

Article 6.4 mechanism: guidance and questions for further work on removals

Drax Group Plc response to structured consultation – June 2023

Executive Summary

Drax Group welcomes the opportunity to respond to the structured consultation launched by the Supervisory Body at its fifth meeting. Responses to each of the elements of the consultation are contained in the pages which follow.

Prior to its responses, Drax considers it helpful to elaborate its overarching vision for carbon removal projects in the context of the consultation elements. This vision informs its own plans for Bioenergy with Carbon Capture and Storage (BECCS), projects which will deliver additional, quantifiable and permanent removals of CO₂.

- The latest climate science shows the necessity of deploying carbon removals at scale to achieve net zero by mid-century. Removals should focus on activity types that offer permanent storage of CO₂ to yield the greatest climate mitigation benefit. This means that the Article 6.4 mechanism should incentivise projects offering durable storage of CO₂, such as through BECCS. The requirements for crediting periods, monitoring and reversals should:
 - Be appropriate to the project characteristics;
 - Be proportionate to project risks; and
 - Enable projects to be developed and financed.
- Monitoring periods and crediting periods are established concepts in carbon markets. Their purpose is to provide certainty and transparency regarding climate mitigation outcomes, in turn enabling accurate crediting. These frameworks were delivered principally to cater for emissions reduction projects, often relying on natural ecosystems with a relatively high risk of reversal, and where the climate outcome depended on assessment of uncertain counterfactuals embedded into project baselines. By contrast, BECCS projects involve sequestering CO₂ in geological formations, where the risk of reversal from well-managed stores has been shown to be extremely low, and the climate benefit in terms of CO₂ removed from the atmosphere can be directly measured when the CO₂ is transferred to storage.
- Parties at the forefront of delivering carbon capture and storage technologies, such as the US, UK and EU, already have or are in the process of developing robust regulatory regimes dealing with the long-term CO₂ storage in geological formations. These regimes place or will place stringent requirements on storage owners / operators to monitor stored CO₂, and to take action if there is a reversal event, both in terms of remediation of the facility and compensating for the CO₂ emitted. After a specified period, liability is expected to transfer to the relevant national state.

In light of these features of BECCS projects:

- It is appropriate for crediting periods to be longer for BECCS projects than they have been for traditional carbon markets projects, because the climate impact can be clearly established at the commencement of the project and would not be expected to change over the project lifetime. Drax considers the 15 year crediting periods

contained in the COP26 decision text to be appropriate for BECCS. A renewable crediting period of 15 years should facilitate project financing, which is an important consideration for multi-billion dollar infrastructure projects.

- Carbon removals from BECCS can be considered permanent in jurisdictions with robust regimes for long-term CO₂ storage, because of the negligible risk of reversal over centuries. This is the approach being taken by the European Commission in its draft certification framework for carbon removals. Any subsequent leakage of CO₂ from the store can be regarded as a separate emissions event, for which the regulatory regime provides the appropriate requirements for remediation and mitigation. The requirements for monitoring and reversals under the mechanism should therefore drawn upon and be consistent with the regulatory regimes for CO₂ storage in those jurisdictions.
- The use of buffers should not be a requirement for projects with geological storage because of the negligible risk of reversal. Buffer requirements would likely be disproportionate to the real risk of reversal. In addition, given the multibillion-dollar investment required in BECCS projects, any pooling of risks between projects could make them unfinanceable.

The approaches outlined above are appropriate to the specific characteristics of projects using geological storage such as BECCS and proportionate to project risks. They will enable projects to be developed and financed. Given the urgent need to deploy permanent carbon removals at scale, we urge the Supervisory Body to ensure the mechanism enables rather than hinders high-integrity projects from being developed.

Thank you for considering Drax's input.

Yours faithfully

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Commercial Director

Cross cutting questions

Discuss the role of removals activities and this guidance in supporting the aim of balancing emissions with removals through mid-century.

Understood within the IPCC context, the role of removals is not to permit increased or continuing levels of emissions, but rather to counterbalance residual societal emissions in hard-to-abate sectors, remove historical emissions and address the now unavoidable emissions overshoot projected within the global carbon budget this century. To achieve net zero by mid-century and keep alive hopes of limiting global warming to 1.5C or 2.C above preindustrial levels, significant deployment of removals will be required.

The role of the guidance is to facilitate the initiation of the Article 6.4 mechanism by providing clarity on how it should treat removals. Such guidance should lead to clear market signals which enable project proponents to foresee and make use of the market-based opportunities of the mechanism. This in turn should support ambition in global climate action and contribute to the scaling of both removals supply and demand, both within the new market and outside it, recognising the UNFCCC's status as a standard bearer.

