



Center for International Environmental Law (CIEL) Response to Call for Input 2023 – structured public consultation: Removal activities under the Article 6.4 mechanism

The Center for International Environmental Law (CIEL) appreciates the opportunity to provide input to the Supervisory Body as it considers its recommendations for removals through this structured consultation process.¹ The CMA rightly decided to mandate a structured public consultation process; however, the current timeframe does not align with that mandate. A two-week period in which to provide comments on a multi-page questionnaire and on topics as critical as whether and how to include removals in the Article 6.4 mechanism without undermining the integrity of the Paris Agreement is wholly insufficient (which the Supervisory Body recognized in explicitly allowing late submissions). This is especially true given that many potential submitters were also engaged and participating in the meetings of the UNFCCC subsidiary bodies in Bonn during the same two-week period. We recognize that there are multiple ways and times in the development of policies, recommendations, etc. as well as in the approval of methodologies, projects, and activities that allow for engagement of and consultation with rightsholders, however, the numerous opportunities does not mean that each opportunity itself should not be given appropriate time.

The activities, especially removals activities, that may ultimately be part of the Article 6.4 mechanism have the potential to directly and indirectly adversely impact people and the environment, and also pose significant risk to undermining the integrity of the Paris Agreement and hindering the ability to limit global temperature rise from ever exceeding 1.5°C. That makes it all the more critical that public consultation processes, especially in this policy design phase, is structured in a manner that allows for a wide-range of rightsholders, including those who may be impacted by Article 6.4 mechanism activities, to participate.

A meaningful public consultation process necessitates a significantly longer timeframe to ensure deeper engagement and the ability for participants to prepare high-quality submissions with corresponding evidence and information. It is essential for the Supervisory Body to keep this in mind as it continues to develop processes and rules, and especially when designing the activity cycle and the requirements for activities.

We have provided inputs on selected questions from the [Guidance and questions for further work on removals](#).

¹ CIEL has previously responded to calls for submissions including submitting [comments on the call for submission on the removals prior to SB003](#) and in [response to the call for submissions from Decision 7/CMA.4](#).

Cross-cutting questions:

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

The IPCC is clear that the best way to keep temperature rise below 1.5°C is “deep, rapid, and sustained reductions in greenhouse gas emissions” this decade.² Further “[e]very increment of global warming will intensify multiple and concurrent hazards”³ and delaying actions will serve to increase risks of losses and damages and further compromise the ability to adapt.⁴ This need to rapidly shift away from fossil fuels and to renewable energy means the emphasis for climate action should be on proven solutions that are readily available at scale. The mitigation options with the most potential this decade (and the ones that are most cost-effective) are wind and solar.⁵ While biological carbon sequestration will have a role to play in the long-term achievement of balancing emissions with removals by 2050, that does not make it an appropriate activity for generating offset credits. It, therefore, is not advisable to incentivize “removals” through a carbon market, especially not in the near term.

Failure to take ambitious and immediate mitigation action will result in overshooting not only 1.5°C, but possibly also 2°C, which would have even more catastrophic consequences than are currently being seen. While the IPCC contemplates the ability to return from overshoot through so-called “removals,” it also warns that some impacts will be irreversible and we may pass tipping points in a way that cannot be undone.⁶ The climate effect of carbon dioxide removal at scale remains unknown and is not equivalent to the climate effect of avoiding the same quantity of carbon dioxide emissions. As the IPCC pointed out in its Special Report on 1.5°C, “[l]imits to our understanding of how the carbon cycle responds to net negative emissions increase the uncertainty about the effectiveness of CDR to decline temperatures after a peak. Limitation on the speed, scale, and societal acceptability of CDR deployment also limit the conceivable extent of temperature overshoot.”⁷

Reducing emissions is the most effective approach to mitigating global temperature rise because, crucially, carbon removals and carbon emission reductions are not interchangeable or directly substitutable. Numerous studies have debunked previous assumptions about their interchangeability, revealing important factors such as the asymmetry in the climate-carbon cycle response to positive and negative CO₂ emissions.

One study conducted by researchers at Simon Fraser University and Concordia University used an Earth system model to simulate the effects of both positive and negative CO₂ emission pulses of varying magnitudes and applied from different climate states.⁸ The results showed an asymmetry in

² IPCC, *Sixth Assessment Report (AR6)*, Summary for Policymakers, paras. B.1, B.5, B.6, C.2, C.3, C.4 (2023), <https://www.ipcc.ch/assessment-report/ar6/>.

³ IPCC, *AR6*, Summary for Policymakers, para. B.1.

⁴ IPCC, *AR6*, Summary for Policymakers, paras. B.4, C.2.

⁵ IPCC, *AR6*, Summary for Policymakers, fig. SPM.7.

⁶ IPCC, *AR6*, Summary for Policymakers, para. B.7.

⁷ IPCC, *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above PreIndustrial Levels and Related Global Greenhouse Gas Emissions Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, Ch. 2, ES, at 34 B.5 (2018), <https://www.ipcc.ch/sr15>.

⁸ Kirsten Zickfeld et al., *Asymmetry in the climate-carbon cycle response to positive and negative CO₂*

the climate-carbon cycle response, with a greater effectiveness of CO₂ emissions in raising atmospheric temperature compared to an equivalent CO₂ removal in lowering it.⁹ This asymmetry was attributed to non-linearities and state dependencies in the response of the land and ocean carbon fluxes.¹⁰ The study, in essence, proved the differences in climate outcomes when offsetting positive emissions with negative emissions of the same magnitude, concluding that simply removing CO₂ may not be a one-to-one substitution for reducing CO₂ emissions.¹¹

In an even more recent study by the Centre for Atmospheric and Oceanic Sciences at the Indian Institute of Science, researchers, also using simulations in an Earth system model, tested the myth of one-to-one substitutions between carbon removals and reductions of carbon emissions represented by afforestation and an equivalent reduction in fossil fuel emissions respectively.¹² Their simulations thus revealed that reducing fossil fuel emissions leads to a cooler climate compared to afforestation, with a temperature difference of 0.36°C to 0.47°C in the long term (2471-2500).¹³ The researchers explained this result by afforestation causing biophysical changes (contributing to warming) in addition to changes in the biogeochemical cycle (contributing to cooling).¹⁴

The Intergovernmental Panel on Climate Change (IPCC) also acknowledges the asymmetry between CO₂ emissions and removals. According to their report on the physical science basis of climate change (AR6, Working Group I), CO₂ emissions are 4 ± 3% more effective at raising atmospheric CO₂ than CO₂ removals are at lowering it, for cumulative emissions and removals greater than or equal to 100 PgC.¹⁵ This asymmetry arises from state-dependencies and non-linearities in carbon cycle processes, requiring additional carbon dioxide removal to compensate for positive emissions of a given magnitude.¹⁶

Article 6 is designed to allow Parties to the Paris Agreement to engage in cooperative activities “to allow for higher ambition.” To date, carbon markets largely have proven to be inadequate mechanisms to increase ambition as offsets do not substantially reduce emissions. If the Article 6.4 mechanism wants to facilitate increased ambition and to contribute to the mitigation of emissions and supporting sustainable development, then its principal focus should be to incentivize and support enhanced reduction of emissions, urgently needed in the nearterm. The science and reports are clear, countries have not done anywhere near enough to address the principal drivers of climate change –fossil fuel production and use and deforestation– and have not even elaborated plans sufficient to keep global temperature rise below 1.5°C, as evidenced by the current Nationally Determined Contributions (NDCs). Thus, the emphasis of the Parties must be on proven measures to reduce emissions.

emissions, 11 Nat. Clim. Change 613, 613 (2021).

