to look at both regulatory issues (e.g. fair market access condition to storage sites), financial and permitting issues to further facilitate CCUS investments. All aspects of the CCUS value chain, in particular the carbon capturing and CO2 transport infrastructure, should be fast-tracked and benefit from strict deadlines for permitting and funding decisions.

Furthermore, it is critical to re-assess several key points of the CO2 utilisation/CCU framework. This point is particularly important in the cement sector, as many of the 200 cement plans across the EU are landlocked and will not have direct access to CO2 storage sites. As highlighted by the Commission in its questionnaire, the current CO2 accounting rules for CCU in non-permanent products (obligation to surrender allowances even when the CO2 is captured) do not provide incentives for CCU investments. As stated ETS Directive (recital 97), a proper life cycle assessment along the use cycle is required with a view to allowing the accounting for emissions at the point of their release from products into the atmosphere.

Furthermore, the rules currently set in the draft Delegated Act on synthetic fuels/RFNBOs (a 2041 cut-off date for recognizing CO2 used from industrial installations in RFNBOs as being avoided) result in cutting off a CO2 supply without assessment of the availability of CO2 from biogenic sources and direct air capture to respond into the CO2 industrial needs. CEMBUREAU has commissioned its own study on the topic[3], which we will be happy to bring into the debate.

Please see CEMBUREAU Position Paper on a CCUS framework for further details on these points.

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[3] VITO study for CEMBUREAU, 2023