

# The Solar Radiation Management Governance Initiative (SRMGI)

## Advancing the international governance of geoengineering

“The acceptability of geoengineering will be determined as much by social, legal and political issues as by scientific and technical factors. There are serious and complex governance issues which need to be resolved.”  
*Geoengineering the climate: science, governance and uncertainty (The Royal Society, September 2009)*

### Summary

The failure of the Copenhagen COP-15 meeting to produce a binding global agreement has led to increased concerns that cuts in greenhouse gas emissions may prove too slow to avoid dangerous climate change. It has also heightened interest and speculation about geoengineering: deliberate large-scale interventions in the Earth’s climate system, in order to moderate global warming.

The Royal Society 2009 report *Geoengineering the climate* concluded that geoengineering does not present an alternative to greenhouse gas emission reductions, but that it should be researched transparently, responsibly and internationally, as it may be the only option to reduce global temperatures quickly in the event of a climate emergency.

Building on this report, the Royal Society, in partnership with TWAS (the Academy of Sciences for the Developing World), and Environmental Defense Fund (EDF), has turned its focus to the governance of solar radiation management (SRM) approaches to geoengineering with the launch of the **Solar Radiation Management Governance Initiative (SRMGI)**.

A broad spectrum of ‘stakeholder partner’ organisations will be invited to participate in the SRMGI, representing natural and social sciences, public policy, civil society and private enterprise, and from developed and developing countries. The diversity of partner organisations reflects the fact that there is a wide range of viewpoints on geoengineering, and any governance arrangements for research will have to enjoy broad legitimacy and support if they are to proceed.

The first phase of the SRMGI will run for one year, with the goal of producing a set of clear recommendations for the governance of geoengineering research. These recommendations will be shaped and discussed at a two-day international conference at the Kavli Royal Society International Centre in early 2011. They will be informed by background papers produced by a working group, comprised of individual experts, with further input being provided by partner organisations. Within the working group, subgroups will focus on three different areas:

1. characterising different categories or levels of SRM research that may need different governance arrangements, and suggesting the **thresholds** that divide the categories
2. making recommendations on the functional **mechanics** of governing SRM research, and providing suggestions for a review, advice, public engagement and the sanctioning process that will guide research programme
3. exploring the **international** dimensions of possible SRM research, including a review of the existing legal and institutional landscape, suggesting possibilities for building an international management framework, identifying research or governance activities that would benefit from international coordination, and connecting and coordinating national research programs.

We hope that the recommendations of the SRMGI will be taken forward for discussion and possible implementation by a number of different organisations – governments, national academies, civil society groups, private enterprise and UN agencies.

### **Convening partners**

The SRMGI is being co-convened by three partner organisations: the Royal Society, TWAS and EDF. Collectively they are responsible for setting up and ensuring the smooth running of the initiative. The three convening partners will invite the participants to the SRMGI conference, and they will share responsibility for writing up the output of the meeting, and any recommendations, to reflect the balance of discussions.

To oversee the project decision-making process the convening partners have appointed a steering group, which will agree stakeholder partner organisations, working group focus, format and membership.

### **Steering Group**

Dr Steven Hamburg	Environmental Defense Fund, USA (co-chair)
Dr Jane Long	Livermore National Laboratory, USA
Dr Peter McGrath	TWAS, the academy of sciences for the developing world
Prof Carlos Nobre	National Space Research Institute, Brazil (co-chair)
Prof Laban Ogallo	Drought Monitoring Centre, Nairobi, Kenya
Dr A Atiq Rahman	Bangladesh Centre for Advanced Studies
Prof Catherine Redgwell	University College London, UK
Prof John Shepherd FRS	University of Southampton, UK (co-chair)
Prof Lan Xue	Tsinghua University, P.R. China.

### **Stakeholder partners**

The SRMGI recognises that participation and input from a wide range of stakeholders will be critical if its recommendations are to be well informed and respected. The involvement of stakeholder partner organisations will be a vital component of the SRMGI as it will bring a broad range of expertise to bear on deliberations, and it will encourage and facilitate a wider conversation between scientists, civil society, policy experts, businesses and governments. The role will allow organisations interested in the governance of SRM geoengineering to play an active role in influencing and informing the Initiative, without being under obligation to endorse any of the Initiative's recommendations or output.

As Phase I of the Initiative progresses through 2010, stakeholder partners will be kept abreast of the progress of the working groups and of new developments within the Initiative, and will be encouraged to provide critical feedback. Once the working group background papers are completed they will be distributed to all partners ahead of the Kavli Centre conference. It is hoped that representatives of as many stakeholder partner organisations as possible will be able to attend the conference and play an active role in shaping the eventual recommendations.

Stakeholder partners will:

- be free to back the Initiative recommendations formally, but there will be no compulsion or pressure for them to do so;
- not have to add their logos to Initiative literature (unless they so desire);
- not have to provide funding to the Initiative, beyond paying for representatives to attend the Kavli Conference, if possible. The Royal Society is seeking to secure funds to subsidise the participation at Kavli of organisations that otherwise might not be able to attend;
- be free to pursue their own separate work on geoengineering outside of the SRMGI.