⁹ *Id.* at 613-15.

¹⁰ *Id.* at 616.

¹¹ *See id.* at 616-617.

¹² Koramanghat Unnikrishnan Jayakrishnan & Govindasamy Bala, *A comparison of the climate and carbon cycle effects of carbon removals by afforestation and an equivalent reduction in fossil fuel emissions*, 20 Biogeosciences 1863, 183 (2023).

¹³ *Id.* at 1872.

¹⁴ *Id.* at 1874-75.

¹⁵ IPCC, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Chapter 5, Executive Summary p. 9, lines 46-51 (p. 1161) August 2021,

https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf [IPCC, AR6, Working Group I].

¹⁶ *Id.*

Focusing on potential “removals” sometime in the future is a dangerous distraction that risks easing the pressure for urgently needed action to curb emissions now.¹⁷ Reliance on removals also stands in direct contradiction to States’ legal obligations under international law. Existing human rights obligations read in conjunction with multilateral environmental agreements and principles of international environmental law, including the precautionary principle and the duty not to cause transboundary harm, require States to pursue climate actions that have the greatest chance of preventing further foreseeable human rights violations due to climate change and that pose the least risk of harm to human rights.¹⁸ Moreover, the IPCC’s Working Group I and Working Group II reports (as part of the Sixth Assessment Report (AR6)) recognize that responses to climate change, such as carbon dioxide removal (CDR) and solar radiation management (SRM), not only may fail to meet their climate objectives, but also may introduce significant risks and unintended consequences for human and natural systems, exacerbating the impacts of warming and undermining adaptation.¹⁹ Addressing the physical uncertainties and adverse impacts associated with carbon removals is crucial when effectuating recommendations under Article 6.4. Several studies emphasize the limitations of relying solely on land-based carbon removal methods, such as reforestation, for offsetting CO₂ emissions.

First of all, the finite capacity of terrestrial ecosystems to store carbon and the depletion caused by past land use render relying solely on land-based carbon removal to offset CO₂ emissions scientifically flawed.²⁰ Even if all carbon released through land-use changes could be restored through reforestation, it would only lead to a modest reduction in atmospheric CO₂ concentrations compared to the projected increases resulting from fossil fuel emissions.²¹ Plus, achieving complete reforestation is implausible due to competing land uses, especially for food production alongside the growing population.²² While the land can temporarily act as a carbon sink, its capacity is limited and variable due to the effects of climate change itself, and it cannot serve as a long-term solution to offset ongoing emissions from fossil fuels.²³

¹⁷ See generally CIEL, *Fuel to the Fire. How Geoengineering Threatens to Entrench Fossil Fuels and Accelerate the Climate Crisis* (2019), <https://www.ciel.org/reports/fuel-to-the-fire-how-geoengineering-threatens-to-entrenchfossil-fuels-and-accelerate-the-climate-crisis-feb-2019/>.

¹⁸ CIEL, ETC Group, Heinrich Böll Foundation & Third World Network, “Response to Questionnaire on the impact of new technologies for climate protection on the enjoyment of human rights”, pp. 9-10 (2022), <https://www.ohchr.org/sites/default/files/2022-06/Joint-submission-to-HRCAC-GeoengineeringHumanRights-CIEL-ETC-HBF-TWN.pdf>; see also Philippe Sands & Kate Cook, Joint Opinion, secs. III, IV, V (Mar. 26, 2021), <https://www.ohchr.org/sites/default/files/2022-06/Annex-SubmissionCIEL-ETC-HBF-TWN-GeoengineeringOpinion.pdf> (provided as an Annex to Submission on the Response to the Questionnaire on the impact of new technologies for climate protection on the enjoyment of human rights); Margaretha Wewerinke-Singh et al, Submission by members of the network of academics for an International Non-Use Agreement on Solar Geoengineering, p. 6-7 (May 27, 2022), <https://www.ohchr.org/sites/default/files/2022-05/20220527-wewerinkesingh-leiden-university-SolargeoNUA%20.pdf>.

¹⁹ See CIEL & Heinrich Böll Stiftung, *Beyond the Limits: New IPCC Working Group II Report Highlights How Gambling on Overshoot is Pushing the Planet Past a Point of No Return*, pp. 1, 2, 6 (Feb. 28, 2022), https://www.ciel.org/wp-content/uploads/2022/02/CIEL_HBF_IPCC-WGII-Key-Messages-28Feb2022.pdf [hereinafter CIEL & HBF, *Beyond the Limits*]; IPCC, *Working Group II Contribution to the IPCC Sixth Assessment Report on Climate Change Impacts, Adaptation and Vulnerability [AR6 WGII]*, Summary for Policymakers [SPM], paras. B.5.4, B.5.5 at SPM-19-20 (2002), <https://www.ipcc.ch/report/ar6/wg2/>; IPCC, *AR6 WGII, Technical Summary [TS]*, TS.C.11.10 at TS-40.

²⁰ Brendan Mackey et al., *Untangling the confusion around land carbon science and climate change mitigation policy*, 3 Nat. Clim. Change 522, 522 (2013).

²¹ *Id.*

²² *Id.* at 553-54.

²³ *Id.* at 554-55.

Moreover, while nature restoration is seen as a potential solution and may certainly be a part of a solution for mitigating climate change, as well as for adapting to it while protecting biodiversity, it cannot replace the need for significant emission reductions, nor should it be used to offset ongoing emissions through a carbon market for its integrity to remain high.²⁴ Relying too heavily on land-based measures can divert attention from the urgent task of phasing out fossil fuels.²⁵

The IPCC defines Carbon Dioxide Removal (CDR) as methods that remove CO₂ from the atmosphere through the augmentation of biological sinks or the utilization of chemical processes to directly capture and bind CO₂, classifying CDR as a distinct form of mitigation, and according to the IPCC, the impacts, risks, and co-benefits of CDR deployment are highly variable and depend on factors such as the specific method, site context, implementation, and scale.²⁶ Certain CDR methods, such as reforestation, improved forest management, soil carbon sequestration, peatland restoration, and blue carbon management, have the potential to enhance biodiversity, ecosystem functions, employment, and local livelihoods (though that does not make them appropriate activities for offsets).²⁷ By design, approaches such as large-scale afforestation or biomass crop production for bioenergy with carbon capture and storage (BECCS) or biochar can pose significant problems, leading to adverse socio-economic and environmental consequences, including biodiversity loss and risks to food and water security.²⁸

In one study, exploring the uncertainties and limitations associated with large-scale biomass plantations (BPs) as a means of carbon dioxide removal (CDR), researchers indicated how the potential for terrestrial CDR (tCDR) is significantly constrained by land availability due to competing demands for food production, nature conservation, and the avoidance of unfavorable albedo changes.²⁹ The study suggests that BPs on abandoned crop and pasture areas could theoretically sequester around 100 billion metric tons of carbon (GtC) by 2100; however, this potential would be significantly lower if only cropland was available or if albedo decreases were considered as a factor restricting land availability.³⁰ Conversion of natural forest, shrubland, or grassland into BPs could lead to larger tCDR potentials, but at the cost of high environmental impacts, such as biodiversity loss.³¹

Given the limited viability of local CDR actions for achieving global net-zero emissions, especially in major emitting countries, another study revealed the necessary reliance on developing countries, which may lead to unfair distribution of climate change burdens and constraints on food and energy supplies in those countries.³² **Therefore, any established carbon market risks prioritizing**

²⁴ Kate Dooley et al., *Carbon Removals from Nature Restoration Are No Substitute for Steep Emission Reductions*, 5:7 *One Earth* 812, 812-13 (2022).