How are these elements understood, in particular, any interrelationships in their functions, timeframes, and implementation? (a) Monitoring period (b) Crediting period (c) Timeframe for addressing reversals

The monitoring period is the period of time during which data is collected to determine the net GHG benefit of the project. Separate monitoring periods are typically contiguous in practice for a given project. Once collected, data in a monitoring period is reported and processed for verification.

The crediting period is a time limited window within which mitigation achieved by a project can be eligible for carbon crediting. Periodic expiry and renewal of crediting periods allows for projects to have:

- i. their mitigation outcomes verified,
- ii. quality assurance performed; and
- iii. their baselines and continued eligibility for credits reassessed.

This process also allows for the re-evaluation of the project within the latest climate context. The timeframe for addressing reversals should commence at the initiation of a project and possibly include a proportional time period post project closure. This latter period could be categorised as a post-project monitoring period. This period should vary depending on the project type, according to the scientifically assessed risk of non permanence; the greater the risk, the longer the post-project monitoring period.

For removals with high levels of permanence, such as those with geological storage, the post-project monitoring period should be low or nil. Where projects are subject to closure or monitoring requirements by domestic regulations, this should be considered and the post-project monitoring period under the mechanism should be aligned to avoid duplication of requirements.

Specific elements

Discuss the role and potential elements of definitions for this guidance, including "Removals".

The definition of removals should follow IPCC precedent and contain the dual components of both carbon dioxide sequestration from the atmosphere and durable storage. Each of these components alone are necessary but not sufficient.

Monitoring and reporting

What timeframes and related procedures should be specified for these elements referred to in A6.4-SB003-A03? a. For initial monitoring and submission of monitoring reports (paragraph 3.2.14); (a) For subsequent monitoring and submission of monitoring reports (paragraph 3.2.14); (b) For monitoring and submission of monitoring reports following an observed event that could potentially lead to a reversal (paragraph 3.2.14); (c) For monitoring and reporting, including any simplified reporting, conducted after the end of the last crediting period of activities involving removals (paragraphs 3.1.10 and 3.2.13).

“Initial monitoring” should commence at the beginning of the crediting period, with initial monitoring reports issued at a temporarily increased rate of frequency relative to “subsequent monitoring”. Subsequent monitoring should then be delivered twice a year within the crediting period. Should the host country have in place monitoring obligations which require information that overlaps with that required by the mechanism’s monitoring reports, such information may be used in mechanism reporting.

Events observed that could lead to a reversal must be submitted to the SB within eight weeks of the event having taken place.

Monitoring and reporting after the last crediting period (“post-project monitoring”) must be done on an annual basis for a time period determined by the risk of non-permanence, or substituted with appropriate domestic regulatory monitoring arrangements. For example, projects with geological storage subject to robust regulatory requirements for monitoring of said storage should have either a de minimis or no post project monitoring period at all within the context of the 6.4 mechanism.

Accounting for removals

Discuss any further considerations to be given to the core elements for accounting for removals in A6.4-SB003-A03; where possible, identifying their applicable scope, i.e., relevance to all 6.4 mechanism activities, to removals activities, or to specific removal activity categories or types.

Judging from the most recent iteration of the information note on removals, it is unclear whether the elements relating to accounting for removals (3.2) in A6.4-SB003-A03 are sufficient to accurately accommodate Bioenergy with Carbon Capture and Storage projects. In accordance with the submissions made by the Negative Emissions Platform, South Pole, Carbon Business Council, Coalition for Negative Emissions and Drax Group to the 18-25 May call for input, the approach to accounting for removals under BECCS activities must respect the established approach under the IPCC. This argumentation is repeated below, drawn from Drax Group’s related submission:

The note fails to adhere to the IPCC’s Guidelines for National Greenhouse Gas inventories, whereby emissions related to biomass are reported in the land sector through changes in carbon stock:

“If the [CCS] plant is supplied with biofuels, the corresponding CO₂ emissions will be zero (these are already included in national totals due to their treatment in the AFOLU sector), so the subtraction of the amount of gas transferred to long-term storage may give negative emissions. This is correct since if the biomass carbon is permanently stored, it is being removed from the atmosphere.”

Consequently, CO₂ emissions at the point of end use are ‘zero-rated’ to avoid double-counting, and capture and storage of such emissions is reported as removals or ‘negative emissions’. Reporting the capture of biogenic carbon as avoidance or reduction would therefore create an inconsistency between the accounting of CO₂ for the purposes of the 6.4 mechanism and those same emissions when accounted for in host country greenhouse gas emission inventories.

