

From: Jason Hochman <jason@daccoalition.org>

Sent: Wednesday, 12 October, 2022 0:41

To: Supervisory-Body <Supervisory-Body@unfccc.int>

Subject: Call for input 2022 - activities involving removals under the Article 6.4 Mechanism of the Paris Agreement.

Dear Members of the Supervisory Body:

Please find attached recommendations from the Direct Air Capture Coalition on annex 5, annex 6 and the in-meeting document concerning the Article 6.4 of the Paris Agreement.

We look forward to supporting these efforts further.

Thank you.

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October 11, 2022

Recommendations from The Direct Air Capture Coalition: Activities involving removals under the Article 6.4 Mechanism of the Paris Agreement

On Annex 5 and Annex 6 to the SB002 annotated agenda, and SB002 in-meeting working document

Dear Members of the Supervisory Body:

Thank you for your leadership to recommend how carbon removal activities should be included under the Article 6.4 mechanism of the Paris Agreement. [The Direct Air Capture Coalition](#) is pleased to share input on this issue with the UNFCCC's Supervisory Body in advance of the 2022 United Nations Climate Change Conference (COP27). The IPCC's 6th Assessment Report underscored the need to remove CO₂ from the atmosphere at gigatonne scale to limit warming to 1.5°C above pre-industrial levels.¹ Extending the international carbon market to include permanent carbon removal is essential to achieve this goal.

Nature-based (non-durable) and technical removal activities (durable) are both key means to limit warming to 1.5°C. Durable removal technologies like direct air capture are already scaling beyond demonstration projects. As of October 2022, 18 direct air capture facilities are capturing almost 0.01 Mt of CO₂ per year.² Facilities could soon remove billions of tonnes of CO₂ – especially by including durable removal solutions in Article 6.4. According to the International Energy Agency, in a 2050 net zero-consistent emissions scenario, direct air capture must be rapidly scaled up to approximately 60 Mt of CO₂ per year by 2030.³ This will be possible if international crediting mechanisms enable widespread growth and create demand certainty for durable removals to simulate investment and innovation by private firms and governments.

To help scale this solution, the Supervisory Board should consider establishing a standing organization to oversee durable removals under Article 6.4 and regulate technology and standards development. This organization could verify permanence of removals, assess emerging technologies, and create standards for uniform life cycle analysis and secure storage options. This includes setting standards on monitoring, recording, and verifying for removals and storage and determining which technologies fit the standards to be included. While annexes 5 and 6 emphasize geologically storing CO₂ in the form of a liquid or gas, they do not consider storing CO₂ as a solid, ex-situ mineralization, or in durable long-lived products. For example, mineralization can permanently sequester CO₂,⁴ mitigating leakage concerns. The standing organization could ensure innovative technologies and storage options are permitted within the Article 6.4 mechanism.

¹ IPCC, 2022: Summary for Policymakers. In: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001

² International Energy Agency, "Direct Air Capture," (2022).

³ Ibid.

⁴ US Geological Survey, "Making Minerals-How Growing Rocks Can Help Reduce Carbon Emissions," (2019).

The Supervisory Body should address the risk of “mitigation deterrence” associated with negative emissions technologies and emphasize that mitigating emissions is essential to limit warming. While these technologies are widely accepted in the climate community as a critical component in global pathways to net zero emissions, they have been criticized due to the perceived risk of detracting from emissions reduction efforts and relying on developing technologies. This phenomenon is coined as “mitigation deterrence” or the prospect of reduced or delayed mitigation from introducing or considering another climate intervention.⁵ We suggest the Supervisory Body further research the potential effects of demand eligibility on carbon credits to avoid overissuance and reserve credit buffers to compensate for project reversals. In addition, understating baselines of non-durable stocks poses a risk to ensuring additionality and preserving scarce resources. Both risks must be addressed.

The Supervisory Body should distinguish between durable and non-durable credits to ensure their utility and costs do not disincentivize either activity. The tonne-year crediting system outlined in Annex 6 does not account for the permanence of durable removals, nor that non-durable removals temporarily sequester CO₂ and therefore do not negate the effects of long-lived CO₂ emissions. Should tonne-year crediting be used for Article 6.4, the system should require entities to include a sufficiently long time horizon and use a discount rate of 0% until the end of the period. However, tonne-based crediting would ensure demand for permanent removals – an essential step to encourage investments in durable removal facilities, while permanently removing long-lived CO₂ from the atmosphere. To support this crediting system, the permanence period for durable removals should be extended to a minimum of 100 years given the low risk of reversal for geologically stored CO₂ (as a liquid, gas, or solid).⁶ Annex 6 states that there is less certainty of additionality for long-term and large-sized removal activities.⁷ However, this does not necessarily apply to large-scale durable removals. Article 6.4 can incentivize investment in durable removal projects, like direct air capture facilities, in low- and middle-income countries which will generate revenue that otherwise would not occur. The certainty of regulatory additionality for durable removals resulting from Article 6.4 should be distinguished from non-durable removals to avoid disincentivizing investments in durable removals.

The suggested crediting period of 15 years, renewable a maximum of twice, should be extended to a minimum of 30 years for durable removal facilities. The development of removal projects requires years to identify sites and storage locations, engage communities, and secure off takers. Further, in the case of durable solutions, facilities are designed for an initial useful life that likely extends beyond the proposed 15-year crediting period. Without certainty around a renewal of the crediting period, the capital costs may outweigh identifiable revenues, risking disincentivizing durable removals.

⁵ Markusson, N., McLaren, D., & Tyfield, D. (2018). Towards a cultural political economy of mitigation deterrence by negative emissions technologies (NETs). *Global Sustainability*, 1 doi:<https://doi.org/10.1017/sus.2018.10>.

⁶ Kelemen P, Benson SM, Pilorgé H, Psarras P and Wilcox J (2019). “An Overview of the Status and Challenges of CO₂ Storage in Minerals and Geological Formations.” *Front. Clim.* 1:9. DOI: 10.3389/fclim.2019.00009

⁷ Article 6.4 Mechanism (2022). “Annex 6: Information note: Removal activities under the Article 6.4 mechanism Version 01.0.” Page 35.

Finally, the credits for durable removals in Article 6.4 must synchronize with carbon markets (compliance and voluntary), including national and regional emissions trading schemes. The crediting standards and registries should be non-exclusive to ensure flexibility for providers. Including a compliance label would also help prevent double issuance across carbon markets and bilateral investments. This will help facilitate investment in low- and middle-income countries, sequester billions of tons of CO₂ without double counting, and ultimately help mitigate climate change.

We look forward to working with you.

Signatories

Ryan Anderson, Founder and CEO, Parallel Carbon

Matt Atwood, CEO, AirCapture

Rory Brown, University College London and Co-Founder, Airhive

Ethan Cohen-Cole, CEO and Co-Founder, Capture6

Jason Hochman, Co-Founder and Senior Director, Direct Air Capture Coalition