²⁵ *Id.*

²⁶ IPCC, *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Summary for Policymakers (2022), <https://www.ipcc.ch/report/ar6/wg3/> [IPCC, AR6, Working Group III].

²⁷ *Id.* at 36.

²⁸ *Id.*

²⁹ See Lena R. Boysen et al., *Trade-offs for foods production, nature conservation and climate limit at the terrestrial carbon dioxide removal potential*, 23 *Global Change Biology* 4303 (2017) (accepted for publication and undergone full peer review, but has not been through the copyediting, typesetting, pagination and proofreading process).

³⁰ See *id.*

³¹ See *id.*

³² Peter Healey, *Governing Net Zero Carbon Removals to Avoid Entrenching Inequities*, 3:672357 *Frontiers in Climate* 1, 1-3 (2021).

removals over sustainable development goals in the global south and exacerbating economic disparities.³³

In a recent review of the literature on industrial carbon removal, researchers found that point-source capture and direct air capture (DAC) both incentivized by governments actually add to CO₂ emissions rather than effectively removing them.³⁴ This result derives from current, inadequate consideration of resource usage and biophysical impacts at climate-significant scales; in essence, current literature underestimates the massive energy requirements of direct air capture and overlooks the land requirements of both point-source capture and direct air capture.³⁵ In addition to the land & energy requirements, the researchers also highlighted other scale issues, such as groundwater contamination, seismic activity, and the need for extensive monitoring and oversight.³⁶

The IPCC emphasizes further that actions in the agriculture, forestry, and other land use (AFOLU) sector can contribute to significant greenhouse gas (GHG) emission reductions and increased CO₂ removal when implemented sustainably with the key strategy being the protection of existing carbon sinks such as forests, which cannot be effectively incentivized by market mechanisms.³⁷ Moreover, the implementation of AFOLU mitigation options may face barriers and trade-offs due to climate change impacts, competing land demands, conflicts with food sovereignty and livelihoods, land ownership complexity, and cultural factors.³⁸ All modeled pathways that limit global warming to 2°C or lower by 2100 include land-based mitigation strategies and land-use changes.³⁹ These strategies often involve combinations of reforestation, afforestation, reduced deforestation, and bioenergy.⁴⁰ However, the accumulated carbon stored in vegetation and soils is at risk of being lost or reversed due to climate change and disturbances such as floods, droughts, fires, pest outbreaks, or inadequate management.⁴¹

Any introduction of removals under Article 6.4 demands extreme caution.

Land-Based Removals

Land-based removal activities, such as restoration, reforestation, or rewilding among others, if done with respect for human rights including the rights of Indigenous Peoples could potentially contribute to mitigation (as well as adaptation and enhanced resilience). However, this does not mean these activities would be appropriate for a carbon market or use as offsets. Land is also under increasing stress from climate change, which has exacerbated desertification and degradation as well as led to more frequent and severe wildfires.⁴² Thus, relying on land for removals has to be done with caution given not only these stressors, but the limited land available for such activities.

³³ *Id.* at 2.

³⁴ June Sekera & Andreas Lichtenberger, *Assessing Carbon Capture: Public Policy, Science, and Societal Need*, 5:14 *Biophysical Economics and Sustainability* 1, 1-3 (2020).

³⁵ *Id.* at 11-20.

³⁶ *Id.* at 12-13.

³⁷ IPCC, *AR6, Working Group I*, Summary for Policymakers (2021).

³⁸ *Id.* at 52.

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² UNFCCC, Structured expert dialogue on the second periodic review of the long-term global goal under the Convention (2020–2022), *Synthesis report by the cofacilitators of the structured expert dialogue*, U.N. Doc. FCCC/SB/2022/3, para. 13 (Sept. 20, 2022), https://unfccc.int/sites/default/files/resource/sb2022_03_adv.pdf.

These stressors underscore one of the fundamental problems with relying on land-based removals, which is their impermanence. As has been seen, these activities face serious risk of reversal especially due to wildfire as well as changes in governmental policies that may result in renewed deforestation. The devastating wildfires seen in the EU, the United States, Canada, and Australia, among other places, drought in the US and Africa, and floods in Pakistan illustrate the temporary nature of land-based removals and how quickly these “removals” can be undone.

Additionally, there is very limited ecosystem capacity to capture carbon over the course of the century with recent estimates suggesting that these removals would be less than 400 Gt CO₂ in total over the next 75 years, which is nowhere near the amount of emissions reductions needed.⁴³ Any such activity, therefore, would need careful consideration and monitoring to ensure not only that there are no reversals, but also that rights were upheld and that the activity is additional, there was no leakage, and it could be directly verified, among other considerations. And, as discussed above, land-based removals cannot be used to compensate for fossil emissions. Any land-based removals under the 6.4 mechanism would have to be additional and accounted for separately and on their own.

Also, as the Land Gap Report highlights, countries' climate pledges heavily rely on land-based carbon removal, which poses significant challenges to livelihoods, land rights, food production, and ecosystems.⁴⁴ The report reveals that nearly 1.2 billion hectares of land, equivalent to the current global cropland, would be required to fulfill these pledges and over half of this area, around 633 million hectares, would involve land-use changes that could displace food production and sustainable livelihoods for smallholder farmers.⁴⁵ Additionally, 551 million hectares would be dedicated to restoring degraded ecosystems. This reliance on land-based carbon removal must be reduced, and countries should instead prioritize emissions reductions from all sectors and ecosystem-based restoration approaches.⁴⁶

Engineered Removal Technologies: BECCS and DACCS

Prioritizing removals not only delays the immediate reduction of emissions that are urgently needed now, but it also presents independent risks to human rights and the environment, as documented by the IPCC, some of which remain poorly understood. This is especially true of speculative technologies meant to create engineered removals. These geoengineering technologies largely do not exist, and to the extent that they do, they cannot be deployed at scale and bring numerous ecological and social risks. As noted in the synthesis note from the UNFCCC's Structured Expert Dialogue on the Long-Term Goal, “[t]he feasibility of most CO₂ removal technology is highly uncertain. Options vary in terms of cost, potential and side effects. Moreover, overshoot could cause adverse impacts that may either take decades or even centuries to reverse or prove irreversible.”⁴⁷ Additionally, many removal technologies are dependent on carbon capture and storage (CCS), a technology that has been around for decades, been mostly used to justify

⁴³ Kate Dooley et al., Carbon removals from nature restoration are no substitute for steep emission reductions, *One Earth* 5, pp. 812-24 (2022).

⁴⁴ See generally Kate Dooley et al., The Land Gap Report (2022), <https://www.landgap.org/>.

