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Collaboration to advance CCUS in the cement sector

1. The Clean Energy Ministerial CCUS Initiative is a group of 14 member countries who have joined forces to accelerate CCUS together. The CEM CCUS countries all develop comprehensive CCUS programmes, with the intent to decarbonise all relevant industrial sectors.

2. The Global Concrete and Cement Association (GCCA) is the global voice for the cement and concrete sector, whose member companies operate in almost every country of the world. GCCA members account for 80% of the global cement industry production volume outside of China – and also includes several key Chinese manufacturers.

3. The GCCA recently published its Roadmap to achieve net-zero concrete by 2050, the "Concrete Future"[1]. A number of levers have been identified within the Roadmap to achieve the transition. Within these, CCUS holds a vital position in the portfolio of technologies and actions to achieve net-zero. The GCCA Roadmap projects that CCUS will account for 36% (the single biggest lever) of the required CO_2 reductions to achieve net-zero concrete by 2050. With many cement CCUS pilot projects already in place, the next challenge is to move towards full-scale commercial roll out. As parts of the decarbonisation pathway, GCCA member companies have committed to deploying 10 *industrial-scale* CCUS projects in the cement sector by 2030.

4. The CEM CCUS Initiative and the GCCA have agreed to collaborate in the following areas:
    a. Share ideas and collaborate to communicate the role CCUS has in safely and effectively delivering a net-zero world;
    b. Facilitate the identification and mapping of candidate cement-sector CCUS projects (e.g. in collaboration with partners such as OGCI), and foster project partnerships and acceleration also in developing economies;
    c. Discuss targeted CO_2 transport and storage infrastructure needs and identify opportunities to integrate cement CCUS projects into strategic CCUS transport and storage hubs;
    d. Discuss and explore incentive and other policy frameworks and finance solutions, that can enable industrial-scale CCUS projects in the cement sector during the ongoing decade;
    e. Share thinking on issues enabling long-term CCUS deployment, post-2030, via both policy and technology development;
    f. Support further development and share experience with regards to CO_2 use through mineralisation in building materials.

[1] https://gccassociation.org/concretefuture/ - The GCCA 2050 Cement and Concrete Industry Roadmap for Net Zero Concrete

5. In order to do this, the two organisations have agreed to:
    a. Organise invitational expert workshops to discuss the above substantive areas between CEM CCUS and GCCA members, as well as with guests and partners such as the CEM Industry Deep Decarbonisation Initiative (IDDI), and others, as relevant;
    b. Issue ongoing joint communications regarding the role of CCUS in delivering a net-zero-world;
    c. Jointly report on progress with regard to opportunities to implement cement sector CCUS projects at strategic hubs;
    d. Jointly list examples of suitable policy approaches to deploy CCUS on cement manufacture;
    e. Organise public events, including ministerial side-events at upcoming Clean Energy Ministerial meetings, GCCA annual gatherings and at other relevant international, regional, or other events associated with decarbonising industry.

6. We will regularly report back on progress at key CEM and GCCA events, and to the leadership of both organisations.

Background

7. Carbon capture, utilisation and storage (CCUS) is an essential part of a broad set of solutions needed to create more sustainable low-carbon energy and industrial systems in support of the Paris Agreement climate goals. It has particular relevance for the cement and concrete sector where it can play a vital role to decarbonise the cement and concrete manufacture.

8. Investment in CCUS must be scaled-up urgently across several sectors, to support achieving global climate and energy goals. While 20+ industrial-scale CCUS installations are today in operation, the speed of deployment is nowhere near where it needs to be. This is also a key challenge in the cement sector.

9. Cement and concrete are fundamental building materials that have shaped our modern world. As we face the important challenges for future generations, concrete will be critical to addressing the need for sustainable communities and prosperity, including key infrastructure, homes, clean water and providing resilient communities, as well as supporting the transition to low carbon energy.

10. The production of cement, the key ingredient in concrete, accounts for around 7% of global CO_2 emissions. While the industry has made significant CO_2 reductions over the last three decades, complete decarbonisation of cement manufacture is a complex process. This is due both to the scale of use (concrete is the most used material on earth after water) and to the unique challenges of both the energy input and the chemical reaction process associated with its production.