



September 7, 2023

Deerin Babb-Brott

Assistant Director for Ocean Policy

White House Office of Science and Technology Policy (OSTP)

RE: FRN National Strategy Sustainable Ocean Docket [OSTP-CE-2023-0009](#)

Submitted via Regulations.gov

Dear Assistant Director Babb-Brott:

The [Carbon Business Council](#) is a nonprofit trade association of more than 100 innovative carbon management companies with over \$16.5 billion in combined assets working across six continents. We appreciate this opportunity to submit comments on the critical importance of prominently including marine carbon dioxide removal (mCDR) in the National Strategy for a Sustainable Ocean Economy (“National Strategy”) that OSTP is developing.

The recent IPCC AR6 Synthesis Report clearly states that carbon dioxide removal (CDR) – alongside a strong global prioritization on emissions reduction of carbon dioxide (CO<sub>2</sub>) and other greenhouse gasses – is “unavoidable,” and will be required at gigatonne (Gt) scale to reach our mid-century net-zero target and have a chance to limit warming to 1.5 or even 2°C.<sup>1</sup> Covering 71% of the planet’s surface and serving as (by far) the largest global sink for anthropogenic CO<sub>2</sub>, the world’s oceans have an outsized role to play in scaling carbon removal to this immense level.<sup>2 3 4</sup>

mCDR encompasses a range of approaches that each offer 1) significant potential to contribute to a sustainable ocean economy; and 2) substantial co-benefits to coastal ecosystems and commercial aquaculture. These approaches include:

- Cultivation of aquatic plants, including [macroalgae](#) and [microalgae](#) (for sinking to the deep ocean, or harvested for incorporation into long-lived products);
- Restoration of seagrass, mangroves, and other coastal marine ecosystems (coastal “[blue carbon](#)”);
- [Ocean alkalinity enhancement](#) via the deployment of electrochemical systems or physical application of clean alkaline minerals to coastlines, coastal watersheds, through existing and permitted ocean outfalls (e.g.wastewater treatment plants), or the open ocean; and
- [Direct ocean removal of CO<sub>2</sub>](#) via electrochemical systems.

---

<sup>1</sup> [IPCC AR6 Synthesis Report](#) p 50, 2023.

<sup>2</sup> Friedlingstein et al., [Global Carbon Budget 2022](#). *Earth Systems Science Data*, 2022.

<sup>3</sup> [Research Strategy for Ocean Carbon Dioxide Removal and Sequestration](#), NASEM, 2022.

<sup>4</sup> [Strategy for NOAA Carbon Dioxide Removal and Research](#), NOAA PMEL, 2023



CDR is forecast to be a trillion-dollar market by 2050,<sup>5</sup> and the Carbon Business Council expects the ocean to play a key role in the sector. Responsible deployment and scaling of mCDR approaches have the potential to make substantial contributions to a sustainable ocean economy in terms of direct and indirect job creation, and growing local tax bases in coastal communities.

In addition to these direct economic benefits, mCDR approaches offer significant co-benefit to coastal ecosystems and commercial aquaculture in the form of reducing ocean acidification. While the ocean is too vast for anthropogenic carbon removal to meaningfully reduce ocean acidification at a global level in the near term, a number of mCDR approaches can increase alkalinity, and reduce acidification, on a sustained basis *locally* – thereby contributing to the protection and potential restoration of critical near-shore marine ecosystems and fisheries, as well as to enhanced productivity of commercial aquaculture.<sup>678</sup>

Given the significant contributions mCDR can make to a sustainable ocean economy, as well as healthy and resilient coastal ecosystems, the Carbon Business Council offers the following recommendations for OSTP’s consideration and inclusion in the National Strategy:

- Creation of an mCDR task force to unite relevant agencies (including OSTP, DOE, NOAA, USDA, etc.) around an all-of-government approach to responsibly scaling mCDR;
- Increased investment in mCDR research and development of large-scale ocean modeling and science-based systems for monitoring, reporting, and verification;
- Advancing and scaling pilot and demonstration mCDR project deployment;
- Inclusion of mCDR in method-neutral, criteria-based federal procurement programs to drive innovation and scaling; and
- [Developing a permitting regime for mCDR](#) to facilitate field trials within U.S. waters.

We would be pleased to discuss this further with you and other relevant stakeholders, and connect you with Carbon Business Council members working to advance mCDR. We very much appreciate the important work that you do, and the opportunity to submit this input for your consideration.

Sincerely,

*Benjamin Rubin*

Ben Rubin  
Executive Director, Carbon Business Council

*Isabella Corpora*

Isabella Corpora  
Associate Director, Carbon Business Council

---

<sup>5</sup> [A Blueprint for Scaling Voluntary Carbon Markets](#), McKinsey & Company, 2021.

<sup>6</sup> [“SBU Study Shows Kelp Can Reduce Ocean Acidification and Protect Bivalves,”](#) June 2022.

<sup>7</sup> Fakhraee, M., Planavsky, N.J. & Reinhard, C.T. [Ocean alkalinity enhancement through restoration of blue carbon ecosystems](#). *Nat Sustain* (2023).

<sup>8</sup> Albright et. al., [“Reversal of Ocean Acidification Enhances Net Coral Reef Calcification,”](#) *Nature* (2016).