⁴⁵ *Id.* at 8.

⁴⁶ *Id.*

⁴⁷ UNFCCC, Structured expert dialogue on the second periodic review of the long-term global goal under the Convention (2020–2022), *Synthesis report by the cofacilitators of the structured expert dialogue*, U.N. Doc. FCCC/SB/2022/3, para. 30 (Sept. 20, 2022), https://unfccc.int/sites/default/files/resource/sb2022_03_adv.pdf.

production of and to produce more fossil fuels (including through Enhanced Oil Recovery),⁴⁸ and has consistently overpromised and under-delivered on emissions reductions.⁴⁹ In fact, in its Sixth Assessment Report, the IPCC calls CCS among the highest-cost mitigation measures with the least potential to reduce emissions by 2030.⁵⁰

DACCS modeled potential depends on numerous unconfirmed assumptions. Additionally, DACCS has substantial implications for energy use, and therefore emissions, land, and water. Similarly, BECCS has substantial implications for land and water use, and therefore on food sovereignty as competition for land may arise.

The UNFCCC's sister convention, the Convention on Biological Diversity (CBD), has also taken a precautionary approach to prevent potential harm and acted to regulate or prevent engineered removals due to the risks they pose. The CBD has been a leader among multilateral environmental agreements in grappling with geoengineering having first done so in 2007. Since first doing so at its Ninth COP, the States Parties to the CBD have adopted decisions on geoengineering at five consecutive COPs. Perhaps most significantly, at COP10, they took Decision X/33, which established a de-facto moratorium on all geoengineering activities.⁵¹

Engineered Removal Technologies: Ocean Geoengineering

Marine CDR techniques have limited feasibility and threaten marine life, and it is difficult to verify the carbon removed.⁵² These techniques include ocean fertilization, ocean alkalinity enhancement, and macro-algae sequestration. The risks of these techniques have been highlighted by scientists, rights-holders (including namely fisherfolk who rely on the oceans),⁵³ and international conventions.

⁴⁸ See Bruce Robertson & Milad Mousavian, Institute for Energy Economics and Financial Analysis (IEEFA), "The carbon capture crux: Lessons Learned" (Sept. 1, 2022), <https://ieefa.org/resources/carbon-capture-crux-lessons-learned> (finding that nearly three-quarters of the carbon dioxide captured is used for EOR).

⁴⁹ See generally DeSmog, "Carbon Capture and Storage - 'False Solution' or vital tool to curb emissions?," <https://www.desmog.com/carbon-capture-and-storage-technology/>.

⁵⁰ See IPCC, AR6 Synthesis Report: Climate Change 2023, Summary for Policymakers, Fig. SPM.7 at p. 27 (March 2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf; see also IPCC, AR6, Working Group III, Summary for Policymakers [SPM], Fig. SPM.7 at SPM-50; see generally CIEL & Heinrich Böll Stiftung, *IPCC Unsummarized: Unmasking Clear Warnings on Overshoot, Techno-Fixes, and the Urgency of Climate Justice* (Apr. 21, 2022), https://www.ciel.org/wp-content/uploads/2022/04/IPCC-Unsummarized_Unmasking-Clear-Warnings-on-Overshoot-Techno-fixes-and-the-Urgency-of-Climate-Justice.pdf.

⁵¹ Convention on Biological Diversity, Decision X/33, para. 8(w) (2010) ("no climate-related geo-engineering activities** that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks for the environment and biodiversity and associated social, economic and cultural impacts,"); see (Convention on Biological Diversity, Climate-related Geoengineering and Biodiversity, <https://www.cbd.int/climate/geoengineering/>; Philippe Sands & Kate Cook, *Joint Opinion*, secs. III, IV, V (Mar. 26, 2021), <https://www.ohchr.org/sites/default/files/2022-06/Annex-SubmissionCIEL-ETC-HBF-TWN-Geoengineering-Opinion.pdf> (provided as an Annex to Submission on the Response to the Questionnaire on the impact of new technologies for climate protection on the enjoyment of human rights).

⁵² Ho, D. T., Bopp, L., Palter, J. B., Long, M. C., Boyd, P., Neukermans, G., and Bach, L.: Chapter 6: Monitoring, Reporting, and Verification for Ocean Alkalinity Enhancement, *State Planet Discuss.* [preprint], <https://doi.org/10.5194/sp-2023-2>, in review, 2023.

⁵³ Citizen Diary, "COP27: FishNet Alliance kicks against Geoengineering of Oceans" (Nov. 12, 2022), <https://citizendiaryng.com/cop27-fishnet-alliance-kicks-against-geoengineering-of-oceans/>; National Platform for Small-Scale Fish Workers Rejects Ocean Geoengineering, Memo No. NPSSF/W/Conv - 30/22 (Nov. 9, 2022), https://smallscalefishworkers.org/wp-content/uploads/2020/05/NPSSF-W-Statement-on-Ocean-Geo-Engineering_removed_221110_095637.pdf (the India National Platform for Small-Scale Fish Workers

Already, over 20 ocean geoengineering projects are selling carbon credits⁵⁴ even though there is little consensus on the ability to monitor, verify, and report on the actual carbon removed.

Ocean Fertilization could have negative consequences for eight sustainable development goals (SDGs) as well as severe impacts on marine life and can cause nutrient redistribution, restructuring of the ecosystem, and enhanced oxygen consumption and acidification in deeper waters, and has the potential for decadal-to-millennial-scale return to the atmosphere of nearly all the extra carbon removed.⁵⁵ Additionally, it is already regulated under the Convention on Biological Diversity⁵⁶ and the London Convention/London Protocol (2007)⁵⁷ and other marine CDR is being investigated. In 2010, the London Convention/London Protocol (LC/LP) adopted the “Assessment Framework for Scientific Research Involving Ocean Fertilization” to ensure that any proposals on ocean fertilization are not contrary to the aims of the LC/LP and that they are only for scientific purposes⁵⁸ and in 2013 adopted a broader decision to regulate marine geoengineering.⁵⁹ While the amendment has not yet entered into force, international law experts agree that ocean fertilization, other than for research purposes within the assessment framework and permitting conditions, is effectively prohibited under the LC/LP as contrary to the regime’s aims.⁶⁰ Currently, the Parties to the London Convention and London Protocol are considering additional regulations, including related to enhancing ocean alkalinity among other marine geoengineering techniques, given that these techniques may cause widespread, long-lasting or severe deleterious impacts.⁶¹ In a scientific letter on the paper “Deep Sea Impacts of Climate Interventions” by Levin et al., the LC/LP stated that “Parties should apply the generic assessment framework as entailed in Annex 5 of the Amendment of 2013 and should apply utmost caution” to marine geoengineering techniques.⁶²

Along with the many trade-offs and spill-over effects of Ocean Fertilization documented in Chapter 12 of the IPCC WGIII Full Report, there is scientific uncertainty about how much of the newly formed organic carbon is transferred to the deep ocean and how long it may be stored there.⁶³ A significant

highlighting that “Ocean Geoengineering is a nascent and untested technology and its large-scale expansion into the open ocean ecosystem is ill-advised. Moreover, there are many issues that have been identified with the technology. One of those is its extremely low efficiency, thus placing into question the benefits/risks that this technology’s deployment involves.”).

