The Alliance for Just Deliberation on Solar Geoengineering

Solar Geoengineering Governance: Existing Frameworks and Gaps

As the climate crisis accelerates, solar geoengineering (also known as solar radiation modification or SRM) – which encompasses technologies aimed at reflecting sunlight to cool the planet – has entered global discussions as a potential tool to mitigate some impacts from global warming. However, the lack of comprehensive governance frameworks raises significant concerns about risks, equity, and global oversight. Examining current governance efforts and identifying gaps is essential to ensure that any research or potential deployment prioritizes safety, justice, and transparency.

Some Examples of Governance Efforts Include:

1. Intergovernmental Discussions and Major Reports:

· Convention on Biological Diversity (CBD): Examines the potential impacts of SRM on ecosystems and promotes precautionary measures, but its guidance is non-binding. CBD COP10 decision X/33 states "no climate-related geo-engineering activities that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks for the environment and biodiversity and associated social, economic and cultural impacts."

Convention on Biological Diversity

· United Nations Environment Programme (UNEP): In its 2023 One Atmosphere report, UNEP called for international governance frameworks to guide SRM researc and potential deployment. The report emphasized the importance of transparency, inclusivity, and global coordination, and recommended that any future decisions o SRM be made collectively and cautiously, grounded in robus, science and in alignment with climate justice and sustainability goals.

UN environment programme



2. National Research Guidelines:

Countries like the United Kingdom have initiated research guidelines, transparency requirements, and risk assessments.

3. Civil Society Engagement:

- Non-governmental organizations (NGOs), academic institutions, and international coalitions have called for participatory governance that prioritizes equity and accountability.
- Some advocate for a global moratorium on deployment until robust governance is in place.

4. Research Institution Oversight:

- The SCoPEx Advisory Committee was established as an independent committee to provide advice on the research and governance of SCoPEx.

Key Governance Gaps



1. No Binding International Framework:

There is no formal international governance for SRM research or deployment, leaving room for uncoordinated or unilateral actions with global consequences.



2. Lack of Equity and Representation:

Decision-making processes often exclude low-income countries, Indigenous communities, and other vulnerable populations that could face disproportionate impacts.



3. Insufficient Oversight and Accountability Mechanisms:

Clear structures to monitor and enforce responsible research practices are lacking, increasing the risk of unethical or unsafe experimentation.



4. Limited knowledge, Transparency, and Engagement:

Insufficient public engagement, lack of open-access, easily digestible information, and limited clarity of ongoing activities and actors create barriers to trust and inclusive participation.



5. Precautionary Measures:

Existing frameworks, such as the CBD, promote precaution but lack enforcement power to prevent risky or premature deployment.

Strengthening governance frameworks is essential to ensure solar geoengineering research and potential deployment prioritize global equity, safety, and transparency. Learn more about ongoing efforts at DSG's website.