



Running Tide - Input to SB005 “Guidance and questions for further work on removals” information note

June 15, 2023

Prepared for the upcoming sixth meeting of the Article 6.4 Supervisory Body

Dear Supervisory Body,

Thank you for the opportunity to respond once again to this critical work via the Call for Input in advance of the sixth meeting of the Article 6.4 Supervisory Body.

As a reminder, [Running Tide](#) is a global ocean health company. Ocean health is critical to planetary and human health — but ocean health is in rapid and accelerating decline. At Running Tide, our mission is to restore ocean health and productivity, rebalance the carbon cycle, decarbonize global supply chains, and revitalize coastal communities. We do this by developing integrated software and hardware systems, designing cutting-edge monitoring and measurement capabilities, and deploying comprehensive nature-based interventions, including solutions for open ocean carbon removal and ocean acidification.

Detailed responses to the questions posed in the “*Elements for structured consultation and further work*” section are below. We look forward to discussing this with you further and sharing our experience as a leading practitioner in the carbon removal space in the leadup to COP 28 this December.

Thank you for your consideration and for your continued work in combating the climate crisis.

Brad Rochlin
Running Tide
brad@runningtide.com

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 need for gigatonne-scale carbon removal within the next several decades to achieve our collective climate goals is conservative, mainstream science – as has been reiterated in the last

several IPCC publications, particularly the [AR6 report](#). Critically, for solutions to scale to a level that can balance emissions by mid-century (or ideally earlier), new and existing carbon removal approaches must be supported, invested in, and eligible for inclusion in the Article 6.4 mechanism proactively.

Carbon removal solutions that can play a role in addressing our collective climate challenges are numerous and encompass a range of pathways, storage mechanisms and levels of technological maturity. As we shared in the previous Call for Input from the Supervisory Body in May, we see a false dichotomy in presenting “land-based” and “engineering-based” solutions (often also referred to as “nature-based” and “technological” solutions) as distinct categories, and both will be critical at scale if we want to avoid the worst impacts of climate change.

The time and maturity component of these solutions is an important consideration here; while many nature-based solutions are subject to reversal risk, thus limiting their mitigation value, they are available today and can be scaled up rapidly, which can help to buy time for durable solutions with little-to-no reversal risk to be iterated upon and deployed. Ocean-based carbon removal solutions utilizing the deep ocean or the ocean’s bicarbonate reservoir that are not subject to risk of reversal are particularly interesting in this context, as they offer the near-term scalability of many traditional nature-based solutions with the durability and reversal benefits of many emerging technological solutions. These ocean-based approaches are designed to replicate and amplify the natural pathways by which the Earth durably stores carbon; if the objective of Article 6.4 of the Paris Agreement is to contribute to emissions mitigation and support sustainable development, solutions across a range of pathways must be supported and innovation must be encouraged.

Once again, a more complete definition and framing of eligible removals activities that could help achieve the objectives of the Paris Agreement would focus on carbon removal as **the intentional movement of carbon from the fast carbon cycle to the slow carbon cycle, where the total fast carbon removed exceeds the total slow carbon emitted within a given project boundary**. Such removal activities could shift carbon to rebalance natural carbon reservoirs by transferring carbon from fast cycling reservoirs (i.e. the biosphere, the atmosphere, and the upper ocean) to slow cycling reservoirs (i.e. the deep ocean and marine sediments, geologic storage). Rebalancing of carbon reservoirs will also serve the broader goals of sustainable development, which include an equitable net-zero transition, socio-ecological sustainability, and the pursuit of broad economic opportunity.

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?

Running Tide commends the Supervisory Body for encouraging such a cross-cutting and interdisciplinary review and public comment process throughout the development of the Article

6.4 rulebook. Transparency around proposed guidance will continue to make the Article 6.4 mechanism stronger, and increase its likelihood of long-term success.

The benefit of this transparency is seen clearly in the over 100 stakeholders who provided inputs in the most recent call related to the *Information note: Removal activities under the Article 6.4 mechanism Version 4.0* ([A6.4-SB005-AA-A09](#)). Running Tide was proud to join the many organizations across academia, the public sector, environmental non-profits and carbon removal practitioners in highlighting the need for a range of carbon removal solutions to achieve the Paris Agreement’s goals.

In regards to the roles and functions of entities involved in implementing Article 6.4 guidance, **it is critical that carbon removal practitioners (as both “Activity Proponents” and “stakeholders”) are actively involved in the process.** Practitioners such as Running Tide are constantly making decisions around project implementation that tie directly to the efficacy of a given solution, whether that be cost and material tradeoffs, geographic project selection, or responsible deployment considerations tied to operationalizing industry-wide codes of conduct. In this way, practitioners may have the most information of any stakeholder in regards to what is (or is not) inhibiting the scale of a carbon removal approach in question. Connecting these practitioners with academic, governmental and UNFCCC partners will help to break down information silos, enable shared learning and ground climate projections and models with real-world data and testing.

We encourage the Supervisory Body to continue to provide avenues – such as meetings, webinars, learning sessions and smaller advisory groups – for direct engagement between the Supervisory Body, Activity Proponents and other key stakeholders.