⁵⁴ CDR FYI, <https://cdr.fyi/>.

⁵⁵ See generally, IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.3 (identifying trade-offs and spill-over effects including subsurface ocean acidification, deoxygenation, altered meridional supply of macronutrients as they are utilized in the iron fertilized region and unavailable for transport to and use in other regions, and fundamental alteration of food webs and biodiversity).

⁵⁶ Convention on Biological Diversity, Decision IX/16 (2008).

⁵⁷ IMO, Marine Geoengineering, <https://www.imo.org/en/OurWork/Environment/Pages/geoengineering-Default.aspx>.

⁵⁸ Resolution LC-LP.2 (2010) on the Assessment Framework for Scientific Research Involving Ocean Fertilization (Oct. 14, 2010), <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/OFAssessmentResolution.pdf>.

⁵⁹ Resolution LP.4(8) (Oct. 18, 2013), [https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/LCLPDocuments/LP.4\(8\).pdf](https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/LCLPDocuments/LP.4(8).pdf).

⁶⁰ Sands & Cook, pgs. 9-15.

⁶¹ Marine geoengineering techniques identified for further evaluation (Oct. 10, 2022), <https://www.imo.org/en/MediaCentre/PressBriefings/pages/Marine-geoengineering.aspx> (explaining in the “Background Information” that the LP and LC first regulated ocean fertilization in 2008 and adopted further regulations in 2010 and 2013 to regulate and control marine geoengineering).

⁶² See e-letter submitted by Chair of the LC/LP Scientific Groups, March 2023 <https://www.science.org/stoken/author-tokens/ST-1072/full#elettersSection>.

⁶³ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.3.

part of the CO₂ can be emitted back into the atmosphere because much of the organic carbon produced is remineralized in the upper ocean. In the case of macronutrients, very large quantities are needed and the proposed scaling of this technique has been viewed as unrealistic. Additionally, iron enrichment experiments have led potentially toxic species of diatoms to emerge and increased concentrations of other GHGs such as methane and nitrous oxide have been seen during the subsurface decomposition of the sinking particles from iron-stimulated blooms.⁶⁴ All of these techniques also pose risks to human food supply, affecting right-holders in coastal and marine regions, including fisher communities.⁶⁵

Ocean Alkalinity Enhancement, which has been demonstrated only in a small number of laboratory experiments, involves the extraction, processing, and dissolution of mined minerals and addition to the ocean to enhance sequestration of CO₂ as bicarbonate and carbonate ions in the ocean.⁶⁶ Its biological impacts are largely unknown and likely to vary depending on the location. Of the limited studies that have considered elevated alkalinity's impacts on ocean ecosystems most have been limited to single species experiments. Large scale OAE practices could also have significant risks, related to associated sharp increases in ocean acidification or decreases in surface pH.⁶⁷

Engineered Removal Technologies: Enhanced Weathering

Enhanced Weathering involves the mining of rocks containing minerals that naturally absorb CO₂ and then crushing them to increase their surface area and spreading them on soils (or elsewhere) where they can absorb atmospheric CO₂.⁶⁸ However, enhanced weathering can increase emissions from associated energy generation as well as from mining, transport, and deployment operations. Spreading rock dust on soil can also negatively impact air quality. Considerable uncertainty surrounds enhanced weathering including the silicate mineral dissolution rates in soils, the fate of the released products, and the potential harm and impact on ecosystems, including complex ecosystems. While the location and availability of rock extraction sites remains uncertain, the mining of rocks for enhanced weathering will have local impacts including direct habitat destruction, increased traffic (with its associated impacts) to access the mines, and adverse impacts on water quality.⁶⁹

- 2. What are the roles and functions of the following entities in implementing the operations referred to in this guidance: Activity proponent(s), Article 6.4 mechanism Supervisory Body (6.4SB), 6.4 mechanism registry administrator, Host Party, stakeholders?**

Various bodies and entities can and should have a role in the operations referred to in this guidance, and some of these will be overlapping. In particular, the activity proponent(s), Article 6.4 mechanism Supervisory Body (6.4SB), and the Host Party will all have to ensure that any operations subject to this guidance have met the requirements contained in the guidance. The activity proponent will have to ensure that it is complying with all of the requirements of the Article 6.4 mechanism, including ensuring that there is meaningful consultation and participation of rightsholders.

⁶⁴ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.3.

⁶⁵ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.3.

⁶⁶ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.3.

⁶⁷ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.3.

⁶⁸ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.2.

⁶⁹ IPCC, *AR6, Working Group III*, Chapter 12, para. 12.3.1.2.

Further, it is critical that Host Party ownership and rightsholders (stakeholder) consultation are core components for all Article 6.4 mechanism activities, removals or otherwise. Host parties and rightsholders, especially those most likely to be positively or negatively affected, are involved throughout the activity starting with the design and continuing through implementation and monitoring. Meaningful consultation and engagement are not check-the-box exercises and require consultation with rightsholders from the beginning and throughout and ensuring that rightsholders are able to participate freely. This will require paying particular attention to those who belong to marginalized groups such as women and girls and persons with disabilities, among others. It also must include respecting and ensuring Indigenous Peoples right to free, prior and informed consent, which is an iterative process. Rightsholders should also be involved in the monitoring of the activity, including through participatory monitoring, to help ensure that the activity is actually reducing emissions as claimed, that there are no reversals, and that negative environmental and social impacts and human rights violations are avoided, among other things.

The 6.4SB will have to ensure that an activity covered by this guidance complies with it and all of its relevant rules and requirements. This will include ensuring that activities are actually doing what they claim to do, that there are no reversals, that there has been meaningful consultation, and that negative environmental and social impacts and human rights violations are not occurring. This will be critical to ensuring that Article 6.4 mechanism activities do not undermine the Paris Agreement.

These roles and responsibilities are not only true of removals activities, but also true of all Article 6.4 mechanism activities.

3. **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**

Questions on specific elements

A. Definitions:

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

One of the significant problems of the draft recommendations on activities involving removals presented at COP27 was in the inclusion of an overbroad definition of removals that threw open the door to all manner of natural processes and engineered activities, ranging from reforestation to ocean fertilization and other types of marine geoengineering to turning wood harvested from monocropped tree plantations into wood products, as acceptable Article 6.4 activities. Many of the activities encompassed in such a sweeping definition are speculative, unproven, or infeasible at scale; foreseeably risky to human rights and the environment; not additional or counterproductive from a climate perspective; incapable of storing CO₂ on a climate-relevant timescale; and/or contrary to international or domestic law. While it is imperative that rights-respecting measures be undertaken to safeguard and restore natural forests, wetlands, and other ecosystems, thereby enhancing their contributions to the carbon cycle, as well as biodiversity and human welfare, such efforts must be complementary to, not a substitute for or traded off against, emissions reductions.

B. Monitoring and Reporting:

1. **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).**

Monitoring should not be limited to taking place following an observed event that could lead to a reversal nor should it stop with the last crediting period. Monitoring is essential to avoid not only reversal, but also other negative environmental and social impacts. And all of these impacts could take place after the end of the crediting period.

2. **Discuss any further considerations to be given to the core elements for monitoring and reporting 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.**

Monitoring is necessary to ensure that any Article 6.4 project/activity is effectively fulfilling its intended purpose and adhering to all relevant rules and regulations. This monitoring must also be transparent and take place at regular intervals to ensure ongoing compliance.

