



Indigenous Peoples call on Harvard to shut down the SCoPEX project

Indigenous Peoples' put our relationship with Mother Nature and our environment at the center. We are taught to take an ancestral and holistic approach in all we do because everything on earth is interlinked to each other. Functioning ecosystems requires nature and its resources to be managed with great care for it to be preserved and passed onto future generations.

We note with greatest concern that efforts towards the potential development of solar geoengineering technology are now taken and planned to be performed through field tests. SAI (stratospheric aerosol injection) technology builds upon artificially manipulating the environment and thereafter, if deployed, might generate irreversible changes to natural systems. Climate manipulation strongly contradicts our understanding and experience of how to respect and live in harmony with Mother Nature, and therefore, this technology is not something we see as a part of our chosen future.

We, the signatories of this letter, call on Harvard University to shut down the SCoPEX project. As representatives of Indigenous Peoples, we do not approve legitimizing development towards solar geoengineering technology, nor for it to be conducted in or above our lands, territories and skies, nor in any ecosystems anywhere.

As one out of several solar geoengineering technologies, *stratospheric aerosol scattering* is the primary approach which aims to cool the earth by reflecting solar radiation back into space by injecting stratospheric aerosol (SAI) into the atmosphere. With this technology, researchers hope to artificially lower the planet's temperature as a means to tackle global warming. Solar geoengineering technologies and their risks and benefits are yet undiscovered and therefore controversial due to its uncertainty. SAI especially is embedded with unsolved questions regarding justice, ethics, governance and power balances, and with unknown social, environmental and climatic consequences if implemented and put into practice. Researchers, as well as environmental groups, have stressed the danger with such technology because of its potential of extreme and unmanageable impacts on natural patterns, along with the geopolitical tensions it might awaken if deployed.

SCoPEX (Stratospheric Controlled Perturbation Experiment), based at Harvard University, is a scientific experiment to advance understanding of stratospheric aerosol injection (SAI) that could be relevant to solar geoengineering and the development of larger-scale models. The planned test-flight for the experiment was initially to be performed in the U.S but was cancelled due to the protests of Indigenous Peoples who underlined that the testing would violate the sacred relationship between Mother Earth and Father Sky. SCoPEX then moved on to Sweden and planned tests for the summer of 2021. It is however now put on hold due to the concerns raised by the Saami Council and environmental organizations.

SAI technology does not seek to address the core issues of climate change or contribute to the needed action, which is reducing carbon emissions that are contributing to global warming, ocean acidification, air pollution and more. Instead of making notable efforts to deal with the root cause of the climate crisis, solar geoengineering offers a "quick fix" to halt global warming, which is not in line with the precautionary principle. Under the Convention of Biological Diversity, the Parties to the Convention decided in 2010 at COP10, X/33 paragraph 8 (w), on a *de facto* moratorium on climate related geoengineering. This moratorium is still in place, and it clearly shows that there is a need for a global conversation before any testing of this technology is approved.



The potential for creating drastically uneven and unpredictable regional and local changes on climate, weather and biodiversity is a major concern with SAI, and the impacts are difficult, if not

impossible, to predict. The Intergovernmental Panel on Climate Change (IPCC) caution strongly against any reliance on solar geoengineering. The SR15 report released in 2018 states that SAI technology could change hydrological cycles and weather circulation as well as disrupting stratospheric chemistry and ice formation. According to climate experiment models, in situ experiments made in the Arctic region risk to disrupt monsoons patterns, causing severe droughts and therefore with risks of endangering the source of food and water for two billion people in the African and Asian regions.¹ It could also result in more ultraviolet light exposure which would have a negative impact on human health, along with the general regional disparities that possibly might become worsened. Implementing SAI might also lead to irreversible technology lock-in over millennia to avoid the danger of 'termination shock' if suddenly stopped. IPCC's overall conclusion declares that the combined uncertainties surrounding the various solar geoengineering approaches constrain the ability to implement these technologies in the near future.²

Critical research underlines that solar geoengineering uncovers multiple power imbalances that produce and maintain injustices which have not yet been widely acknowledged. Advancing SAI is especially concerning due to its expert-elite technocratic setting primarily based in the global North, based on research funded by billionaires in a philanthropic venture. Solar geoengineering research might further concentrate contemporary forms of political and economic power which must be addressed in relation to ethics and justice. Advancing this research does not recognize structural power imbalances, embedded in colonial systems built on capitalist values that thrive on exploitation and the use of fossil fuels, which in turn are contributing to global warming. Furthermore, because of the unequal climatic impacts among regions that are already occurring, SAI technology also has the potential to be weaponized, with new, unmanageable geopolitical tensions having global impacts. Only a few states are likely to have both the technological capacity and political legitimacy to deploy the technology.³

While some might find that one of the biggest question regarding solar geoengineering technology is *who* determines *when* we should justify interventions to climate systems, our view is clear: climate change is already a crisis, and its reality has already exposed the vulnerability of regions and communities already experiencing it. Investing in these types of extreme technical solutions to halt climate change is therefore not only posing immense risks but is also avoiding the need for real change to tackle global injustices while pushing problems into the future. Therefore, any efforts that distract us from addressing the root cause to the climate change crisis are false solutions.

Solar geoengineering strongly contradicts our understanding and experience of how to respect and live in harmony with nature. The essence of solar geoengineering technology is composed of unknown risks we cannot take as a global community, for the sake of our future generations to come. What we need is real and notable action that deals with addressing the root cause of the climate crisis and solar geoengineering does not.

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¹ Robock, Alan, et al. (2010). A Test for Geoengineering? *Science Magazine* Volume 327.

² Intergovernmental Panel on Climate Change (2018). Global Warming of 1.5°C. Chapter 4: Strengthening and implementing the global response.

³ Stephens JC, Surprise K (2020). The hidden injustices of advancing solar geoengineering research. *Global Sustainability* 3.