A European industrial carbon management strategy

Introduction

The European Commission has launched a call of evidence for its initiative “Industrial carbon management strategy”, which aims to create an industrial carbon management market by 2030. The strategy considers hard-to-abate sectors who need to apply carbon capture and storage (CCS), carbon capture and utilisation (CCU) or industrial carbon removals to become climate neutral. According to the European Commission, setting out the EU policy on these technologies and their potential roles in reaching carbon neutrality by 2050 should stimulate investments in CO₂ transport and storage infrastructure and speed up the deployment of CCS/U.

Simultaneously, the German government is developing its own Carbon Management Strategy, which aims to identify possible areas for CCS/U application and the legal and economic frameworks for a successful ramp-up in Germany. BDI welcomes the initiative of the EU Commission to develop a carbon management strategy, as CCS/U plays a pivotal role in reaching climate neutrality. The German and European strategies on carbon management must be coordinated closely. BDI kindly asks the EU Commission to consider the following feedback:

The need for CCS/U deployment

In order to make the German and European climate goals achievable, the rapid implementation of CCS/U must be enabled as part of an overall strategy. BDI stands firmly by the principle of carbon mitigation before carbon capture and believes that CCS/U should not lead to reduced mitigation efforts. However, if the capture, removal, utilization, and storage of CO₂ are not enabled and incentivized now, these technologies will not be applied to a sufficient extent in time to achieve our climate goals. To make preparations for the application of Carbon Capture technologies in industries such as cement, lime, glass, steel as well as waste management by 2045, first facilities must become operational before 2030.

It should be clarified that CCS/U is primarily needed for process-related CO₂ emissions in industry and thermal waste treatment. Due to the significant proportion of process-related emissions, the initial deployment should occur in the construction sector (cement and lime production) and in thermal waste
treatment. However, there are various industrial processes where no alternatives to CCS currently exist to mitigate all CO₂ emissions. Alongside CCS/U, significant amounts of Carbon Dioxide Removals (CDR – meaning BECCS and DACCS) will also be necessary to achieve our climate goals in the long term. Hence, a European carbon management strategy should not prematurely exclude individual industry sectors besides the cement and lime industries from CCS/U application.

A European carbon management strategy should establish minimum targets for CO₂-storage to drive investments. As part of the Net Zero Industrial Act (NZIA) the Commission proposes to introduce an annual EU CO₂ storage capacity target of 50 Mt CO₂ as of 2030 (article 16). BDI welcomes the emphasis placed on a new CO₂ storage capacity target and the proposed obligation for Member States to provide data on suitable storage sites. The NZIA could be further improved by broadening its scope to investments in CCS and CCU along the whole value chain of capture, transport and storage or utilization. The European carbon management strategy could draw on the CO₂ injection capacity target proposed as part of NZIA.

**CCU on the path to climate neutrality**

The Carbon in CO₂ is an essential resource for industry. It is used in the chemical, ceramic, metal, and food industries, as well as for producing power-to-X fuels. Therefore, a European carbon management strategy must consider the demand for carbon and thereby view CCU in relation to CCS as equal technologies.

On the path towards climate neutrality, the replacement of conventional fossil carbon sources with industrial point sources using CCU should be enabled. This approach leaves oil and gas reserves in the ground, while supporting the market ramp-up of Carbon Capture technologies. In the long term, carbon sources should be climate neutral. For the part that cannot be provided via recycling and closed CO₂ loops, CO₂ must therefore be removed from the atmosphere – either via Direct Air capture or indirectly via sustainable biomass.

So far, the legislative environment at the European levels has impeded CCU. BDI therefore welcomes the inclusion of CCU in the EU Emissions Trading System (EU-ETS) and supports the inclusion of multimodal transport of CO₂, regardless of its destination (CCU or CCS purposes) in Annex I of the ETS Directive. However, the recognition of CCU under the EU ETS requires a permanent chemical binding of CO₂, which is yet to be defined by a delegated act. BDI urges the EU Commission to promptly present a pragmatic proposal to eliminate these legal uncertainties.

Due to the decreasing cap, there will likely be no certificates auctioned or freely allocated within the framework of the EU-ETS by 2040 the latest. Discussion is needed on how CO₂ removal could relate to the EU-ETS and how it ties in with the EU Commission’s proposal for the certification of negative emissions (Carbon Removal Certification Framework). The EU Commission plans to submit a report by July 31 2026, on how negative emissions could be covered by the EU-ETS. It would be welcomed if the EU Commission presents this report as early as possible.

**Further aspects of a European industrial carbon management strategy**

The rapid build-up of a CO₂-infrastructure across Europe is of crucial importance for the scale-up of CCS/U technologies. Depending on regional circumstances emitters will likely rely on transportation by rail, ship or truck. In the medium term, however, transporting larger amounts of CO₂ across long
distances will require the targeted development of a pipeline network. It should be explored how a European carbon management strategy can contribute to the rapid build-up of CO₂-infrastructure across Europe. It could, for example, lay a foundation by streamlining regulation on the cross-border exchange of CO₂.

Despite the advancement of CCS/U-technologies in recent years, their deployment remains very expensive. BDI is convinced that the anticipated rise in CO₂ prices in the EU-ETS will not be sufficient in the foreseeable future to provide enough economic incentives for an effective ramp-up. While the framework conditions must be set in a way that CCS/U technologies can be economically viable in the medium term, the market ramp-up will require significant financial support. In principle, BDI advocates for pragmatic funding mechanisms, which should consider the entire CO₂ value chain and be endowed with enough financial resources.

Both the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC) have recognised the need for CCS/U for climate protection. Nevertheless, the deployment of CCS/U has been hindered by a lack of political and public support in recent years, particularly in Germany. The goal of the European Industrial Carbon Management Strategy must be to enable, not prohibit CCS/U-technologies. Simultaneously, it should promote social acceptance, as this presents the Achilles heel of a successful CCS/U ramp-up in Europe.