The length of time that a project/activity should be monitored cannot be underestimated—particularly when the desired impacts are intended to be felt on a climate-relevant scale. The requirement to monitor for all Article 6.4 Mechanism projects/activities, whether they be reductions or removals, should not be limited to the amount of time it takes to “finish” a project/activity or a crediting period, but should extend for decades beyond. This is especially true with respect to removals, given the high risk of reversals. Land-based removals, such as a forest restoration project, run a particularly high risk of reversal whether from a wildfire or other natural disaster or a change in priorities of a country. Additionally, negative environmental and social impacts may not occur during a crediting period, but arise later in the life of a project/activity and monitoring could help to avoid or minimize these. Thus, a monitoring period cannot be limited to a crediting period.

Further, third-party monitoring and/or participatory monitoring are essential as monitoring should not only be done by the entity that proposed or implemented the removal activity or even the buyer of the credits.⁷⁰ Participatory monitoring involves engaging with those in the area where the project

⁷⁰ CIEL, *Funding Our Future: Five Pillars for Rights-Based Climate Finance*, p. 22 (March 2021), https://www.ciel.org/wp-content/uploads/2021/03/FundingOurFuture_5PillarsForRightsBasedClimateFinance_CIEL_mar2021.pdf.

is taking place (i.e., near the forest being conserved or reforested), for example Indigenous Peoples. Similarly, third-party monitoring involves having independent people, some of whom may be living in the project/activity area, but also experts who can review the activity and verify the claims being made. Both are vital as it avoids relying solely on self-reporting or monitoring only by those who stand to benefit from the activity taking place. This is all the more critical in the face of recent studies that have shown that offset credits are not always what they seem and have not actually done what was claimed.⁷¹

Transparent and comprehensive reporting on activities resulting in emissions reductions credits is critical. Not only is such reporting a key enabler for monitoring, but it is also essential to prevent greenwashing and fraud. It is also critical to enabling participation of rightsholders.

Reporting must be transparent with all reports made publicly available, at a minimum, on the Article 6.4 mechanism's website. Additionally, reports must be easily accessible, including, for example, that they should be readable on mobile devices as well as computers, in multiple languages including in the languages of the area in which the project/activity is taking place, and easy to find. Reports also should be made available in the local area directly in the local language(s) and in a manner that is culturally appropriate.

Reporting should be comprehensive. The default should be to be over-inclusive about the type of information included in reports. This is a non-comprehensive list of elements reports should include:

- Information on environmental and social impacts, including how any adverse impacts are being prevented or mitigated;
- Information on how rights-holders were consulted initially and how they are being consulted and/or included in the activity in an ongoing way, including how Indigenous Peoples' free, prior and informed consent is being obtained;
- Information on any grievances that have been filed;
- Information about ongoing threats that may affect the duration or reliability of the activity's climate impact;
- Information about the actual impact on CO₂, including an accessible and understandable explanation of the methodology used to verify carbon removed (suitable for a local community audience);
- Information on the CO₂ and other GHG emissions associated with the activity (e.g. mining activities needed for enhanced rock weathering, energy use for DACCS, etc.) and,
- Information on additionality, meaning whether the activity would have happened in the absence of it receiving support through the carbon market (for example, if the forest would not have been conserved or not reforested).

This information is critical to assessing the legitimacy of any market activity.

⁷¹ See, e.g., Source Material, The Carbon Con (Jan. 18, 2023), <https://www.source-material.org/vercompanies-carbon-offsetting-claims-inflated-methodologies-flawed/>; Von Tin Fischer & Hannah Knuth, "CO2 Certificates: Phantom Offsets and Carbon Deceit," Die Ziet (Jan.19, 2023), <https://www.zeit.de/wirtschaft/2023-01/co2-certificates-fraud-emissions-trading-climate-protection-english>; Patrick Greenfield, "Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows," The Guardian (Jan. 18, 2023), <https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe>; Bart Creeze & Ties Gijzel, "Showcase Project by the world's biggest carbon trader actually resulted in more carbon emissions," Follow the Money (Jan. 27, 2023), <https://www.ftm.eu/articles/south-pole-kariba-carbon-emission>.

C. Accounting for removals:

1. **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.**
2. **For activities involving removals that also result in emissions reductions, what are the relevant considerations, elements, and interactions between this guidance and the requirements for the development and assessment of mechanism methodologies, including.**

D. 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.

E. Addressing Reversals:

In order to minimize the risk of non-permanence of removals over multiple NDC implementation periods, and, where reversals occur, ensure that these are addressed in full.

1. **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.**

Reversals could undermine not only the environmental integrity of the Article 6.4 Mechanism but also to the overall objective of the Paris Agreement. They entail increased emissions given that the “removed” carbon dioxide would not actually be removed, but rather released along with the carbon dioxide it was supposedly offsetting, res increased temperature rise. Thus, reversals should be avoided outright. These proposed measures are unlikely to be able to actually address the problem of major reversals.

2. **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.**

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

Minimizing and addressing the risks of non-permanence is crucial to ensure the integrity of Article 6.4 activities and their alignment with the objectives of the Paris Agreement. These risks must be taken seriously, and efforts should be made to not only minimize but also avoid them altogether. If an Article 6.4 activity is designed to generate carbon credits that will then be used to offset emissions elsewhere, then it is essential that those reductions be permanent. If they are not, then the mechanism will in fact be contributing to increasing emissions. This would run afoul of the purpose of not only Article 6.4, but the entire Paris Agreement itself. It would also put people and ecosystems around the world at greater risk. Therefore, any major risk of non-permanence should be disqualifying.

An activity, such as reforestation, that does not qualify to be an Article 6.4 Mechanism activity does not disqualify it as an activity that could be pursued as climate action. It just means that it cannot be an activity that is pursued through an offset-generating carbon market. Carbon markets like the Article 6.4 Mechanism are not the only avenues for climate action, nor should they be the primary ones.

4. 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

Each potential project/activity falling under the Article 6.4 mechanism should undergo a non-permanence risk assessment. Risks of non-permanence must be avoided and so projects/activities should be designed not only to minimize but to avoid such risk. Thus, it is essential to undertake a risk-assessment and adjust the projects/activities as needed.

Additionally, activity types also should be evaluated for risks.

b. Timing for risk assessment(s)

Activity type risk assessments of its full lifecycle should be carried out before proposing projects of that type. This will enable the 6.4SB to determine whether that type of activity is eligible to take place under the Mechanism at all.

Specific project/activity risk assessments should take place prior to the project/activity being undertaken. For example, it could take place alongside an environmental and social impact assessment and a human rights impact assessment.

c. Entity(ies) responsible for risk assessment(s), e.g., activity proponent, 6.4SB, actuary

Independent third-party entities should be responsible for conducting the risk assessments. These entities must be independent of the project/activity proponent to avoid any undue influence. Additionally, the risk assessment should include consultation with stakeholders. Lastly, both the draft and final risk assessments should be publicly disclosed.

5. **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 uncanceled 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**
6. **In the event of a reversal, what interactions and implementation aspects should be considered in respect of other elements of the activity cycle?**

F. 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.

G. Avoidance of other negative environmental, social impacts

Discuss considerations to be given to core elements for avoidance of other negative environmental, social impacts; 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.