It is hoped that stakeholder partners will want to continue working on the governance of geoengineering into Phase II of the project, in 2011 and beyond. Although the specifics of Phase II will be developed in concert with partner organisations as Phase I unfolds, it is hoped that the Initiative recommendations will be taken forward for discussion and possible implementation by the range of partners to the SRMGI.

### **Funding**

The SRMGI has received funding from Zennström Philanthropies and the Carbon War Room, although the majority of funding is coming from the Royal Society.

### **Project outline**

The starting premise for the SRMGI is that at present there are few international controls on SRM research, and little to ensure that any research that is done is responsible, transparent and environmentally safe. The Initiative, facilitated and steered by the Royal Society, TWAS and EDF, will seek to make recommendations on the kind of governance arrangements that might be desirable or necessary should SRM geoengineering research go ahead. By facilitating a transparent process of international research and discussion, one coordinated independently of vested interests but open to input and participation from a wide range of stakeholders, the SRMGI aims to establish a set of principles as widely accepted norms for all emerging SRM research.

**Phase I** of the SRMGI will run throughout 2010. The project's working group, with critical input from the Initiative's partner organisations, will produce background papers for discussion and refinement at an international conference at the Kavli Royal Society International Centre in March. At this meeting the proposals of the working group, circulated as draft papers for review, will be discussed and refined by the broader community, leading to publication of a report.

Final working group membership will be agreed by the SRMGI steering committee. The groups will be comprised of experts in a range of disciplines, including natural and social sciences, governance, development and international law. They will be supported and administered out of the Royal Society Science Policy Centre. The terms of reference for the working group will be finalised by the steering committee.

In addition to the convening partner organisations responsible for the direction and delivery of the project, the Initiative will also work with a broader group of 'stakeholder partner' organisations. The involvement of stakeholder partners will bring a broad range of expertise to bear on deliberations, and will encourage and facilitate a wider conversation between scientists, policy experts, businesses, governments and civil society. Stakeholder partners will be kept abreast of the latest Initiative developments and they will be sent updates of working group activities. It is hoped they will be able to make regular contributions to the Initiative as the background papers are produced, then at the Kavli conference. Stakeholder partners will not be under obligation to endorse Initiative recommendations or output.

Based on discussions at the Kavli conference, the SRMGI convening partners will produce a report with detailed normative, scientific, legal, ethical and policy recommendations regarding the governance of SRM research and any potential future SRM deployment. These will not be formally negotiated with partner organisations and experts, but will be written up to reflect the balance of opinion from conference discussions.

It is planned that in **Phase II** of the SRMGI, starting in 2011, the recommendations will be taken forward by partner organisations for dissemination, discussion and possible implementation. For example, science academies may take the lead on coordinating transparent international research, while others will continue the conversation with civil society and governments on how to prevent unilateral or irresponsible deployment of geoengineering in the future. The goals for Phase II will be reviewed and refined with convening and stakeholder partner organisations as Phase I progresses, however, early plans are to follow up with a second conference to bring more voices into the debate and to bring together reactions to the outcomes of the Phase I outputs.

### **Further information**

- **Dr Steven Hamburg** Chief Scientist, Environmental Defense Fund ([shamburg@edf.org](mailto:shamburg@edf.org))
- **Dr Peter McGrath** TWAS Programmes ([mcgrath@twas.org](mailto:mcgrath@twas.org))
- **Andy Parker**, Senior Policy Adviser, Royal Society Science Policy Centre ([andrew.parker@royalsociety.org](mailto:andrew.parker@royalsociety.org))

### Timetable for Phase I of SRMGI

Date	Event	Notes
September 2009	<b>Launch of Royal Society's 'Geoengineering the Climate' Report</b>	
18 March 2010	<b>SRMGI launch</b>	Launch of the initiative via press release.
22-26 March 2010	<b>Asilomar conference, organised by Climate Response Fund</b>	The Royal Society and other SRMGI partners will participate in the conference, and hope to build in a productive way on the discussions in Asilomar.
July	<b>SRMGI steering group finalised and underway</b>	The groups will be finalised and start working towards a goal of solidifying the work group by early fall.
8 and 9 November 2010	<b>Discussion Meeting on the science of geoengineering</b>	To be held at the Royal Society, this two day meeting will discuss the latest scientific developments in geoengineering
10 and 11 November 2010	<b>2-day working group meeting</b>	Held at the Kavli Royal Society International Centre (a residential conference venue), this intensive 2-day meeting of the working group will follow on immediately from the scientific Discussion Meeting.
January 2011	<b>Working group report back</b>	The three subgroups of the working group will produce discussion papers for dissemination to stakeholder partner organisations. Online discussion of papers.
February/March 2011	<b>SRMGI conference</b>	This meeting will be held at the Kavli Royal Society International Centre. It will bring together up to 100 international experts to review working group outputs, and attempt to find common ground on SRM research governance.
2011	<b>Phase II of the project</b>	<p>Recommendations and conclusions from the Initiative are debated and taken forward in scientific, civil society, government and private sectors</p> <p>Next steps for the initiative and appropriate partner organisation determined</p>