

# MARINE GEOENGINEERING: CARBON MARKETS ARE DRIVING OPEN-OCEAN GEOENGINEERING EXPERIMENTS

May 2, 2024



Three weeks ago today state and industry representatives came together in Barcelona for the [Ocean Decade Conference](#), a multilateral UN event aiming to “*create a new foundation to strengthen sustainable ocean management and drive science-based innovation.*” There was one glaring omission from the agenda: Marine Geoengineering.

In recent years there has been a rapid increase in the number of geoengineering experiments taking place in the open ocean and other marine environments globally. These range from altering the chemistry of seawater to make it absorb more carbon dioxide ([Ocean Alkalinity Enhancement \(OAE\)](#)), dumping wood and seaweed into the ocean so that it sinks to the sea floor ([biomass sinking](#)) and covering Arctic ice with billions of hollow glass balls to reflect sunlight ([Arctic ice management](#)).

Carbon markets are the principal driver behind many of these experiments and are incentivising the deployment of Marine Geoengineering projects at increasingly larger scales. Numerous companies cite the lucrative potential of selling carbon – and now “cooling” – credits to polluting industries looking to offset their emissions. For example, **1,000 seaweed-covered buoys were recently sunk** in exchange for carbon credits sold to tech company [Shopify](#), and aviation giant [Boeing](#) has signed an agreement to buy credits from a company that uses a highly resource and energy-intensive process to draw carbon dioxide out of the atmosphere and into the ocean. Another project is **planning to sell cooling credits** based on a scheme that pumps seawater onto sea ice in order to increase its albedo.

Despite the rapid roll-out of Marine Geoengineering projects there are still serious concerns about the impacts that they will have on marine environments. Furthermore, the science simply doesn't back-up claims made by companies that their technologies can safely remove carbon from the atmosphere or effectively reflect sunlight back into space. In fact, numerous studies show that Marine Geoengineering projects could actually have the opposite effect of what they are trying to achieve, such as biomass sinking projects that **could lead to the production of methane**, a much more potent greenhouse gas than carbon dioxide.

[Geoengineering Monitor](#) has just published **extensive new updates** on the status of more than 50 Marine Geoengineering schemes world-wide, providing an up-to-date assessment of the principal forms of Marine Geoengineering, their likely impacts and the direction they are heading in. These updates focus on the three main categories of [Ocean Alkalinity Enhancement](#), [biomass sinking](#) and [Arctic ice management](#), but also include other schemes such as [spraying iron salt aerosols over oceans](#), and [growing algae in seawater-filled ponds](#) to then bury in landfill sites (and sell carbon credits in the process, of course).

In case you missed it, ETC Group also recently published *[The Seaweed Delusion](#)*, which breaks-down why the kind of industrial seaweed production proposed by many Marine Geoengineering projects will not cool the climate or save nature. You can keep up with all the latest geoengineering developments globally by going to the [Geoengineering Map](#), which covers literally hundreds of projects and companies, and on the [Geoengineering Monitor website](#), where regular technology updates are published.

This article was originally published in the Geoengineering Monitor April newsletter, to receive our newsletters directly to your inbox please sign-up here!

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## CARBON MARKET-DRIVEN EXPERIMENTS IN THE OPEN OCEAN ENDANGER THE MARINE ENVIRONMENT

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## **DUMPING BIOMASS IN THE OPEN OCEAN IS AN UNPROVEN CARBON REMOVAL STRATEGY, BUT THAT HASN'T STOPPED COMPANIES FROM SELLING CARBON CREDITS FROM IT**

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## **ARCTIC ICE MANAGEMENT AND OTHER GEOENGINEERING PROPOSALS SHOULD REMAIN SCIENCE-FICTION**

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Photo by Hector John Periquin on Unsplash

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## **THE SEAWEED DELUSION: INDUSTRIAL SEAWEED WILL NOT COOL THE CLIMATE OR SAVE NATURE**

As the world scrambles for a climate fix, seaweed – or “macroalgae” – has been





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arguments being used to promote these “blue carbon” seaweed projects - which include industrial-scale farming and sinking seaweed, through to “rewilding” and restoration projects - fail to stack up.

*Download ETC Group's report [here](#).*