Negative environmental & social impacts should be avoided. Any projects/activities authorized by the Article 6.4 Mechanism must unequivocally respect human rights and the rights of Indigenous Peoples. This is a core element for avoiding negative environmental & social impacts that is relevant to ALL Article 6.4 mechanism activities, removals or otherwise. While specific negative environmental and social impacts may arise from land-based or engineering-based removals, any activity supported or recognized under Article 6.4 must comply with human rights standards, safeguard the environment, and be held accountable for such compliance. It is the responsibility of states to implement measures that have been proven safe and in accordance with human rights, without violation. Past experiences with market-based activities, including those under the Clean Development Mechanism, have demonstrated numerous instances where human rights were undermined and communities and their environments were harmed. Land sector offsets, for instance, pose significant risks and negative consequences, including harm to communities and ecosystems. Although we specifically mention removal activities in this section and highlight

specific risks at certain points, our recommendations apply to all activities falling under the Article 6.4 Mechanism.

According to the Rules, modalities and procedures for the Article 6.4 mechanism, adopted at CMA3 (COP26), an activity, meeting the requirements of paragraph 4-6, by its design, as elaborated in Section V(A), must be designed in a way that minimizes and, where possible, avoids negative environmental & social impacts.⁷² Additionally, the design of the activity should undergo local and, where appropriate, subnational stakeholder consultation, consistent with applicable domestic arrangements in relation to public participation and the rights of local communities and indigenous peoples.⁷³ These requirements emphasize the importance of engaging with affected communities and respecting their rights throughout the design process.

Furthermore, the methodological requirements outlined in Section V(B) underscore the need to consider relevant social, economic, and environmental circumstances, including those at the local, regional, or national levels,⁷⁴ as well as the need to address potential reversals, minimize leakage, and avoid locking in levels of emissions, technologies, or carbon-intensive practices that are incompatible with the objectives of the Paris Agreement.⁷⁵

These obligations reflect the Paris Agreement's commitment to sustainable development, the protection of human rights, and the avoidance of negative impacts on communities and the environment. By requiring consultation, minimizing negative impacts, and considering social, economic, and environmental circumstances, the rules, modalities, and procedures for the Article 6.4 mechanism strive to ensure that the implementation of activities under this provision upholds human rights including the rights of Indigenous Peoples and contributes to a just and sustainable transition to a low-carbon future.

As recognized by the IPCC in the AR6 Synthesis Report, climate action “that prioritise[s] equity, social justice, climate justice, rights-based approaches, and inclusivity, lead[s] to more sustainable outcomes, reduce trade-offs, support transformative change and advance climate resilient development.”⁷⁶ Thus, ensuring that all activities respect human rights and the rights of Indigenous Peoples is core to avoiding negative environmental and social impacts as well as having sustainable outcomes. And it is critical that there are not caveats on national prerogatives, such as those included in the recommendations presented to the CMA at COP27, that could undermine both the Supervisory Body’s ability to set rules and also the integrity of the Paris Agreement by allowing activities that harm the environment or people from being approved if a country says that it does not enforce a specific environmental or social protection. Given the foreseeable harms of certain proposed credit-generating activities and the history of market activities undermining human rights including the rights of Indigenous Peoples, this could prove devastating for many communities around the world. Additionally, it is a step back from the

⁷² Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021, Addendum, Part two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its third session, Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, FCCC/PA/CMA/2021/10/Add.1, Decision 3/CMA.3, Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement, Art. 31(d)(iv).

⁷³ *Id.*, at Art. 31(e).

⁷⁴ *Id.*, at Art. 34.

⁷⁵ *Id.*, at Art. 38.

⁷⁶ IPCC, *AR6 Synthesis Report, Summary for Policymakers*, para. C.5.2.

commitment Parties made at COP26 when they approved the Article 6.4 rules, modalities and procedures and included that the Supervisory Body would need to take steps to establish the necessary rules and processes to ensure respect for human rights including the rights of Indigenous Peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations as well as the right to health, right to development, gender equality, empowerment of women, and intergenerational equity, and “the application of robust, social and environmental safeguards.”⁷⁷

In developing these recommendations on removals, the Supervisory Body must include respect for human rights and protection of the environment and ecosystems. The focus should be on finding ways to enhance human rights and ecosystem integrity, not ways to undermine them from the beginning.

Having in place robust, rights-based social & environmental safeguards and rules for ensuring public participation and meaningful consultation, including Indigenous Peoples’ right to free, prior and informed consent (FPIC) as well as an independent grievance mechanism to provide remedy if harms occur are also essential to avoiding and minimizing environmental & social risks. These safeguards should be developed in a participatory manner, rooted in human rights, including the rights of Indigenous Peoples and equity. They should also be gender-responsive and incorporate provisions to prevent the perpetuation or exacerbation of harm to marginalized and vulnerable groups, such as children, persons with disabilities, the elderly, LGBTQIA+ people, refugees, migrants, tribal groups, women, and girls, who are already disproportionately affected by climate change. They should also include an exclusion list and unacceptable impacts (for example, involuntary resettlement, infringing on critical habitat, among others). Further, the safeguards should include, among other potential aspects, requirements related to conducting environmental and social impact assessments and human rights impact assessments, protection of biodiversity and critical habitats, protection of cultural heritage, pollution prevention, and ensuring respect for labor rights.

Ensuring that activities pursuant to Article 6.4 respect rights includes ensuring respect for environmental procedural rights, which are enshrined in regional agreements such as the Aarhus and Escazu Conventions. The Human Rights Council has recognized that “the exercise of human rights, including the rights to seek, receive and impart information, to participate effectively in the conduct of government and public affairs and in environmental decision-making and to an effective remedy, is vital to the protection of a clean, healthy and sustainable environment.”⁷⁸ In addition, these rights have also been recognized as the procedural elements of the Right to a Healthy Environment by the UN Special Rapporteur on Human Rights and the Environment, whose report in this area states that ensuring broad, inclusive and gender-sensitive public participation not only fulfills human rights obligations but results in better outcomes.⁷⁹ The IPCC

⁷⁷ *Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021, Addendum, Part two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its third session, Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, FCCC/PA/CMA/2021/10/Add.1, Decision 3/CMA.3, Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement, para. 24(a)(ix-x).*

⁷⁸ UN Human Rights Council Resolution 48/13, The human right to a clean, healthy and sustainable environment, UN Doc. A/HRC/RES/48/13, preamble (Oct. 2021), <https://undocs.org/A/HRC/RES/48/13>.

⁷⁹ Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, Right to a healthy environment: good practices, UN Doc.

has also recognized that “inclusive decision making, with Indigenous Peoples and local communities, as well as recognition of inherent rights of Indigenous Peoples, is integral to successful adaptation and mitigation actions.”⁸⁰ To ensure the right to participation⁸¹ there should be robust rules, compliant with human rights including the rights of Indigenous Peoples, to enable meaningful stakeholder consultation.⁸² Critically, all Article 6.4 activities must comply with and respect the rights of Indigenous Peoples, including their right to FPIC before any decision is taken that will impact their lands or territories.⁸³ FPIC is an iterative process that necessitates ongoing consultations with Indigenous Peoples to obtain their consent or lack thereof, and any FPIC process must respect local customs and decision-making practices.

