

June 19, 2023

Article 6.4 Mechanism Supervisory Body
UNFCCC
Supervisory-Body@unfccc.int

Re: Structured Public Consultation - Removal Activities.

To Whom It May Concern:

The purpose of this letter is to respond to the Supervisory Body's public consultation regarding removal activities under the Article 6.4 Mechanism. Specifically, we wish to comment on the role of engineered removals and how they demonstrate the following:

- i. Long-term benefits related to climate change
- ii. Minimizing the risk of non-permanence of emission reductions over multiple Nationally Determined Contribution (NDC) implementation periods and addressing reversals if they occur;
- iii. Minimizing and avoiding negative environmental and social impacts;
- iv. Demonstration of additionality;

Not all engineered removals are the same. There is an assumption within the climate community that "engineered removals" are expensive and energy intensive ways to reduce emissions, and that they won't work in developing countries. This assumption is based primarily on publicized direct air capture (DAC) projects, which are indeed relatively expensive to implement and serve only one purpose — removing CO₂ from the atmosphere. In addition to being expensive, large-scale engineered removal activities such as DAC can lead to competition for resources such as clean energy and water. This can affect energy security and access to water in areas immediately surrounding the activity site. By this logic, land-based removals are the best way to go.

However, not all engineered removals rely on energy-intensive carbon capture and storage (CCS) technology, nor later transport or mechanical injection of CO₂. Our company's technology, for instance, is a novel concrete formula that removes CO₂ through a chemical reaction as the concrete cures. It does not require any industrial



collection, storage, transportation or injection of CO₂. So energy use is very minimal. Furthermore, the technology can use non-potable water, including waste brine from desalination, instead of fresh water. So, it does not introduce a constraint on either energy or water supplies. And, the technology serves an important infrastructural purpose, which is vital to providing long-term benefits related to climate change.

Even though developing nations have contributed very little to the problem of climate change, they suffer acutely from the effects, including more frequent and severe hurricanes, rising sea levels and other environmental challenges. Engineered removal projects help nations such as The Bahamas, where our technology is being demonstrated in hurricane resistant homes, take an active and sustainable role in their adaptation to climate change. These homes will not only provide jobs and help fill the void for housing that has been left by climate change, they will also help bring CO₂ levels down to targets.

Potential benefits of engineered removals over land-based removals. Meanwhile, in fact, engineered removals offer a lot of benefits over land-based removals, including the following:

- ***Measurable:*** Engineered removals are far easier to monitor and quantify than land-based removals. In the case of our technology, for instance, removals are quantified and verified by thermogravimetric analysis (TGA).
- ***Additionality:*** Confidence around additionality is much higher for engineered removals than nature-based removals, which have received strong criticism because their additionality is hard to determine. For instance, how does one know that a forest would have been cut down if not for the removal project? With engineered removals, certainty around additionality is far more clear. It is fairly easy to confirm, for instance, if an engineered project would not have been financially feasible without carbon credits.
- ***Permanence:*** Also, engineered removals are permanent, unlike trees and other nature-based removals.
- ***Local jobs and infrastructure:*** Engineered removals create infrastructure that helps developing countries adapt to climate change and the adaptations required by it. Forestry projects, on the other hand, actually have the potential to remove jobs related to timber supply.
- ***Sustainable development goals:*** Depending on the technology, engineered removal projects can support the UN's other Sustainable Development Goals as illustrated below.

Partanna's contribution to the UN's sustainable development goals:

- ***SDG 3 Good Health and Well-Being:*** Thanks to the application of carbon credits, Bahamian residents who have lost their homes to the effects of climate change can afford hurricane-resistant homes that are also insurable
- ***SDG 6 Clean Water and Sanitation:*** Partanna's technology does not require fresh, potable water. The global concrete industry, by contrast, is responsible for 2% of water demand.
- ***SDG 11 Sustainable Cities and Communities:*** Partanna's technology delinks pollution from development, which allows developing communities to respond sustainably to climate change
- ***SDG 13 Climate Action:*** Partanna's technology not only avoids CO₂ emissions from traditional cement production, it also removes CO₂ from the atmosphere
- ***SDG 14 Life Below Water:*** Partanna's use of waste brine supports nature removals (by lessening damage to Blue Carbon and reducing Green Carbon's competition for fresh water)

Thank you for considering our feedback.

Sincerely yours,

Rebekkah Swisher

VP of Sustainability

Partanna Global, Inc.