

Academic Working Group on the International Governance of Climate Engineering
Meeting 1
American University, Washington, DC
March 7-8, 2016

Meeting Report

Executive Summary:

The first meeting of the Academic Working Group on the International Governance of Climate Engineering (AWG) introduced the group to current discussions of solar radiation management (SRM) technology and governance. During the first day, leading experts in SRM science and policy interfaced with the AWG to address the framing of SRM within existing climate regimes, the potential roles for SRM as a response to climate change, and governance challenges associated with climate engineering. The experts also illuminated the process of scientific investigation for SRM and explained the state of knowledge on SR. During the second day, the AWG grappled with key concerns surrounding SRM policy.

State of SRM Knowledge:

The AWG received a briefing from climate scientists and policy professionals on the current state of knowledge surrounding SRM. These experts addressed both the range of perceptions toward SRM as well as a basic description of SRM technologies, such as marine cloud brightening and stratospheric aerosols. The first major debate considered how SRM fits into the broader narrative of climate change solutions. The experts established that to meet the [Paris Agreement](#) target – *holding the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels* – solely reducing emissions is likely not sufficient. Consequently, climate engineering, including both carbon removal and SRM, may be a necessary piece of the climate response portfolio along with mitigation and adaptation.

However, SRM as a climate response mechanism comes with many governance and ethical questions. How will research and deployment be governed? Does SRM mesh with the Paris Agreement's agenda of reducing emissions? What will domestic, regional, and international SRM governance structures look like? In the end, the experts concurred that SRM research must be deliberate, transparent, and controlled, and governance structures must evolve with research. This session of Meeting 1 concluded with AWG members asking the experts about the technological feasibility of SRM.

State of SRM Scientific Investigation:

Experts explained SRM technologies in more detail with a focus on how scientific investigation into SRM unfolds. Five conclusions about SRM scientific investigation emerged:

1. Models are useful to an extent. They are the safest way to research SRM technologies because there is no physical use of the technologies; however, there are risks we cannot investigate with models alone such as regional feedbacks.

2. There must be a combination of lab and field experiments, and there needs to be policy support to do so.
3. SRM research is complex and time-intensive. Proper planning for research requires a timeline to be set now.
4. There should be a focus on low-risk experiments to investigate the unknown.
5. Stakeholder engagement in SRM research is necessary to bridge societal demands and scientific interests.

The AWG further unpacked SRM investigation by inquiring about the state of specific technologies and their efficacy in addressing climate change.

Prior Reviews of Governance and Future Considerations:

The AWG learned about various organizations researching SRM governance (e.g. [Solar Radiation Management Governance Initiative](#), [European Transdisciplinary Assessment of Climate](#), and [Stratospheric Particle Injection for Climate Engineering](#)) and existing policies touching on SRM governance (e.g. [Oxford Principles](#) and [International Convention for the Prevention of Pollution from Ships](#)). The future of SRM governance was then deliberated. The AWG and experts discussed gaps in governance regarding proper framing, timing, jurisdiction, ethical obligations, and justification of deployment.

Guiding Themes:

During the second day of AWG Meeting 1, the AWG outline their thoughts regarding key areas of SRM inquiry, as depicted in the below diagram.

