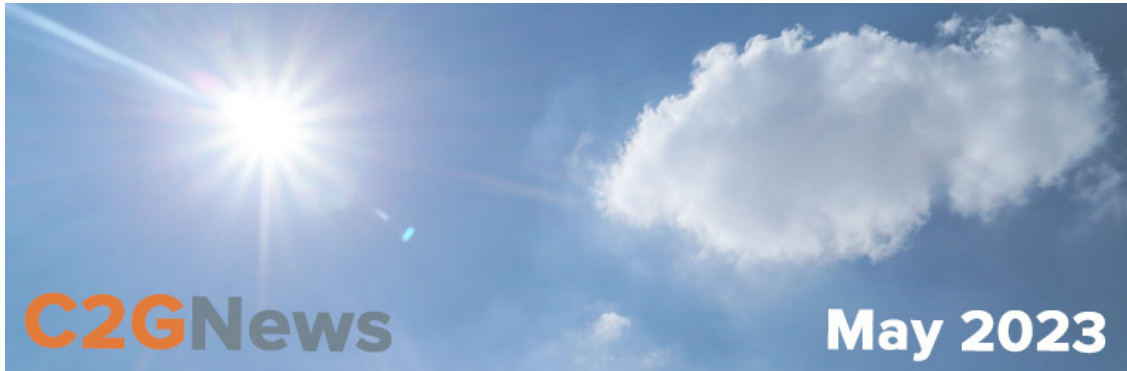


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An initiative of  
**CARNEGIE  
COUNCIL** *for Ethics in  
International Affairs*



Dear <<First Name | contact>>,

As the final year of C2G's operations got underway, early 2023 has seen a considerable surge of attention around solar radiation modification (SRM) and some significant developments relevant to our mission to catalyse international governance.

The year began with controversy around announcements by the US-based start-up [Make Sunsets](#) that it had begun stratospheric aerosol injection to cool the planet by launching balloons containing sulphur dioxide, from Mexico and later from the US, and funded through the public sale of 'cooling credits'. The Mexican government reacted that it would ban such activities. No reaction has yet appeared from the US government. This was followed by a UK researcher reporting that he had also [deployed a balloon from the UK](#) to test equipment for stratospheric dispersal of sulphur dioxide, sparking further controversy.

Following the publication of an open letter calling for an [International Non-Use Agreement on Solar Geoengineering](#) in early 2022, early 2023 saw two further groups of scientists calling for [more research](#) into, and [balanced deliberation](#) about SRM, respectively. Meanwhile the Degrees Initiative [announced funding for a further 15 research teams](#) in the Global South to research SRM impacts and the US National Oceanic and Atmospheric Administration (NOAA) [commenced research flights over Alaska](#) as part of a project to better assess the potential effectiveness, risks and benefits of future SRM proposals (emphasizing it is not itself conducting SRM experiments).

Council (UNHRC) on [the impact of new technologies for climate protection on the enjoyment of human rights](#) was published, based on [consultation inputs from a range of actors](#) (including C2G) with recommendations concerning SRM governance. This was followed by the publication of the UN Environment Programme's (UNEP) [One Atmosphere](#) report, an independent expert review on SRM research and deployment that concluded on the need for robust scientific assessment, development of governance frameworks, and promotion of globally inclusive discussions. In March, the [synthesis report](#) of the Intergovernmental Panel on Climate Change's (IPCC) sixth assessment was approved and published, including a paragraph on SRM risks, and how the lack of robust and formal governance itself poses risks. And in April, the UN High-Level Advisory Board on Effective Multilateralism (HLAB) presented its [Breakthrough for People and Planet report](#) to the UN Secretary-General which included a recommendation to establish a forum on the governance of climate-altering technologies.

With an increasing number of UN and other intergovernmental processes indicating that the risk of ungoverned SRM is becoming a growing cause for concern, the international discussions about SRM and its governance are now firmly emerging on the international agenda.

Feedback from C2G's ongoing engagements with governments across the planet over the past year have continued to be encouraging, indicating a growing awareness of both a responsibility and urgency to address the risks from potential temperature overshoot and the risks posed by a lack of SRM governance, while at the same time maintaining a primary focus on accelerating mitigation action to avoid or minimize the likelihood of an overshoot. C2G's continued commitment to [impartial](#) outreach, awareness-raising, convening and catalysing continues to bear fruit, and we remain strongly committed to consolidating and strengthening the impact of our work during the remaining months of our operations to the end of 2023.

- Janos Pasztor, Geneva, May 2023



### [essential for C2G's efforts](#)

5 May 2023

*Blog By Janos Pasztor*



### [Geoengineering Techniques: Challenges and Opportunities for Africa](#)

14 Feb 2023

*Guest Blog By Fatou Diop, Papa Matar Ndione, and Adama Aicha Aida Sagna*

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## C2GTalk



### [How should policy makers address the risk of climate tipping points?](#)

An interview with Jo Tyndall, Director Environment Directorate at the Organisation for Economic Cooperation and Development (OECD)

27 Mar 2023



### [How can companies ensure carbon dioxide removal has a positive impact?](#)

An interview with Amy Luers, Global director for sustainability science at Microsoft Corporation

13 Mar 2023

[Opportunity](#), in video on [YouTube](#), and on the [C2G](#) and [Carnegie Council of Ethics in International Affairs](#) (CCEIA) websites, including interpretation from English into Chinese, French, and Spanish.

## Events



### Managing the Risks of a Lack of Governance Around Solar Radiation Modification

4 May 2023

Side-event during the eighth annual Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum), co-organized with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).