Crediting period

Discuss any further considerations to be given to the core elements for crediting periods in A6.4- SB003-A03; where possible, identifying the applicable scope, i.e., relevance to all 6.4 mechanism activities, to removals activities, or to specific removal activity categories or types

N/A

Addressing reversals

Discuss the applicability and implementation aspects of these approaches, including as stand-alone measures or in combination, and any interactions with other elements of this guidance: a. Non-permanence risk buffer (pooled or activity-specific); b. Insurance / guarantees for replacement of ERs where reversals occur (commercial, sovereign, other); c. Other measures for addressing reversals in full.

Non-permanence risk buffers are established practice in carbon markets for addressing the risk of reversals. They are associated with the level of risk of reversal commonly associated with traditional emissions reductions or conservation projects.

Removals activities with a high likelihood of permanent CO₂ storage (e.g. >99% of CO₂ remaining stored after 100 years) should not be subject to non-permanence risk buffers.¹ For capital intensive projects such as those under BECCS or DACCS, buffer contributions equating to 5-10% of credit issuance can have a materially detrimental effect on project financing and viability. This appears to be self-defeating where such levels exceed the real level of scientifically substantiated risk; the mechanism guidance should enable, not block, legitimate climate action. At most, any applicable buffer should be set at a rate proportional to scientifically substantiated risk.

Discuss the appropriate timeframe(s) for applying the approaches, including any interactions with other elements of this guidance and the applicable scope, i.e., relevance to all 6.4 mechanism activities, to removals activities, or to specific removal activity categories or types.

¹ A recent study on geological storage in the UK indicated that under a ‘worst case scenario’ >99.9% of injected CO₂ will be retained within its storage complex over 25 years of injection operations and 100 years of post-injection monitoring: “Deep Geological Storage of CO₂ on the UK Continental Shelf Containment Certainty”, Department for Business, Energy & Industrial Strategy, 2023.

The approaches should be implemented for the duration of the crediting period plus any post-project monitoring period to be determined by the Body in accordance with the assessed risk of non-permanence and subject to any domestic regulations requiring ongoing monitoring.

What risks of non-permanence need to be minimized, and how can these risks identified, assessed, and minimized?

Removals with a relatively greater risk of reversal such as those not involving geological storage of CO₂ should be subject to appropriate requirements for collateral, such as through a buffer. These risks should be identified and assessed through a non-permanence risk assessment prior to project implementation. Periodic reassessment of the risk of reversal may be necessary for these removals activities to ensure that appropriate mitigation is in place.

For removals activities involving geological storage, the risk of non-permanence is negligible. A non-permanence risk assessment should still apply, but periodic reassessment of the risk of reversal would not be necessary in light of the negligible scientific risk.

In respect of risk assessment, how should the following elements be considered in the implementation of the approaches in (a) and any other relevant elements in this guidance? a. Level of non-permanence risk assessment, e.g., activity- or mechanism-level b. Timing for risk assessment(s) c. Entity(ies) responsible for risk assessment(s), e.g., activity proponent, 6.4SB, actuary

Non permanence risk assessments should focus on scientifically substantiated risks owing to the given technology of the project and its CO₂ storage. They should be: conducted at mechanism level and assessed prior to initiation of the project in a scientifically robust manner..

Geological storage has a range of supporting scientific literature assessing the risk of reversal of a variety of CO₂ reservoirs. The Supervisory Body should consider how these may be taken into account in assessing non-permanence under this element.

How should the following elements be considered in the implementation of the approaches in (1) above and any other relevant elements in this guidance? a. Methods for determining the level of buffer pool contributions b. Composition of buffer pool, including in relation to ER vintages and contributing activity types or categories c. Intentional and unintentional reversals d. Treatment of uncancelled buffer ERs, including after the end of the last crediting period of the contributing activity e. Specifications for ERs that cancelled for compensate for reversals, including in relation to ER vintages and contributing activity types or categories f. Replenishment in case buffer cancellations exceed contributions; slide language on re-raising baseline level of storage before new crediting

Buffer contributions should not apply to projects with >99% chance CO₂ remaining after >125 years, such as those with geological storage. Where they do apply, buffer contributions should be determined by a scientifically substantiated level of risk of reversal.

To aid buyer certainty, intentional reversals may need to be addressed or compensated in a different manner to unintentional reversals, potentially one which increases the scope for remediation.

Uncancelled units in any buffer following the end of the last crediting period of a project should be made utilisable for transfer by the project proponent, subject to any post-project monitoring period applied commensurate with the level of the risk of reversal.

Avoidance of leakage

Discuss any further considerations to be given to the core elements for leakage avoidance in A6.4-SB003-A03; where possible, identifying the applicable scope, i.e., relevance to all 6.4 mechanism activities, to removals activities, or to specific removal activity categories or types

The guidance to avoid leakage or otherwise adjust for it in the level of net removals should apply to all removals activities. Any estimations of leakage should be based on scientifically substantiated modelling.