

SOLAR RADIATION MANAGEMENT

You can't make this up . . . !

Overview

Solar Radiation Management (SRM) techniques are attempts to reflect sunlight back into space. SRM includes a range of dramatic ideas, such as installing banks of mirrors in Earth's orbit; injecting sulfates into the stratosphere; and modifying clouds, plants, or ice to make them reflect more sunlight away from the Earth. SRM proposals call for planetary-scale interventions that must be sustained over a very long period of time, even though they are, at best, temporarily masking the causes of climate disruption. Like other geoengineering techniques, they do not address the root causes of the climate crisis -- an extractive economy based on labor exploitation, global resource depletion, racism, pollution, and the emission of heat-trapping gasses.

Geoengineering is a false solution to the climate crisis. It claims to address some of the symptoms of climate change while ignoring the root causes, enabling them to continue unchecked.



What Does SRM Look Like?

There are many proposed methods of Solar Radiation Management, and new, more outlandish ideas surface every week. Some of these concepts are gaining traction in the corporate-funded climate conversations and are getting closer to becoming real-world experiments. Here is a quick look at some of the proposals that are on the table **and must be stopped**.

Stratospheric Aerosol Injection (SAI)

SAI is based on shooting particles, such as sulphur dioxide, into the stratosphere, using fossil fuel-powered jet planes or other means, to mimic the effects of a volcanic eruption, thereby blocking some of the Sun's radiation from reaching Earth. The goal is to temporarily mask the effects of climate change by attempting to lower global temperatures. SAI promoters admit that the method could only work if used in tandem with other geoengineering technologies for carbon removal, such as Carbon Capture and Storage or Direct Air Capture, and it would need to be sustained until a lot of carbon could be removed from the atmosphere using those methods. Once SAI is begun, stopping it could lead to "termination shock", causing temperatures to rise rapidly to even higher levels than they would have if nothing had been done. The time horizon for maintaining SAI could be 100 years or more!

Marine Cloud Brightening

Marine Cloud Brightening (MCB) is literally a whitewashing technology, whitening clouds by pumping them with saltwater or bacteria, thereby increasing the amount of water vapor they contain. This makes the clouds whiter so they reflect more of the Sun's radiation away from the oceans and land. This would likely result in decreased precipitation in some parts of the world (the Amazon) and increased land run off in others (The Tropics). Overall rainfall is likely to be reduced, forcing the question, "Who decides who will get droughts and who will get floods?" Like all SRM techniques, MCB does nothing to reduce greenhouse gas emissions, transition us to energy democracy, or grapple with the root causes of climate change.

Microbubbles, Microbeads, Seafoam and Other Albedo-Altering Materials

Proponents of this approach want to spread bubbles, beads, or foam over water bodies and/or ice (such as in the Arctic) to whiten the surface, thereby increasing the albedo (reflectivity). (Yes, this is literally a Whitewash.) In addition to not addressing the causes of climate disruption, dumping these materials into the oceans and other bodies of water can disrupt light needed for ocean life and may reduce oxygen to the upper layers of the ocean, negatively affecting biodiversity. Depending on the material used, it can have chemical polluting effects on the sea. These activities could also have destructive impacts in the subsistence lifeways of Indigenous communities in the Arctic.

The promoters of geoengineering are trying to force dangerous experiments on communities around the world, from Indigenous peoples in Alaska to fisherfolk in Chile.

For descriptions of experiments that are currently being proposed [click here](#).

climatejusticealliance.org/geoengineering/#Experiments

Promoting Real Solutions or Preserving the Status Quo?

Geoengineers claim to be “true believers” in climate change, but they are more concerned with preserving the status quo and creating new markets for their technologies than promoting real solutions. The time, money, energy, and political will expended on advancing these dangerous and speculative geoengineering fantasies are resources that would be better used for a Just Transition to energy democracy, a regenerative economy and resilient communities.

Frontline Communities Bear the Burden

The assumption behind SRM techniques is that we cannot, or will not, cut greenhouse gas emissions and end the environmental injustices they cause--from fossil fuel extraction to coal or gas-fired power plants, refineries, pipelines, and mountaintop removal. Geoengineering promoters argue that they are preparing for a worst-case scenario. But frontline communities the world over are already in the worst-case scenario, in which industry and capital are more important than the right to clean air, clean water, healthy soil, human rights, and justice.

Brushing Human Rights Aside

SRM cannot honor the right to Free, Prior and Informed Consent (FPIC) of those that stand to be impacted, as enshrined in the United Nations

Declaration on the Rights of Indigenous Peoples (UNDRIP) and broadly supported by other vulnerable communities, including peasants, Small Island Nations, and frontline communities in the North and South. This is because every community and every person would be impacted by SRM and other geoengineering schemes. The huge scale and transboundary nature of SRM make FPIC impossible and governance unfeasible. And because some countries, like the United States, can choose to “go it alone” and move forward with geoengineering schemes that would impact the entire planet, geoengineering is inherently undemocratic and uncontrollable.¹ Because these schemes must be maintained for extremely long periods of time, with consequences that could manifest over generations, these proposals assume that existing structures of governance and economy will be stable for the next 100 years or more. This is a huge, dangerous, and frankly absurd assumption.

Gathering Force With Governments

In late 2019, the U.S. Department of Energy allocated \$4 million to the National Oceanic and Atmospheric Administration (NOAA) to conduct research on Solar Radiation Management.² In January 2020, NOAA announced a plan to explore both Stratospheric Aerosol Injection and Marine Cloud Brightening. European governments are ramping up funding for geoengineering as well. These actions demonstrate a skepticism and perhaps an abandonment of efforts to cut carbon emissions at their source.

For more information on geoengineering, visit:
www.geoengineeringmonitor.org | www.climatejusticealliance.com
map.geoengineeringmonitor.org

Endnotes

1 - The U.S. is not a party to the *UN Convention on Biological Diversity*, the *UN Declaration on the Rights of Indigenous Peoples*, and many other internationally-recognized human rights instruments and therefore does not consider itself to be bound by these agreements.

2 - “New Government Financing for Geoengineering,” *Geoengineering Monitor*, April 15, 2020.