### The Science and Governance of Climate-altering Techniques: Implications for Sustainable Development

23 Feb 2022

Side-event delivered during the World Sustainable Development Summit (WSDS), co-organised with The Energy and Resources Institute (TERI).

## Publications

### C2G Briefs

## Global status of activities relating to Solar Radiation Modification and its governance

6 March 2023

*Briefing note by the Carnegie Climate Governance Initiative (C2G)<sup>1</sup> summarising key insights into activities relating to solar radiation modification and its governance globally*

6 March 2023

### Summary

With climate impacts intensifying and no credible pathway in place for international climate action to limit global warming below 1.5°C<sup>2</sup>, increasing voices are calling for and preparing additional "emergency" options such as solar radiation modification (SRM)<sup>3</sup> to keep global temperature rise in check<sup>4</sup>. This briefing note provides a high-level overview of the current status and developments in research, intergovernmental processes and non-governmental engagement relating to SRM and its governance globally<sup>5</sup>.

The latest assessment of science by the Intergovernmental Panel on Climate Change (IPCC) published in 2021-22 indicates that while SRM techniques may be theoretically effective in reducing some climate hazards, the risks or benefits they pose are poorly understood and relevant governance is weak or missing<sup>6</sup>. In addition to the IPCC assessment, other UN bodies have recently published (or are preparing) reports addressing SRM and its governance and over the past year public statements both supporting and objecting to more SRM-related research have increased along with private sector engagement and media interest.

In February 2023, the United Nations Environment Programme (UNEP) published an independent review on SRM research and deployment concluding on the need for robust scientific assessment, development of governance frameworks, and promotion of globally inclusive discussions. Meanwhile a US company began selling 'cooling credits' and launching balloons for the purpose of stratospheric aerosol injection-based SRM and two international groups of scientists called for more research into SRM and its impacts. Outdoor marine cloud brightening experiments are underway in Australia while planned stratospheric aerosol injection-related experiments were recently cancelled over the US and Sweden, following objections from indigenous people and environmental groups. Later this month the US National Oceanic and Atmospheric Administration (NOAA) are planning stratospheric research flights over the Arctic to better assess, among other things, the potential costs and benefits of SRM climate intervention.

With recent UN and other strategic foresight assessments indicating that the risk of uncontrolled SRM deployment is becoming a growing cause for concern, and with the issue now emerging in intergovernmental processes and elsewhere, the international discussion about SRM and its governance is gathering increasing momentum.

Insights included in this briefing note are shared in good faith and based on sources available in the public domain at the time of publication. This note is not intended to provide an exhaustive or prioritized list but rather a high-level overview of the current status of activities underway relating to SRM and its governance globally. Additions and corrections are welcomed. Please send to: [contact@c2g.net](mailto:contact@c2g.net)

Updated 6 March 2023

[www.c2g2.net](http://www.c2g2.net)

## C2G Team in the Media

- 22 April [Presiones y frenos a la geoingeniería](#) Silvia Ribeiro, La Jornada
- 19 April [African official unleashes on Gates, Soros: 'My continent is not your giant climate laboratory'](#) Jack Davis, The Western Journal
- 18 April [My Continent Is Not Your Giant Climate Laboratory](#) Chukwumerije Okereke, New York Times *(Note: C2G has written to the Editor of the publication to correct the misrepresentation of C2G and its work that is implied in this article).*
- 14 April [Amid Efforts to Cool the Planet, Solar Geoengineering Draws Heated Debate](#) Yves Smith, Naked Capitalism
- 27 March [How two weather balloons led Mexico to ban solar geoengineering](#) Cassandra Garrison, Reuters
- 3 March [Soluția climatică ce dă fiori comunității americane de informații](#) George-Andrei Cristescu, Adevarul
- 28 February [UNFCCC Executive Secretary Mr Simon Stiell](#) Palpal News Hub
- 28 February [The UN wants to explore a last-ditch climate solution that could start wars](#) Jenna Moon, Semafor



Perkin Amalaraj, Daily Star

- 28 February [Scientists want near moratorium on geoengineering to cool climate — for now](#)  
Andrew Freedman, Axios
- 27 February [A 'climate solution' that spies worry could trigger war](#) Michael Birnbaum, Washington Post
- 25 February [The Global Stocktake is an opportunity to course correct: UNFCCC Executive Secretary Simon Stiell](#) Ani, Zee5
- 24 February [UNFCCC Executive Secretary Mr Simon Stiell](#) Headlinesoftoday
- 23 February [Controversial geoengineering startup Make Sunsets releases balloons containing sulfur dioxide on U.S. soil after it was banned in Mexico](#) Nickie Louise, Tech Startups
- 20 February [Geoingeniería en América Latina: ¿Solución o un mayor problems?](#) Los Tiempos/IPS
- 17 February [La géo-ingénierie solaire : folie d'apprenti sorcier ou solution de dernier recours contre la crise climatique?](#) Audrey Garric, Le Monde

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C2GLearn, C2GDiscuss and C2GTalk are available in Chinese, French and Spanish

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We welcome feedback and suggestions on our content and work. If you would like to share comments with us, please send an email to: [contact@c2g2.net](mailto:contact@c2g2.net)

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C2G, an initiative of [Carnegie Council for Ethics in International Affairs](#), seeks to catalyse the creation of effective governance for emerging climate technologies and approaches, in particular for solar radiation modification and large-scale carbon dioxide removal. To achieve this, it aims to expand the conversation from the scientific and research community to the global policy-making arena, and to encourage society-wide discussions about the risks, potential benefits, and ethical and governance challenges. C2G is Impartial: it is not for or against the research, testing or potential use of any proposed method or technology. These are choices for society to make.



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