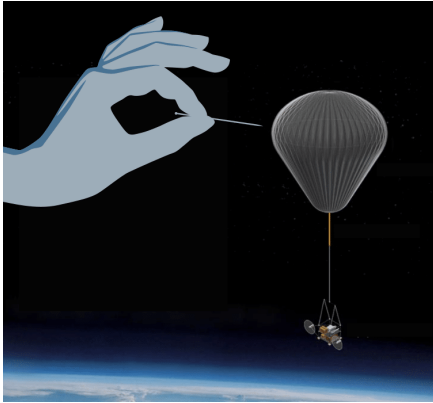


# Recent setbacks for geoengineering and the path forward

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By **Coraina da la Plaza**, Hands Off Mother Earth! (HOME) Alliance coordinator, and **Oli Munnion**, Geoengineering Monitor editor

The impacts of climate change are being felt far and wide all around the globe, and Global South countries are being hit the hardest even though historically they have contributed the least to the crisis. Global temperature records show that 2023 was the warmest year since records began, and numerous heat records have already been broken so far in 2024. Meanwhile, we are witnessing an aggressive push to normalise geoengineering as a climate solution.

Geoengineering refers to large-scale technological interventions to manipulate the Earth's ocean, land and atmosphere with the aim of "fixing" the climate crisis through controlling the climate. Geoengineering schemes range from spraying aerosols into the stratosphere to block sunlight from reaching the Earth, to sucking carbon out of the atmosphere and injecting it deep underground. [1] Regardless of the scheme, the thing that they all have in common is that they are false solutions to the climate crisis which divert attention away from real solutions, and provide big polluters with an excuse to continue with their business as usual. They would also have serious (and likely irreversible) impacts on ecosystems and livelihoods, as well as exacerbate patriarchy, neo-colonialism, inequality and climate injustice.

The profound impacts that the large-scale deployment of geoengineering technologies would cause have been recognised by the international community. There has been a *de facto* moratorium on geoengineering within the Convention on Biological Diversity (CBD) since 2010, which accepts the likely consequences for biodiversity and livelihoods. The London Convention/London Protocol (LC/LP), which focuses on the oceans and marine life, has banned ocean fertilisation, a type of marine geoengineering. Last year, the African Ministerial Conference on the Environment (ACMEN) called for an International Non-Use Agreement on Solar Geoengineering to be implemented. However, geoengineering proponents are determined to undermine these multilateral agreements.

For instance, at the United Nations Framework Convention on Climate Change (UNFCCC) meeting held last year in Dubai (COP28), a large number of events took place at the Oceans Pavilion that promoted marine geoengineering techniques, but none of them seriously addressed the potential impacts of their proposals. Meanwhile, inside the negotiation rooms, parties continued to wrestle with rules on carbon markets, which risk enabling harmful carbon dioxide removal geoengineering technologies.

Another recent attempt to legitimise geoengineering in UN spaces was a Solar Radiation Modification (SRM) resolution put forward by the Swiss government during the 6th United Nations Environment Assembly (UNEA-6). It aimed to convene an expert group to examine the potential benefits and risks of SRM, and carry out an assessment of the science. In the UN Oceans Conference which took place last week, non-profit groups like Ocean Visions that promote marine geoengineering hosted a number of events under the conference's umbrella.

However, geoengineering proponents have also recently experienced some significant setbacks due to an increased awareness among decision-makers and civil society organisations about the risks of these false solutions, and a growing understanding of why it is so crucial to stop geoengineering proposals in their tracks.

During days of negotiations at UNEA-6 the African Group along with other Global South countries strongly advocated for any resolution on SRM to recognise the existing CBD geoengineering moratorium, and for the Assembly to reaffirm a precautionary approach by calling for an International Non-Use Agreement on Solar Geoengineering. The Swiss government's resolution started to lose support, negotiations stalled and the resolution was finally withdrawn. This was celebrated by civil society groups who believed that it would legitimise possibly the most risky form of geoengineering.

Just a few weeks after the withdrawal of the UNEA-6 SRM resolution, Harvard University announced the cancellation of the Stratospheric Controlled Perturbation Experiment (SCoPEX). SCoPEX was first announced in 2015 and was meant to be the first outdoor experiment aimed at testing Stratospheric Aerosol Injection (SAI), the most prominent SRM technique. The SCoPEX experiment basically involved releasing calcium carbonate, a common mineral dust, and other materials such as sulphates into the stratosphere. More importantly though, it would have played an important role in normalising geoengineering and pushing the world further along the path towards deployment.

Since its inception SCoPEX consistently targeted Indigenous Peoples' territories as testing grounds for its experiments and, as a consequence, Indigenous Peoples' Organisations and their civil society allies fought tirelessly for the project to be called off. The Indigenous Environmental Network (IEN) highlighted how the SCoPEX experiments "would be disastrous for the climate, environment, humanity and all life as we know it," and that any kind of SRM is a violation of the Indigenous cosmovision. Its cancellation was a well-deserved victory in the struggle against techno-fix solutions.

Alongside these key victories, an open letter calling for an International Non-Use Agreement on Solar Geoengineering has now been signed by over 490 academics from a diverse range of backgrounds and over 60 countries, as well as 200 civil society organisations. The Hands Off Mother Earth! (HOME!) Alliance is also now a powerful voice in the struggle against geoengineering and, despite the many obstacles to protest at COP28 last December, civil society mobilised for an end to false solutions such as geoengineering.

However, geoengineering proponents are far from giving up on the idea that climate change can be solved with these unproven, risky and polluting technologies. There are currently around 11 significant and ongoing SRM-related initiatives, and this number is dramatically higher if you include other forms of geoengineering, such as marine and land-based carbon dioxide removal. For example, the University of Chicago is building its "Climate Systems Engineering" initiative, and a couple of weeks ago a consortium of groups including SilverLining, the University of Washington and Silicon Valley-based research group SRI carried out the US's first outdoor marine cloud brightening experiment. [2] The World Climate Research Programme (WCRP) has also recently launched a Lighthouse Activity on "Climate Intervention Research," and we foresee future battles at upcoming multilateral climate negotiations such as UNFCCC COP29, which will take place later this year.

This is not to feel discouraged—the aforementioned setbacks are important victories for climate justice and show the power that Indigenous Peoples' and civil society voices can have in shaping a sustainable and just future. However, a lot of work lies ahead, and it is crucial that we continue to mobilise against geoengineering proposals. The urgency of addressing the climate crisis cannot lead to the proliferation of false solutions, which will only divert attention away from the real solutions that are already within our grasp.

[1] Geoengineering proposals broadly fit into two categories: Solar Radiation Management (SRM) techniques attempt to reflect sunlight back into space, and include a range of ideas, from orbiting mirrors, tonnes of sulphates sprayed into the stratosphere, and modifying clouds, plants and ice to make them reflect more sunlight; and Carbon Dioxide Removal (CDR) proposals posit that it's possible to suck carbon out of the atmosphere on a massive scale, using a combination of biological and mechanical methods, from seeding the ocean with iron pellets to create plankton blooms to creating forests of mechanical "artificial trees".

[2] Marine cloud brightening (MCB) is a solar radiation management geoengineering technique that aims to make the clouds brighter to reflect (part of) the incoming sunlight back into space.