

CCSA Response to the structured public consultation: further input on requirements for the development and assessment of mechanism methodologies

16th August 2023

The Carbon Capture and Storage Association (CCSA) welcomes the opportunity to provide input to the Article 6.4 mechanism Supervisory Body's '[Call for input 2023 - structured public consultation: Further input - Requirements for the development and assessment of mechanism methodologies](#)' and note our past responses: (i) [CCSA Response to the structured public consultation: further input on removal activities under the Article 6.4 mechanism](#) (1st August 2023) (ii) [CCSA Response to the structured public consultation: removal activities under the Article 6.4 mechanism](#) (20th June 2023) (iii) [CCSA Response to the call for input on issues included in the annotated agenda and related annexes of the fifth meeting of the Article 6.4 Supervisory Body](#) (25th May 2023); (iv) [Joint CCSA and ZEP response to the Article 6.4 Supervisory Body call for input on carbon removals](#) (15th March 2023).

The CCSA brings together a wide range of specialist companies across the spectrum of Carbon Capture, Utilisation and Storage (CCUS) technology, as well as a variety of support services to the energy sector. The CCSA exists to represent the interests of its members in accelerating the commercial deployment of CCUS in the UK, EU and internationally through advocacy and collaboration to achieve net zero emissions by 2050.

Aligning with the NDC of each participating Party, if applicable and LT-LEDs, if it has submitted one and the long-term goals of the Paris Agreement (chapter 4.5):

The CCSA welcomes the aim to ensure that mechanism activities encourage increasing ambition in host party's Nationally Determined Contributions (NDCs), noting that no country has pledged to scale engineered carbon removal activities by 2030 as part of their NDC and that only some countries have reported on preferred carbon removal methods in their long-term low greenhouse gas emission development strategies (LT-LEDs)¹.

Requirements on baselines (chapter 4.7):

The CCSA proposes that any approach to setting requirements to compute baselines, either for setting or impact on a baseline, arises from applying the following principles:

- (1) That it is based on a transparent and certified certification of any effect, temporary or permanent, of inputs to NDC's and LT-LEDs meeting UNFCCC criteria.
- (2) That the certification is distinct on the effect on the concentration of CO₂eq GHG in the atmosphere (due to the time critical impact of GHGs), and not directly for example, on CO₂ in seawater. Any other attributes are discretely certified to prove the emissions firstly, are legal in the jurisdiction and accepted as sustainable, and secondly, define non atmospheric GHG direct effects such as on ecosystems and human development metrics.
- (3) That given the principle that the sum of all direct tonnes CO₂eq emissions in a jurisdiction in a year is the base data for a baseline year and any changes in that baseline in subsequent years is reflected in the calculation and assessment of statistics for the jurisdiction(s), comprising the National statistics

¹ Smith, S. M., Geden, O., Nemet, G., Gidden, M., Lamb, W. F., Powis, C., Bellamy, R., Callaghan, M., Cowie, A., Cox, E., Fuss, S., Gasser, T., Grassi, G., Greene, J., Lück, S., Mohan, A., Müller-Hansen, F., Peters, G., Pratama, Y., Repke, T., Riahi, K., Schenuit, F., Steinhauser, J., Strefler, J., Valenzuela, J. M., and Minx, J. C. (2023). [The State of Carbon Dioxide Removal - 1st Edition](#). The State of Carbon Dioxide Removal. doi: 10.17605/OSF.IO/W3B4Z

input and contributing to assessing global climate outcomes with respect to UN agreements, including the Paris Agreement. Has appropriate methodologies, capable of contractual definition, agreed as meeting UN data needs and actionable to suit the circumstances of each jurisdiction to be stated each year to support the reported emissions for each year.

(4) That the jurisdiction methodology shall:

(a) enable certifiable activities of entities to be mutually exclusive from each other. Each must have boundaries within which actions by the entity seeking certification can affect all GHG emissions, either by increasing, maintaining, or decreasing direct emissions to the atmosphere.

(b) Each emission activity shall have an associated timescale in years (rounded down to the nearest year) for the effect of the activity from the certified date of the effect being enacted.

(c) The legal and financial basis for actions is a matter for each jurisdiction, (whether rewarded, free, required, or taxed, traded, or bought, etc) but the Nation shall have primary right of origin to include the data arising from certification of direct totals and changes each year in emissions tCO₂eq GHG within their jurisdiction(s), to be recorded and available to them for National and jurisdictional statistics.

(d) The competent Authority for a jurisdiction shall oversee the measurement, reporting and verification (MRV) of emissions reported by entities and approve the certification processes appropriate for each entity's activities.

(e) The Authority shall consider the balance of atmospheric emissions for the baseline and subsequent years and approve or revise the certifiable activities of entities, or agree with the National Government the public accountability of the balance of the increasing, maintaining, or decreasing direct emissions to the atmosphere for the reported year.

(f) The certified date and timescale of certified activities affecting tCO₂eq GHG must inform the measurement of host country statistics.

(5) Host countries can trade between each other (including through the Article 6.4 Mechanism), the under or over achievement of planned outcomes, as they are the hosts of their respective yearly inventories in terms of tCO₂eq GHGs. This is linked by certification to entities generating legal certificates required or desired to be claimed by an entity in one country's and traded with an entity in another country. Whilst the exchange price is not necessarily defined, the change affecting the respective tCO₂eq GHG involved must be reported to the respective seller and buyer so that the National accounts are rebalanced and correctly reported for international statistics.