Questions on specific elements

B-2: Monitoring and Reporting. 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.

Effective monitoring and reporting are critical components of demonstrating that a carbon removal project has made a measurable, net positive climate impact, and the rules and reporting requirements established under the Article 6.4 mechanism provide the opportunity to standardize and catalyze a range of potential durable removal solutions with a high bar for rigor and quality.

In Section 3.2.14 in A6.4-SB003-A03, it is stated that *“monitoring and reporting may also be required within a specified timeframe of an observed event that could potentially lead to a reversal, in accordance with provisions to be developed by the Supervisory Body.”*

It is our opinion that solutions relying on storage reservoirs with a high or constant risk of reversal – traditional nature-based solutions such as reforestation or sustainable agriculture that are subject to disruption or fire risk, geologic storage in areas with high leakage potential, etc. – should have more stringent requirements around ongoing monitoring following the monitoring period compared to solutions utilizing storage reservoirs with low or no risk of reversal (the deep ocean, the ocean’s bicarbonate pool, chemical solutions such as enhanced weathering, etc.). Since the underlying mitigation benefit is constantly at risk with high-reversal or lower-permanence reservoirs, continued visibility into the stability and permanence of a given removal activity will be needed.

By creating “tiered” ongoing monitoring requirements based on the expected stability of the carbon storage, the Supervisory Body can ensure that projects focus on (and invest in) the areas most likely to impede long-term storage and climate benefit; as an example, ongoing monitoring requirements for a reforestation project may help to proactively reduce wildfire risk factors in the area where the project is conducted. On the flip side, lowering ongoing monitoring requirements for a low reversal risk approach such as Ocean Alkalinity Enhancement can allow the project to focus on (and invest in) reducing quantification uncertainties in the calculation of removals, rather than in potentially unnecessary long term reversal monitoring.

Of course, each solution offers a range of benefits, risks and unknowns – but to the extent possible, the Supervisory Body should encourage each project type to address and minimize risk in the areas most likely to impact long-term climate mitigation and efficacy.

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.

Section 3.4.18 in A6.4-SB003-A03 states that *“at renewal of crediting period, activities involving removals shall apply the latest version of the applicable methodology”*.

Running Tide commends the inclusion of this “Crediting Period” consideration by the Supervisory Body. It is critical that innovation is encouraged so that both new methodologies representing novel solutions can be readily integrated into the Article 6.4 mechanism, and so that existing projects regularly update their approaches and quantification guidance as solutions are tested and iterated upon. We would suggest two additional considerations in regards to the proposed language:

- i) New versions of methodologies should be required to highlight and explain any changes from previous versions of applicable methodologies. This will provide visibility for all stakeholders into what changed, implications for monitoring and measurement, and how the project is adapting to respond to real-world learnings.

ii) Removals previously “issued” under applicable methodologies within the Article 6.4 mechanism should not be changed retroactively when an updated methodology is released. A desire for backwards-facing adjustments to account for new information or uncertainty factors (whether positive or negative) is understandable, but potentially sets a dangerous precedent that could undermine the confidence in past Article 6.4 activities and “issuances”. Eligible removals issued under an applicable methodology as part of Article 6.4 should represent the best available science we have at that time, and should be issued and transacted on that basis.

G: 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.

Section 3.7.21 of A6.4-SB003-A03 states that *“activity participants shall minimize and, where possible, avoid, negative environmental and social impacts of an activity involving removals including impacts on biodiversity, land and soils, ecosystem health, human health, food security, local livelihoods, and the rights of the indigenous peoples”*.

Running Tide commends the inclusion of this consideration by the Supervisory Body. It is our belief and experience that carbon removal activities, if conducted properly, provide an opportunity for significant sustainable development co-benefits, including the adaptation and socio-cultural benefits of significant job creation, equitable local employment, and retraining in high-use, vulnerable areas.

Coastal communities are experiencing a rapid decline in the health of the local ocean, riverways and waterways tied directly to the impacts of anthropogenic emissions. Heat, acidification and increased climate volatility are directly impacting livelihoods and economies reliant on working with natural resources, such as fishing and aquaculture. This decline threatens coastal communities and food security. It puts the natural processes that regulate our climate systems at extreme risk of collapse. Without positive interventions including ocean-based carbon removal, the capacity of the ocean to sequester and store atmospheric CO₂ will likely continue to diminish, accelerating the increase in atmospheric CO₂ and the resulting acidification of surface seawater.

This “negative baseline” of rapidly declining ocean health provides critical context when considering ocean climate solutions, as there is no solely conservation-focused strategy that provides a realistic pathway towards meaningfully maintaining or improving ocean health at a global scale. While conservation and preservation of at-risk areas will be a critical component of combating climate change and maintaining a healthy, productive and biodiverse ocean, taking positive action to restore degraded ecosystems, reverse acidification, and remove excess carbon are necessary to counter the irreversible changes faced by marine ecosystems and to protect against negative environmental and social impacts.



Simply put, there is no path to effectively combating the climate crisis that does not include taking positive action to address ocean acidification and warming.