



2022 United Nations Ocean Conference Side Event

Marine Cloud Brightening-a governance dilemma

1st July 2022, 11:00-12:15, Lisbon time

Organized by: Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) and the Carnegie Climate Governance Initiative (C2G)

Background on the event (one paragraph)

Actions and commitments made by countries under the Paris Agreement are currently insufficient to keep global warming below 1.5 degrees Celsius to avoid catastrophic climate change, and vulnerable places across the world are already facing many of the greatest impacts. The Great Barrier Reef has been severely damaged by marine heatwaves caused by climate change and is currently suffering its sixth mass bleaching. To reduce bleaching on the reef, [a group of Australian researchers and engineers are undertaking](#) outdoor experiments to test a technique called marine cloud brightening (MCB) which seeks to whiten clouds over the ocean to reflect solar radiation in order to achieve cooling. MCB, as a localized form of solar radiation modification, may have the potential to protect the marine environment by reducing climate hazards, but it could create novel risks, ethical and governance challenges – particularly if scaled-up in a global climate intervention. The governance of such research presents a challenge, in light of concerns that research into such techniques might put society on a “slippery slope” towards future deployment and create distractions from the essential focus on climate change mitigation through greenhouse gas emission reductions and removals. Meanwhile, scientists, policymakers and societies across the world do not know enough about the potential benefits or risks of such techniques, to be able to make well informed decisions about their potential development or use. How to deal with this dilemma? How do we weigh up those concerns and the risks of not knowing whether or not such solar radiation modification techniques might be a potential additional climate response option? Can society learn from the MCB project in ways that might advance the governance of solar radiation modification research in future? A diverse international expert panel explored these emerging governance challenges.

Key Issues discussed (5- 8 bullet points)

- Marine Cloud Brightening, like other solar radiation modification approaches, is not a solution to the climate crisis but could potentially reduce some climate change risks. But SRM techniques, if implemented at all, would create new risks and would need to be supplementary to all the strongest possible actions to mitigate and adapt to climate change.
- Governing solar radiation modification will require better understanding of the techniques, their benefits and risks which are largely unknown so far. More transdisciplinary research will be needed to improve our understanding of these issues.
- Participation of the Global South in SRM research and governance discussions are crucial to ensure their voices are heard and their interests are represented.
- The national governance regime for Marine Cloud Brightening research in Australia can provide useful information for discussions on and consideration of an international governance framework which would need to connect existing relevant governance processes (climate, biodiversity, ocean. etc).
- Young people can make meaningful contributions to SRM governance discussions to strengthen the inclusivity of the process.

Key recommendations for action (5 - 6 bullet points)

- To kick-start global, regional and national conversations among different communities to learn about and better understand SRM and its governance challenges.
- Building on work by the GESAMP marine geoengineering review, and under the London Convention/London Protocol, the Convention on Biological Diversity (CBD), Intergovernmental Panel on Climate Change (IPCC), and elsewhere, consider convening governments and other actors to learn more and catalyse stronger governance for managing risks to the oceans from overshooting 1.5°C, including potential risks, benefits and governance challenges posed by solar radiation modification techniques.
- The Ocean Decade as well as negotiations under the UN Convention on the Law of the Sea (UNCLOS), the London Convention/London Protocol and the CBD present timely opportunity to address some knowledge and governance gaps around solar radiation modification and its governance.
- To create an inclusive and transparent platform to ensure the Global South, young people and other under-represented groups can actively engage in international SRM governance discussions.

Voluntary Commitments (one paragraph)

n/a