



June 19, 2023

Re: Structured Public Consultation - Removal Activities under the Article 6.4 mechanism

Dear Supervisory Board:

XPRIZE is grateful for the opportunity to provide feedback on the Article 6.4 Supervisory Body's [Information note on Removal activities under the Article 6.4 mechanism Version 04.0](#). This letter provides some context about XPRIZE's efforts and experience in the Carbon Dioxide Removal space, and critical feedback regarding some of the details laid out in the Note.

XPRIZE is a non-profit organization based in the United States that operates incentive prize competitions to solve the world's greatest challenges. We have launched 26 prizes with nearly US\$300 Million in prize purses since our inception in 1994. In 2021, XPRIZE launched the XPRIZE Carbon Removal, a four-year, US\$100 million global prize competition to support the growth of a gigatonne-scale Carbon Dioxide Removal industry. To date, XPRIZE Carbon Removal has awarded US\$20 million in funding for CDR demonstrations, with US\$5 million awarded to 23 student teams in November 2021, and US\$15 million awarded to 15 "Milestone Award Winners" in April 2022. The remaining US\$80 million in Grand Prizes will be awarded in April 2025.

The [XPRIZE Competition Guidelines](#) sets out a definition of Carbon Dioxide Removal that we believe supports the growth of a gigatonne-scale Carbon Dioxide Removal industry, by encouraging the development of high-quality demonstrations across as many pathways as possible: Carbon Dioxide Removal must be established on a net basis using a cradle-to-grave life cycle analysis; Carbon dioxide must be sourced from the air or the surface layer of the ocean; Carbon dioxide must be sequestered durably for at least 100 years (noting that sequestration in long-lived products is acceptable, and reversals within 100 years must be estimated and accounted for). Any solution meeting these requirements is eligible. Contenders for the Grand Prize are subject to a rigorous measurement & verification protocol administered by XPRIZE. Furthermore, XPRIZE encourages teams to highlight the ways their solutions create economic opportunity and offer environmental co-benefits.

Response to the prize has been strong, with 1,189 teams from around the world currently registered to compete, spanning all primary CDR pathways:

- 387 teams represent the "Air" track, working on direct air capture solutions.



- 362 teams represent the “Land” track, including solutions such as trees, soil, plants, roots, agriculture, GMO plants, biochar, etc.
- 209 teams represent the “Ocean” track, including solutions such as algae, kelp, direct seawater removal, etc.
- 117 teams represent the “Rocks track”, including solutions such as mineralization, enhanced weathering, mine tailings, etc.

Registered teams represent 82 countries from around the globe, including 204 teams from the global south:

- 596 teams from North America
- 259 teams from Europe
- 193 teams from Asia
- 65 teams from Oceania
- 40 teams from South America
- 29 teams from Africa

XPRIZE strongly urges the UN to reconsider several details set out in the information note:

- With regards to the definition of Carbon Dioxide Removal, CDR must be considered a functional outcome, rather than an enumerated set of activities or processes: Any process, regardless of pathway, which results in a net reduction of CO<sub>2</sub> concentrations in the atmosphere must be considered carbon dioxide removal. Net carbon dioxide removals must be established by a comprehensive, cradle-to-grave life cycle analysis. We urge a definition of removals that is method-neutral and criteria based to preserve latitude for emerging methods of removal.
- The note’s framing of CDR as either “engineering-based activities” vs “land-based activities” is arbitrary. In fact, many high quality carbon dioxide removal proposals are hybrids of engineering and nature based solutions. The statement that “Engineering-based removals are technologically unproven”, as a blanket statement, is false. Furthermore, many “land-based activities” can result in durable carbon removal with proper risk management and project oversight.
- We encourage the Supervisory Body to move away from labels such as “nature-based” and “engineering-based,” which can be counterproductive to taking action: Any discussion that frames CDR policy as a choice between one or the other fails to recognize the urgency and rate at which Gigatonne-scale CDR deployment is required. In fact, we will likely require massive deployment of projects across all solution pathways (provided they meet guidelines for quality and safety) in order to meet our climate obligations.



- A method-neutral, criteria-based Article 6.4 mechanism should include strong guardrails for equity, ecosystem safety, and environmental justice, but should not preclude individual carbon removal pathways or deployment in specific geographies.
- Removals and avoided emissions must be accounted for and reported separately. Many CDR solutions may legitimately claim both removals and avoided emissions; it is critical that these are not conflated. Again, a comprehensive, cradle-to-grave life cycle analysis will elucidate many of the hazards related to removals vs avoided emissions discussed in the note.
- Durability must not be considered a ‘deterministic’ value inherent to any solution pathway. In fact, ALL CDR solutions carry some risk of reversal, which varies over time, and the probability of reversal is dependent not only by the solution type but the quality of execution and specific circumstances surrounding specific projects. Durability claims must be established and verified on a project by project basis.
- We strongly dispute the notion that CDR is incompatible with sustainable development and fails to consider the opportunities for economic development, economic diversification, energy access, and opportunities for environmental benefits associated with many commercial CDR projects. Responsible and equitable deployment of CDR globally, including in the global south, can help to achieve our climate goals while also delivering co-benefits to ecosystems and communities. The participation of so many teams from the global south in the XPRIZE Carbon Removal is also evidence of that community’s interest in pursuing the economic opportunities offered through a variety of carbon removal solutions and projects.

We the undersigned, representing teams competing in the XPRIZE Carbon Removal, sincerely appreciate the Supervisory Board’s engagement on this important issue, and we appreciate your consideration of our feedback.

Sincerely,

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