

# GEOENGINEERING 'FALSE SOLUTION' TO CLIMATE CRISIS

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As the climate crisis continues to worsen despite warnings by experts, a new potential solution is emerging in international dialogues. Geoengineering, or large-scale man-made interventions to the Earth's atmosphere, oceans and soils, aims to either reduce carbon dioxide from the environment or regulate sunlight reaching the surface. However, advocates consider geoengineering a false solution to the climate crisis.

"None of the technologies have a track record. All of them come with major risks and unknowns, and in some cases, the effects would be obviously catastrophic," said Niki Miranda-Martinez, coordinator of the Hands Off Mother Earth campaign, an international collaboration of nongovernment organizations.

Martinez added that if deployed, geoengineering technologies "are highly likely to worsen rather than mitigate the impacts of global warming." This would have significant consequences for the Philippines, one of the most vulnerable countries to the climate crisis.

She also said geoengineering requires the intensive exploitation of vast amounts of resources on land and oceans. These projects "would inevitably displace millions of people and potentially wipe out entire ecosystems" and "could redirect funding and investments away from real climate solutions."

## **The Philippine context**

There have been a few attempts at geoengineering in the Philippines. In 2007, the Australia-based Ocean Nourishment Co. (ONC) proposed to dump 500 tons of urea into the Sulu Sea. Urea, an organic compound made from ammonia and carbon dioxide, is supposed to stimulate the growth of phytoplanktons in the oceans, which could absorb more carbon dioxide from the atmosphere.

However, this project was opposed by local communities and environmental organizations.

The University of the Philippines-Marine Science Institute stated then that "the impacts of large-scale ocean nourishment or artificial fertilization on the environment cannot be predicted at the present time with an acceptable level of certainty,"

Specifically, the artificial fertilization could disrupt marine ecosystems in an area home to key biodiversity sites, including Tubbataha Reef. It could also cause harmful algal blooms or red tides, and even release more greenhouse gases into the environment.

The World Wildlife Fund for Nature (WWF) Philippines also criticized the proposed project, as it could adversely affect the seaweed farms in the southern Philippines and deprive millions of people of their livelihood and food source.

Prior to this, ONC dumped a ton of urea off the coast of Antique, a move the Bureau of Fisheries and Aquatic Resources and the Department of Environment and Natural Resources said they did not permit. These criticisms caused the ONC to call off the ocean fertilization project.

Currently, the US-based Climate Foundation (TCF) is proposing an artificial upwelling of the waters near Bohol by 2020. This technology aims to bring nutrient-rich waters up from deep in the oceans into the surface using giant sea pumps. Similar to ocean fertilization, it aims to absorb more carbon dioxide from the oceans, stimulate phytoplankton growth, and enhance fish production.

TCF also claims the project would help about 2,000 local farmers improve their red seaweed production. It also has deployed wave- and solar-powered deepwater pumps in the country.

However, Martinez questioned the lack of publicly available information regarding the project. "We know nothing about the

logistics of this experiment and this is one of the things that we are trying to find out," she said.

Martinez added the public deserves to know "whether TCF has indeed secured a permit, where they are operating, what the scale of their experiment is, and any other information about the endeavor."

### **True solutions**

Ultimately, geoengineering schemes are a "band-aid" fix designed to preserve the current economic systems that benefit capitalists and fossil fuel companies, according to Martinez.

"High-risk technofixes are proposed so that some can survive while preserving their privileges, even if it implies a whole series of new environmental and social threats for millions of other people," she said.

Martinez added governments and businesses should focus on funding and implementing true solutions to the climate crisis, including ecosystems-based adaptation measures and enhancing natural carbon sinks such as forests. "We need real solutions that are inclusive, holistic and safe; geoengineering is none of these. We need are deep transformations and radical systems change," she said.

As geoengineering remains a largely unfamiliar topic in the Philippines, she called for a more careful information dissemination process from policy makers to grassroots communities, as "it is very complicated and it takes time for people to truly understand how troublesome it is for our world should these technologies run its full course."