

Position Statement on Solar Radiation Management

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Solar Radiation Management (SRM) (also known as Solar Geoengineering) is a family of techniques intended either to reduce the amount of sunlight reaching the earth's surface (for example, by injecting particles into the stratosphere) or to increase the amount of sunlight that is reflected back into space (for example, by creating brighter clouds).

NRDC's position on research and possible use of these techniques is as follows:

- Emission reduction and avoidance are the essential tools to protect the climate. SRM can never be a substitute for emission mitigation.
- SRM is currently poorly understood but there are known risks as well as a high potential for unintended and/or unknown adverse impacts.
- Given the current lack of governance structures, SRM could be practiced by one or a few countries (or even non-state actors) in ways that could have harmful impacts on other countries and people who have not consented to such deployment.
- Accordingly, there is an urgent need for internationally agreed-upon rules of the road for both outdoor SRM research activities and for review of proposals, if any, aimed at deployment of SRM.
- The world has delayed so long in cutting greenhouse gas pollution that we are already suffering from significant harms caused by climate disruption. These harms will mount even with the most rapid program of emissions cuts. Thus, a responsible climate protection portfolio should supplement the core strategy of emission reduction with appropriate additional measures.
- SRM adds material to the atmosphere or makes the ocean or land surface more reflective for the purpose of countering some of the warming impact of excess carbon concentrations but does not reduce the concentrations of GHGs in the atmosphere. While SRM would be used to lower global mean temperature, modeling shows it would likely cause regional and temporal changes in temperature and precipitation that differ from preindustrial conditions. As noted in the U.S. Fourth National Climate Assessment, this could result in unpredictable changes in precipitation patterns, light availability, crop yields, acid rain, pollution levels, temperature gradients, and atmospheric circulation. Reducing the amount of sunlight that reaches earth's surface could also negatively impact ecosystems.
- NRDC does not support planning for SRM deployment at this time, due to profound uncertainties regarding the adverse side effects of this approach and the lack of an adequate governance mechanism.
- NRDC does support carefully designed programs to research SRM, including, on a case-by-case basis, limited outdoor experiments that have been subject to independent review as being sufficiently small to avoid a detectable effect on climate systems. This research will help avoid unfounded optimism about the viability of large-scale SRM, while adding to our knowledge base in the event future decisionmakers consider some form of deployment.