



Brussels, 10th October 2022

Answer to the call for input 2022 - activities involving removals under the Article 6.4 Mechanism of the Paris Agreement

Regarding the two documents, "Draft recommendations (Annex 5 to the SB002 annotated agenda)" and the in-meeting working document on "Recommendations for activities involving removals under the Article 6.4 mechanism" (SB002 in-meeting working document), Carbon Market Watch would like to submit the below input. We would also like to recall our input – prior to the 2nd SB meeting – on removals, methodological requirements, and appeals/grievances, which is available [here](#) (please note this earlier submission was made before any SB documents on removals had yet been uploaded).

[Draft recommendations - Requirements for the development and assessment of mechanism methodologies pertaining to activities involving removals](#)

- Permanence of storage is a key issue to determine whether a removal of GHGs has actually taken place. Without long-term durable storage an activity does not lead to carbon dioxide removal (CDR).
 - The concept of permanence is addressed in an extremely weak fashion throughout this document: it is not defined and tonne-year crediting is included for consideration, without a clear definition of what it entails. While medium-term storage might have some value, it cannot and should not in any way be seen as equivalent to long-term storage.
 - The four options presented for 'permanence' (40, 50, 60 or 100 years) are all far too short. [A minimal climate-relevant timescale for storage from permanent CDR is at least two to three centuries](#). Labelling any shorter storage solutions as 'permanent' would grossly misrepresent the impacts of the removal activity.
- The additional requirements for geological storage seem far stricter than those for land-based stocks. This is counterproductive as the problems with regard to permanence of storage and potential reversals are far less blatant for geological storage than for land-based stocks. At the very least the burden of proof of storage and any requirements should be equivalent for both types of storage.
- CDR needs to be defined in this document, and that definition should build on the excellent work by [Tanzer and Ramirez](#) that describes how confusing terms used in this field can undermine climate action and convolute different types of mitigation activities that can lead to double counting. The definition of CDR adopted by the Supervisory Body should contain at least the following elements:
 - Physical greenhouse gases are removed from the atmosphere;
 - The removed gases are stored out of the atmosphere in a manner intended to be permanent, for at the very least 2 to 3 centuries;

- Upstream and downstream greenhouse gas emissions associated with the removal and storage process are comprehensively estimated and included in the emission balance;
- The total quantity of atmospheric greenhouse gases removed and permanently stored through the activity is greater than the total quantity emitted by and/or associated with the activity.
- “Activities including removals” is a problematic term to use when considering removal activities. A better term would be ‘activities leading to removals’ as the focus should be on the actual delivery of carbon removals rather than incentivizing any activity which could potentially involve removals.
- Tonne-year is not an appropriate metric for a removal discussion: the storage must be long-term or otherwise no removal has taken place.
 - Under the heading “Addressing reversals” in appendix 1 it is required that in the case of tonne-year crediting “the mechanism methodology shall require that no reversals occur”. This is impossible to require, as reversals can happen for any CDR method - especially land-based CDR methods.
 - Tonne year accounting aims to create a false equivalence between storing many tonnes of carbon for a short period of time, and storing few tonnes for a long period of time. This is inaccurate. From a carbon budget perspective, storing carbon for 1 year makes no difference whatsoever for climate action. And while storage of carbon over a few decades has benefits for climate action, these are very difficult to compare in a quantitative manner to the benefits of long term/permanent storage. Creating this equivalence will open the door to creative accounting in carbon markets.
 - In addition, stating that the credits “shall be deemed permanent and the carbon stocks for which credits were issued may be either preserved for future issuance of credits or may be emitted” invites double or more counting over time of a single removal activity in case of no reversals, while in case of a reversal no credits should ever have been issued.
- It is important to note that a permanence buffer is unlikely to work over a reasonable timeframe (200-300 years) for land-based crediting and that host-party guarantees are critical rather than optional in this regard. In addition, partial issuance of credits (as proposed in annex 1 paragraph 4(d)(ii)(a)(ii)) could be advantageous if implemented carefully. Combined with a buffer pool, it would provide an incentive for project developers to continue monitoring their projects for a long period of time and minimise reversals, while ensuring that they continue to benefit from revenues over that period. Without this, it is unclear how incentives or obligations could be created - and credibly enforced over centuries - to ensure that developers will continue monitoring their project for reversals for a sufficiently long period of time.

Draft recommendations - Recommendations for activities involving removals under the Article 6.4 mechanism

None of the proposed definitions of CDR or ‘removal activities’ is a good and appropriate definition. Below you can find a list of issues with the proposed definitions, as well as an additional proposal from Carbon Market Watch for an appropriate definition.

- Option 1:
 - does not define ‘durable storage’;
 - storage in products is considered while the vast majority of all products that could be envisaged will release carbon over their lifetime or during their disposal (especially over a multi-century time horizon). It would be better to drop product storage from the definition and to only refer to permanent storage solutions (which might include some products, but with a clear burden of proof to defend such storage solutions rather than an automatic inclusion); and

- No mention of 'net' effects - CDR activities can and will have significant related emissions - these need to be accounted for (for example, energy, land and materials use).
- Option 2:
 - No mention of permanence (and only indirect mention of the storage concept using the footnote to the IPCC glossary). Withdrawing, storing shortly and releasing immediately after would be considered a removal under this definition;
 - Withdrawal of a 'precursor' from the atmosphere - it is unclear what this would mean if operationalised in a CDR setting. This is a topic that needs far more scientific attention before being considered mature for inclusion in these recommendations;
 - No mention of 'net' effects - CDR activities can and will have significant related emissions - these need to be accounted for (for example, energy, land and materials use).
- Option 3
 - No discussion on how long GHGs need to be stored. Withdrawing, storing for a few minutes and releasing again would be considered a removal under this definition. This is especially problematic as storage in products is considered while the vast majority of envisaged products will release carbon over their lifetime or during their disposal (especially over a multi-century time horizon);
 - Destruction of GHGs from the atmosphere: the concept of methane destruction in the atmosphere as a removal activity is insufficiently researched and does not warrant inclusion in a definition or recommendations at this point. Especially as a reduction of methane emissions would be far easier and cheaper than any currently proposed 'destruction' activity.
- **New proposed Option 4 from Carbon Market Watch:**
 - **' "Removal activities" means anthropogenic activities resulting in a net removal of carbon dioxide (CO₂) from the atmosphere and durably storing it for at least two to three centuries in geological, terrestrial, or ocean reservoirs. It includes existing and potential anthropogenic enhancement of biological or geochemical sinks and direct air capture and storage but excludes natural CO₂ uptake not directly caused by human activities. Any emissions directly or indirectly related to the removal activity (e.g. energy use and direct and indirect land use changes) must be accounted for in the GHG balance of the activity, and only if that balance is negative can any removals be considered delivered. '**

Further to these definitions, the proposed provisions on monitoring will effectively contradict any permanence requirement. Paragraph 9 stipulates that "monitoring *may* be required after the end of the crediting period" (emphasis added) yet paragraph 15 proposes crediting periods of 15 years, twice renewable. If monitoring is only extended over a 45-year period (i.e. three times the 15 year crediting period), this will de facto limit the permanence requirement to 45 years. Without monitoring, the chance of detecting reversals is drastically reduced, and the probability of dealing with such reversals in an appropriate manner is extremely low. Monitoring should extend beyond crediting periods. Otherwise, for removals that occur in the last year of the crediting period, there will be zero years of monitoring to check if any reversal occurred.

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