



## August 2023 - Structured public consultation: Further input - Removal activities under the Article 6.4 mechanism

Puro.earth is a carbon removal crediting programme and through the Puro Standard we certify durable removal of CO<sub>2</sub> from the atmosphere. We issue CO<sub>2</sub> Removal Certificates, CORCs, per tonne of CO<sub>2</sub> removed and durably stored. CORCs are issued and retired in the public [Puro Registry](#) adding transparency to carbon markets.

Puro.earth welcomes the opportunity to respond the further input on removal activities launched in mid July 2023.

Responses to each of the elements of the consultation are contained in the pages which follow. Puro.earth's response can be summarised as follows.

- Puro.earth requests that the 6.4SB supports approach for addressing the risk of reversal which recognises the varying degree of the risk. We ask 6.4SB to study the categories and approach defined by IC-VCM in the Core Carbon Principles.
- We also ask that post-closure monitoring is kept to 20 years, or less where appropriate, as with geological storage under the EU Geological Storage of Carbon Dioxide (CCS) Directive.
- Emission reductions and removals are different types of solutions and Article 6.4 credits should be either reduction or removals and if buffer pools are used then they need to consider the type of activity;
- We'd welcome an infographic of how the different products in the workplan are linked as we build our understanding of the future Article 6.4 mechanism and those which will have an impact on removal activities.

If you have any further questions please contact, Helen Bray, [helen.bray@puro.earth](mailto:helen.bray@puro.earth)

Kind regards,

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## 2. Call for input questions by element 2.1. Monitoring and reporting

5. Should the activity proponent be required to periodically update its monitoring plan every five years and/or at the end of the crediting period?

The monitoring plan should be updated every five years at least, the Puro Standard requires this as facilities need to be re-audited every five years which includes updating the monitoring plan.

6. Should monitoring reports be submitted within the first [2] [5] [X] years of activity implementation? After the first report, at least once every [2] [5] [X] years?

Under the Puro Standard, performance monitoring reports are submitted annually and carbon removal credits (Carbon Dioxide Removals Credits, CORCs) issued after the removal has occurred.

7. Do the “reversal notification” reports referred to in SB 003 recommendations involve, e.g. digital notification of an observed event that could lead to a possible reversal of removals; submission of notification within [90] [120] [X] days of the observation; follow-up submission of a full monitoring report within [6 months] [1 year] [X timeframe]?

Reversal notification reports should be notified as soon as possible with a full monitoring report within 1 year.

8. To ensure and demonstrate the continued existence of removals, are activity proponents required to undertake monitoring and address reversals:

(a) Only during active crediting period(s) or

(b) Also [15] [X] years after the last active crediting period?

(c) The longer of [9(a)] [9(b)] or a timeframe specified by the host Party (e.g. communicated in LoA or earlier)

In summary, Puro.earth requests that the 6.4SB supports requirements for addressing the risk of reversal which includes preventative activities before the project is operational, as well as during and after operations. For post-closure requirements, we support a timeframe of 20 years or less, dependent on the risk of reversal of the activity. Therefore, none of the options above represents this requirement.

The timeframe for addressing the risk of reversals needs activities to occur before, during and after the operation of the project.

*Before* – we ensure through our requirements in the methodologies that the risk of reversal is minimised and that activities can deliver durable storage of CO<sub>2</sub>. Compliance with the requirements on the chosen storage sites is verified in Facility Audit through independent 3<sup>rd</sup> party verification before issuing credits to the removal activity.

*During* – as we stated above, we have annual performance monitoring when the project is operational therefore carbon credits are only issued after the removal has occurred (e.g. ex-post carbon credits) and ensures permanence is continuously met.

*After* – Pre and post-closure requirements to address the risk of reversal are CO<sub>2</sub> Removal methodology specific.

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For example, for [Carbonated Materials](#) and [Enhanced Rock Weathering](#) methods, the IPCC<sup>1</sup> has concluded that, “*The fraction of CO<sub>2</sub> stored through mineral carbonation that is retained after 1000 years is virtually certain to be 100%. As a consequence, the need for monitoring the disposal sites will be limited in the case of mineral carbonation*”, and the CO<sub>2</sub> removal supplier must provide a risk assessment and mitigation plan for the risks related to the permanence of the CO<sub>2</sub> sequestration and potential re-emission of CO<sub>2</sub>.

In the [Terrestrial Storage of Biomass](#) methodology, the CO<sub>2</sub> Removal Supplier needs provide a monitoring plan for early detection of a reversal and to demonstrate the ownership of land title for 100 years and a fund to cover financial requirements.

For [Biochar](#), there is a pre-issuance deduction based on degradation curves as a function of biochar quality, soil temperature and expected reversal after a time period of 100 years has lapsed.

[Geological storage](#) methodology follows the post-closure monitoring requirements of the EU Carbon Capture and Storage (CCS) Directive which is 20 years or less, or other national legislation such as the US Environmental Protection Agency Class VI injection wells.

9. Is simplified annual reporting required to ensure and demonstrate the continued existence of removals? In what cases and how long?