Furthermore, the Supervisory Body needs to develop the procedures and guidelines for the independent grievance process to facilitate the realization of the right to remedy. Establishment of a robust and accessible independent grievance redress mechanism that can provide remedy to those harmed by any activities registered by the Article 6.4 Supervisory Body, and address fraud, misrepresentation, or greenwashing related to the generation, use, or exchange of an Article 6, paragraph 4, emission reduction (A6.4ER) is critical especially if negative environmental & social impacts are not avoided. Carbon market activities can and do contribute to human rights abuses and environmental harm both directly (i.e., displacing a community in the construction of a large hydropower dam or a run-of-river hydro project) and through their failure to deliver promised mitigation impacts.⁸⁴ While the grievance mechanism is relevant beyond the discussions of rules for removals, it is a critically important piece of the infrastructure that must be in place before any activities, removals or otherwise, take place under the mechanism.

A/HRC/43/53, pp. 7, 17 (Dec. 2019), <https://undocs.org/A/HRC/43/53>.

⁸⁰ IPCC, AR6, *Synthesis Report, Summary for Policymakers*, para. C.3.6.

⁸¹ See, e.g., *U.N. Conference on Environment and Development, Rio Declaration on Environment and Development*, U.N. Doc. A/Conf.151/26/Rev.1 (Vol. 1), principle 10 (Aug. 12, 1992) (“Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available.”); *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*, June 25, 1998, 2161 U.N.T.S. 447; *Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean*, opened for signature Sept. 27, 2018, C.N.195.2018, http://repositorio.cepal.org/bitstream/handle/11362/43583/1/S1800428_en.pdf; UNFCCC, art. 6; Paris Agreement, art. 12. (These rules should specify that meaningful consultation is “timely, effective, inclusive and held free of coercion and in an appropriate way for communities that are directly affected by the proposed [activity].”).

⁸² Adaptation Fund, *Environmental and Social Policy*, para. 33 (Mar. 2016), https://www.adaptationfund.org/wp-content/uploads/2013/11/AmendedMarch-2016_-_OPG-ANNEX-3-Environmental-socialpolicyMarch-2016.pdf; see also Green Climate Fund (GCF), *Environmental and Social Policy*, para. 69 (2018), <https://www.greenclimate.fund/document/environmentaland-social-policy>.

⁸³ See G.A. Res. 61/295, *United Nations Declaration on the Rights of Indigenous Peoples*, arts. 10, 19, 32(2) (Sept. 13, 2007).

⁸⁴ Daniel Grossman, *Dam Lies: Despite Promises, an Indigenous Community’s Land Is Flooded*, (Mar. 5, 2018), <https://therevelator.org/dam-lies-indigenous-flooded/>; CIEL, *Rights, Carbon, Caution*, pg. 9; Reuters, *Kenyan wind power project cancelled due to land disputes*, (Feb. 23, 2016), <https://news.trust.org/item/20160223123846-9mdhy/?source=fiOtherNews2>; Carbon Market Watch, *The Clean Development Mechanism: Local Impacts of a Global System*, (2018); Wolfgang Obergassel et al., *Human rights and the Clean Development Mechanism*, 8 J. Hum. Rights & Env’t. 51 (2017).

Ensuring the right to remedy requires avenues to be in place through which people can seek redress for harms. Even when activities take steps to avoid environmental and social risks and comply with all safeguards and other rules in place, harms can and do occur. In those instances, people need an avenue to seek redress/remedy. To be effective, this independent grievance mechanism must be legitimate, accessible, predictable, equitable, transparent, rights-compatible, and a source of continuous learning.⁸⁵ These effectiveness criteria can help guarantee that those who are harmed are not only able to easily access the process to obtain redress or remedy (including that they should be able to do so free from fear of reprisal or retaliation), but also that the mechanism is capable of providing real remedy.

The Supervisory Body should increase its efforts to establish the independent grievance mechanism and should develop it in a transparent and participatory manner. There are numerous examples of such mechanisms and this independent grievance mechanism for activities under Article 6.4 should draw from existing good practice.⁸⁶

Land Rights: Recognizing and strengthening the land rights of Indigenous Peoples and local communities is particularly crucial when considering land-based removal activities. Evidence shows that Indigenous Peoples and local communities with secure land rights are more effective in preventing deforestation, conserving biodiversity, and promoting sustainable food production. Their stewardship of the world's biodiversity and natural resources has been proven to be crucial, yet their contributions have been inadequately recognized and supported. For any land-based carbon removals to be just or effective, it is necessary to grant Indigenous Peoples and local communities' legitimate ownership, control, and representation over their lands, territories, and livelihoods.

As laid out throughout, land- and engineering-based removal activities (as well as many other carbon market projects) can and do have negative impacts on people and the environment including among others risks to biodiversity, ecosystem integrity, food sovereignty, water security, and livelihoods. Therefore, activities that violate human rights including the rights of Indigenous Peoples and negatively impact the environment and ecosystem integrity do not contribute to sustainable development, which is core to what the Article 6.4 mechanism is designed to do, and should not be sanctioned by a carbon market mechanism under the Paris Agreement. Thus, it is imperative that these recommendations on removals (as well as other Article 6.4 rules) establish robust rules to ensure that carbon market activities, removals or otherwise, avoid negative environmental and social risks, including among others risks to biodiversity, ecosystem integrity, food sovereignty, water security, and livelihoods. Effective climate action is not action that harms people or the environment. Rather than focusing on how to include risky removals in the market

⁸⁵ See, e.g., United Nations Human Rights Office of the High Commissioner, *Guiding Principles on Business and Human Rights, Implementing the United Nations "Protect, Respect and Remedy"* (2011), https://www.ohchr.org/documents/publications/guidingprinciplesbusinessshr_en.pdf (setting forth effectiveness criteria for non-judicial grievance mechanisms); Report of the United Nations High Commissioner for Human Rights, *Improving accountability and access to remedy for victims of human rights abuse through non-State-based grievance mechanisms*, U.N. Doc. A/ HRC/44/32 (May 19, 2020), <https://undocs.org/A/HRC/44/32>; CIEL, *Rights, Carbon, Caution: Upholding Human Rights under Article 6 of the Paris Agreement*, pgs. 14-16; CIEL, *Funding Our Future: Five Pillars for Rights-Based Climate Finance*, pgs. 19-21.

⁸⁶ See Multiple Authors, *Good Policy Paper: Guiding Practice from the Policies of Independent Accountability Mechanisms* (2021).

activities, Parties should be focusing on what policies need to be in place to protect human rights, including the rights of indigenous peoples, and safeguard the environment.

For more information about Environmental and Social Safeguards, Meaningful Consultation and Public Participation, and Independent Grievance Mechanisms, please see CIEL, *Rights, Carbon, Caution: Upholding Human Rights under Article 6 of the Paris Agreement* (Feb. 2021), <https://www.ciel.org/reports/rights-carbon-caution/>.⁸⁷

⁸⁷ While it focuses on climate finance, the following report also contains detailed information about how to ensure respect for human rights and the environment as well as elements of an effective independent grievance mechanism: CIEL, *Funding Our Future: Five Pillars for Rights-Based Climate Finance*, (Mar. 2021), <https://www.ciel.org/reports/funding-our-future-five-pillars-foradvancing-rights-based-climate-finance/>.