The trading and valuing of emissions is therefore premised on the above approach of National responsibility for reporting acceptable National data, which is understandable and translatable to (a) meeting agreed report schedules, (b) for robust climate modelling use by UN agencies, parties to international agreements and carbon border mechanisms, and (c) for trade statistics and commercial trading of goods and services including pricing of emissions.

The funding of the activities of entities are not the primary aim of our comments, but some aspects maybe worth noting.

Firstly please note our comments on additionality (chapter 5) below which is a simplifying enabler for the mechanism for trading of emissions activities between countries.

Secondly the question of leakage below (chapter 6) is linked to points in the above basis for baseline and yearly changes, and though the actual market pricing is not the issue, the mechanism needs to accommodate differences:

(a) to permanency for effects of over a year to avoid purely seasonal effects,

(b) for whole years up to ex ante commercial assurance at the end of that time (as assumed in most climate modelling) the effect is reversed. Given assessment and certification that the effect has not been reversed then a further period of assured effect maybe certified and traded,

(c) the difference between permanent effects such as CO₂ storage that are not reliant on adding to a naturally dynamic system over 100 to 10,000 years, such as the take up by the sea or peat, is more risky than permanent chemical changes in geological formations.

Thirdly, further to 4(e) above, the certified date and timescale of certified actives affecting tCO₂eq GHG must inform the measurement of host country statistics. Besides differences in effect in assessment by analysis of IPCC climate models having dynamic storage versus independent storage, and short versus very long durations, the constraints as to what is a financial and insurable duration risk needs reasonable alignment with a meaningful duration from the whole climate view. In other words, markets which vary need a standard measure, such as USD/oz of 99.95% purity gold, 10 year gilts, bbl of Brent crude, or the FAO rice price index.

Different jurisdictions may have different splits between public entity and private entity risks, such as addressing long term uninsurable risks, and ability to trade excess emissions, and the licencing of responsibility for emission management to entities in various markets. In this we don't distinguish between voluntary and compliance markets as both can be commercial but have the same need to respect the host jurisdiction data to support the mechanism.

In summary

The above generally supports “3 Approach based on existing actual or historical emissions, building details of the mechanism up from a national base to transparent statistical data able to be aggregated at a UN/global level, to inform policy and commercial actions”.

Setting a standard; used for policy, statistical comparisons, and commercial valuation in a mechanism “to contribute to the mitigation of greenhouse gas emissions and support sustainable development” (Paris Agreement, Article 6, paragraph 4).

Whilst defining permanence is difficult, defining a standard that is practical, is to set a timescale between the human centric short term and the natural resources and systems affecting long term climate outcomes, recognising that long time scales have wider uncertainty bands due to the limitations of our ability to model the future. So commercially we are attracted to standards in the 50 to 100 ish years, and the full range of natural effects of excess GHG emissions on the climate are seen over the 100 to 10,000 years, remembering that past and recent emissions have very long term residuals, so a degree of over activity now is necessary, as has been noted in IPCC reports. A standard must also have liquidity to establish a market, and learns to price shorter- and longer-term climate policy and financial risks. It also works back from a scale global atmospheric impact perspective.

As a working draft we propose a base standard of 100 years of effect without gain or loss of tCO₂eq GHG to affect the concentration of CO₂eq in the atmosphere from the date the action by an entity takes place. With GHG equivalence based on the on a 100-year global warming potential (GWP) basis, as defined by the IPCC as at the date of action.

The balance sought here is we have proof of effective 100+ year infrastructure investments from ancient Roman roads to modern property, and recognise that we can and do re-develop infrastructure as the future reveals better resource uses to achieve long term goals, particularly scientific and then political development of understanding the climate as essential infrastructure, and what is a sustainable earth.

Such a timescale also allows shorter successive blocks of action to be aggregated into 100 year impacts. (Noting that use of ‘tonne/years’ is not acceptable, neither is the idea of 100tonnes stored for 1 year equal to 1 tonne stored for 100 years.) Blocks of ex-post 1 tonne for 10 years, over 10 successive decades, is equal

to a 1tonneCO₂eq. which is calibrated against the total goal standard of achieving only +1.5deg C in 100 years.

Additionality (chapter 5):

CCSA notes that the inherent differences between engineered and nature-based removal activities should be considered when assessing the additionality of those activities. The incremental contribution of engineered carbon removals to climate change mitigation is explicit given the characteristics of such projects (i.e., removals would not have occurred without the implementation of the project), justifying that methodologies treat these activities as additional by default.

For many removal activities, the incentive provided by the certification will likely complement national/regional grant funding. It is possible that compliance with 'financial additionality' is harder to justify for removal projects receiving support from national or regional programmes (e.g., grant funding, business model support), since they can be less dependent on revenues from the sale of carbon removal units.

CCSA thus support a simplified approach to the additionality test, with the inclusion of engineered carbon removals in a 'positive list of technologies', where additionality is assumed by default.

Leakage (chapter 6):

Should pre-project activity emissions and upstream emissions be accounted as activity emissions or leakage emissions, or be identified by the Supervisory Body as being beyond the scope of activity accounting guidance? What further assessment is needed in this regard?

Please see response to 'Requirements on baselines' above.

Pre-project activity emissions should not be considered leakage, otherwise there remains no goal posts as to how far back in time you review pre-project activity, for example prior to retrofitting CCUS onto an existing plant. Leakage should be defined as a default of a certification and must be remedied.