For Performance monitoring and issuance of CORCs, we require annual reporting. Post-closure monitoring depends on the type of removal activity as stated under Q8. We are unclear what extra information the annual reporting would bring during when the activity is post-closure.

10. Are measures required to address the residual risk of reversals beyond the monitoring timeframe? If so, for how long, and what are the options for, e.g. the mechanism(s), responsible entity(ies), oversight?

See also our response to Q8.

Puro.earth requests that the 6.4SB supports requirements for addressing the risk of reversal which recognises the varying degree of the risk. We ask 6.4SB to study the categories and approach defined by IC-VCM in the Core Carbon Principles.

The timeframe for addressing the risk of reversals needs activities to occur before, during and after the operation of the project.

*Before* – we ensure through our rules/methodologies for the validation audit of the project, and through independent verification that the chosen storage sites and activities can deliver durable storage of CO<sub>2</sub>, and therefore risk of reversal is minimised.

*During* – we have annual performance monitoring when the project is operational therefore carbon credits are only issued after the removal has occurred (e.g ex-post carbon credits) and ensures permanence is continuously met.

*After* – Post-closure requirements to address the risk of reversal is methodology specific. For example, with geological storage this covered by legislation in some regions.

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<sup>1</sup> M. Mazzotti, J. Abanades, R. Allam, *et al.* Mineral carbonation and industrial uses of carbon dioxide. In: *IPCC Special Report on Carbon Dioxide Capture and Storage*. Ed. By B. Metz, O. Davidson, H. C. de Coninck, *et al.* Prepared by Working Group III of the Intergovernmental Panel on Climate Change. [https://www.ipcc.ch/site/assets/uploads/2018/03/srccs\\_chapter7-1.pdf](https://www.ipcc.ch/site/assets/uploads/2018/03/srccs_chapter7-1.pdf). Cambridge University Press, New York, NY (United States), 2005, pp. 319–338



## 2.2. Addressing reversals 2.2.1. General

11. What type of risk rating is used to calculate an activity's buffer contributions? (a) The results of an individual activity's risk assessment; (b) A standard rate determined by the 6.4SB; (c) Either measure could be appropriate, depending on the circumstances (in this case, what factors should determine the use of an activity-specific or standard risk rating)?

If a buffer is deemed to be required, we support (a) as different activities have different risk of reversal.

12. What are the options for circumstances/triggers and/or periodic milestones for reviewing and possibly updating activity baselines, risk assessments (so, risk ratings), and monitoring plans, including in relation to:

(a) Verified reversals of removals; and

(b) The stages of activity cycle implementation?

For (b) the stages of activity cycle implementation, we believe that baseline, risk assessments and monitoring plans should be reviewed at the start of each crediting period. Furthermore, an activity proponent would need to notify the A6.4 of any changes to their activity during the crediting period that would have a significant impact on operations.

13. On what basis could requirements provide for the use of simplified / standardized elements or mandate the use of more frequent, full, or activity-specific elements and what are the requirements that may be relevant? (a) Activity type or category; (b) Risk rating level (e.g. above versus below a given %-based threshold); (c) Risk assessment contents (e.g. nature, number, variety of risk factors); (d) Monitoring plan (e.g. complexity, frequency, responsible entity).

No response

14. Should procedures take the same or different approaches to instances of reversals that are (a) intentional/planned versus (b) unintentional / unplanned? (a) How/would other tools to address reversals involving direct credit replacement (including use of insurance / guarantees) be used in combination with a buffer pool?

For the climate impact any reversal, intentional or unintentional, has the same effect to global warming. The procedures in place need to ensure that crediting programs and activity proponents are incentivised to minimize the risk of reversal.

## 2.2. Reversal risk tools—General: Buffer pools, direct credit replacement, insurance / guarantees

15. Regarding reversal risk buffer pools, direct credit replacement, and insurance / guarantees: (a) What is the current practice with these reversal risk tools, including the extent and nature of their use (respectively and in combination), transaction costs and how these are financed, and potential roles of the Host Party in multi-decadal compensation requirements; (b) The circumstances under which the use of a given tool may be required or supplemental—for example, for intentional versus unintentional reversals, or during versus beyond the last active crediting period—and rationales.



No response

### 2.2.3. Reversal risk tools: Specific

16. What are options for robust buffer pool design, including conditions and procedures for its use, ER composition, replenishment, and administration.

No response

17. The need for additional procedures and guidance for the 6.4SB, PPs, insurers/ guarantors to implement options for direct ER replacement, including for insurance or guarantees.

No response

### 2.2.4. Treatment of uncanceled/unused buffer ERs

18. Are uncanceled ERs in the buffer pool returned to the activity proponent to incentivize performance and/or automatically cancelled, and is this done periodically throughout activity cycle or only after the end of the activity lifecycle or the host Party NDC timeframe?

If a buffer is deemed to be required for durable carbon removal activities with very low to nil risk of reversal, we support that then uncanceled ERs should be returned to the activity proponent.