It is time for a thorough debate on CO2 utilisation

There has never been a more exciting time for carbon capture, yet EU policies need to provide a predicable regulatory framework and allow for a strong business case, writes Koen Coppenholle.

The past months have been marked by significant headways for Carbon Capture, Utilisation and Storage (CCUS) in the EU. A large number pilot and demonstration projects have been launched by cement companies across Europe, with the first of them becoming operational as early as 2024. Recent ETS Innovation Fund calls also supported a great variety of CCUS projects, strengthening the EU's global leadership on the technology. Politically, carbon capture is equally getting a strong momentum: Energy Commissioner Kadri Simson announced a Communication on a strategic vision during the recent CCUS Forum, whilst Executive Vice-President Timmermans highlighted at a recent CEMBUREAU event the crucial role that the technology will play.

These investments in CCUS in the cement industry should not surprise anyone. According to our sector's Carbon Neutrality Roadmap, CCUS represents 42% of the cement industry's emission reductions by 2050. Process emissions, roughly representing two thirds of cement manufacturing CO2 emissions, are unavoidable and even if we push hard on all other decarbonisation levers, carbon capture is indispensable to meet our carbon neutrality ambitions.

Yet, despite this renewed momentum, there is a high degree of uncertainty around the use of CO2 from industrial sources. This uncertainty was ignited by the Commission's Communication on Sustainable Carbon Cycles (December 2021) which states that "*fossil carbon should be replaced by more sustainable streams of recycled carbon from waste, sustainable biomass and directly from the atmosphere*". In the Communication, no timeline has been put on the replacement of 'fossil carbon'. The recent Commission Draft Delegated Act on the greenhouse gas saving criteria for recycled carbon fuels does introduce such timeline, at least for the production of synthetic fuels. According to this proposal, CO2 from industrial sources can no longer be used after 2035 in the production of synthetic fuels.

This draft Delegated Act has been met with consternation within the EU cement industry. There are currently major CO2 utilisation projects under development – some of which are actually supported by the EU's own ETS Innovation Fund – in the sector to develop synthetic fuels. These involve highly significant CapEx and OpEx, and are planned on a return on investments of several decades. These CO2 utilisation projects are actually vital for the decarbonisation of the sector, as many of the 200 cement kilns on the European territory are landlocked with no easily available CO2 storage-site within reach. Faced with unavoidable CO2 emissions, it is crucial that these plants have the possibility to re-use the CO2 they capture into fuels and products.

We do take the point made by the European Commission that synthetic fuels using industrial CO2 are not a fully "net zero solution", to the extent that the captured CO2 is re-emitted into the atmosphere when the fuel is used by the airplane, ship or truck. However, even if not a carbon neutral solution, synthetic fuels (and the re-utilisation of CO2 in general) make a decisive contribution to climate mitigation in the short to medium term, by considerably reducing the amount of CO2 emissions and reducing reliance on fossil fuels. Faced with a

climate emergency and a shortage of alternative CO2 sources in the short to medium term, why would the EU proceed with legislation that endangers the business case for a key decarbonisation avenue for the cement and transport sector altogether?

The very reasons behind the proposed phase-out of industrial CO2 are unclear, nor is the choice of 2035 as phase-out date. The Commission seems to consider 2035 as "long-term" which does, however, not coincide with business reality in sectors with investment cycles of 30-35 years. There is further no detailed impact assessment on the availability of what the Commission defines as sustainable sources of CO2. For DAC, forecasts estimate between 154 and 227 million tonnes by 2050 with no estimation of DAC/BECC availability for the trajectory 2030 to 2050 and only some reference to a 5 million tonnes target by 2030 in the Commission's Sustainable Carbon Cycles Communication.

The publication of the draft Delegated Act highlights the need for a thorough debate on the future of CO2 use from industrial sources. Such CO2 use is currently a key component of climate mitigation and decarbonisation initiatives in several energy-intensive sectors. More than ever, we need an open discussion on carbon use from industrial sources, covering both the continued need for carbon as feedstock for industrial production, and the level at which these needs can be met by the different sources of CO2. It is our strong conviction that introducing a time-limit before such in-depth discussion and proper analysis takes place, is detrimental not only for running projects but also for the long-term robustness of the EU's CO2 mitigation strategy.

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Link for CEMBUREAU position paper: "A Predictable Framework for CO2 Utilisation in the Cement Sector Is Urgently Needed"

EURACTIV link of the article

Link for CEMBUREAU map of innovation, highlighting the current decarbonisation projects across Europe

Link for CEMBUREAU innovation video, highlighting the innovation deployed by the European cement industry in the whole cement and concrete value chain

Link for CEMBUREAU annual event recording, "Cementing Europe's Future: Driving Innovation Towards Carbon Neutrality"