

## **Joint CCSA and ZEP response to the Article 6.4 Supervisory Body call for input on carbon removals**

*15<sup>th</sup> March 2023*

The Carbon Capture and Storage Association (CCSA) represent members across the CCUS value chain, and represent members interested in deploying projects which can achieve the at scale, permanent removal of carbon dioxide through engineered solutions such as bioenergy with carbon capture and storage (BECCS) and Direct Air Carbon Capture and Storage (DACCS).

The Zero Emissions Platform (ZEP) is the advisor to the EU on the deployment of Carbon Capture and Storage (CCS) and Carbon Capture and Utilisation (CCU) – a European Technology and Innovation Platform (ETIP) under the European Commission’s Strategic Energy Technologies Plan (SET-Plan).

The CCSA and ZEP welcome the opportunity to provide input to the Article 6.4 Supervisory Body and are pleased to continue to contribute to the work process, remaining available to expand on any element of this feedback.

Engineered carbon dioxide removals (CDR) will be a crucial element on the road to net-zero, to enable net-zero, and for net-negative thereafter. Deployment of CDR at scale will complement the much-needed emission reductions and is part of a long-term solution in a transformed economy.

It is essential that the Article 6.4 mechanism establishes a robust and reliable framework that prioritises and ensures that carbon removal activities uphold environmental integrity principles, from the classification of removals to accounting, monitoring and verification. This is the basis to ensure that markets are supporting real carbon removals, which were accurately quantified, monitored and verified to have permanently removed CO<sub>2</sub> from the atmosphere on a net basis. In addition, a sound framework is essential to instil trust around carbon removal claims – both from buyers and the general public – and avoid greenwashing. An effective CDR sector, aligned with climate and sustainability objectives, must adhere to the following six principles:

- 1) Clear definition of CDR
- 2) Permanence
- 3) Accurate quantification
- 4) Robust Monitoring, Reporting and Verification
- 5) Alignment with sustainability principles
- 6) International consistency

We also note that many of these points are common to overall CCS/CCU solutions. To the extent possible, principles, methods and regulations for CDR should build on similar existing solutions for CCS/CCU.

### **Clear definition of carbon dioxide removals**

CDR activities involve taking CO<sub>2</sub> out of the atmosphere, where it contributes to climate change, and storing it where it will not affect the climate for an extended period of time<sup>1</sup>. It is important to avoid misconceptions and confusion with carbon reductions by accurately defining ‘what is a carbon dioxide removal’. A robust and thorough definition must reflect the following principles<sup>2</sup>:

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<sup>1</sup> ZEP (2020). [Europe needs a definition of Carbon Dioxide Removal](#).

<sup>2</sup> Adapted from Tanzer, S. E., & Ramirez, A. (2019). When are negative emissions negative emissions?. *Energy & Environmental Science*, 12(4), 1210-1218.

1. CO<sub>2</sub> is physically removed from the atmosphere.
2. The removed CO<sub>2</sub> is stored out of the atmosphere in a manner intended to be permanent.
3. Upstream and downstream greenhouse gas emissions, associated with the removal and storage process, are comprehensively estimated and included in the emission balance.
4. The total quantity of atmospheric CO<sub>2</sub> removed and permanently stored is greater than the total quantity of CO<sub>2</sub> emitted to the atmosphere.

### **Permanence**

While different activities can achieve carbon dioxide removal, they will involve different storage timeframes and risks of storage reversal. For example, storage in products and carbon farming activities will typically store CO<sub>2</sub> out of the atmosphere for decades to centuries; while storage of CO<sub>2</sub> in geological reservoirs offers the opportunity to safely store CO<sub>2</sub> for thousands of years.

The different timescales and reversal risks associated with the different activities should be reported, ensuring that the market is able to differentiate them (and price them accordingly), recognising the value of geological storage.

### **Accurate quantification**

The quantification of carbon removals must be robust, transparent, and complete. In this sense, a cautious and comprehensive verification of principle 3 (above) is critical to make sure that all associated emissions are included in the life-cycle analysis (including energy/electricity input). Crucially, this also implies that while some technologies have the potential to lead to carbon removals, a case-by-case approach is needed to ensure that projects deliver real carbon removals<sup>3</sup>.

### **Robust Monitoring, reporting and verification**

The Article 6.4 mechanism must set out robust monitoring, reporting and verification (MRV) requirements related to the operation of storage sites and methods. It is essential that appropriate monitoring approaches can be introduced for all activities on an equivalent basis (i.e., conferring the same level of confidence) to regularly confirm that carbon dioxide continues to be stored out of the atmosphere. In addition, the rules and methodologies under the mechanism must lay out the responsibilities and liabilities for compensating and remedying reversals of storage.

### **Alignment with sustainability principles**

The climate benefit of carbon removal activities must be viewed together with wider sustainability objectives – from biomass use and biodiversity protection to land use and energy input requirements. It is essential that projects are designed and implemented in a manner that does not compromise environmental and sustainability safeguards.

### **International collaboration and consistency**

Net-zero and net-negative objectives require large volumes of removals and a rapid scale-up, with engineered carbon removals offering the highest durability. As support frameworks for carbon removals develop, it is important to ensure consistency so that all carbon removal activities are underpinned by the same quality standards irrespective of where they take place. This will help to establish a global level-playing field and unlock further opportunities for developers. In this sense, we encourage the Supervisory Body to collaborate with national and regional initiatives, notably the recently proposed European Union's certification scheme for carbon removal activities.

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<sup>3</sup> ZEP (2021). [Europe needs robust accounting for Carbon Dioxide Removal](#).