C2G Carnegie Climate Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Dear Friend,

Reflecting on the increasing intensity of climate impacts observed throughout the past year has further focussed international attention on the devastating realities of rising temperatures and the increasing risk of (and from) exceeding 1.5°C warming. From floods such as those that left one third of Pakistan under water, to droughts and heatwaves across every continent, governments can no longer ignore the severity of impacts and the urgency with which action is now required. On the one hand, governments need to double down on efforts to reduce the risks of overshoot through mitigation. On the other, they also need to substantially increase efforts to manage the risks from overshoot, such as through adaptation, building resilience, loss and damage provisions, and potentially considering the role – if any – of emerging techniques like solar radiation modification.

Not least, the severity of the impacts provided important context for intergovernmental discussions about "loss and damage" and the need for stronger investment in adaption and building resilience during COP27 in Egypt in November. With current government commitments still providing no credible pathways for limiting warming to 1.5°C it was no surprise that last year's COP focussed strongly on adaptation and creating a new fund to help vulnerable countries for "loss and damage" already taking place due to climate change. As expected, we have seen action around Carbon Dioxide Removal (CDR) accelerate considerably in the past year and it further featured in discussions both in and outside of the COP negotiation halls. It was also notable that this year a number of COP side-events addressed potential climate interventions such as Solar Radiation Modification (SRM), including events organised by UNESCO, the Climate Overshoot Commission, and the US non-profit, Silver Lining.

deployment of SRM given the increasing frequency and intensity of climate impacts, and noting the importance of governance.

As 2023 began we also saw another provocation for discussion about SRM governance with a small US-based start-up company Make Sunsets announcing that it has started to sell 'cooling credits' and loft a series of weather balloons into the stratosphere, with the aim of achieving cooling through releasing sulphur aerosols. As perhaps the first ever commercial proposition for deploying SRM, the announcement understandably attracted the attention of the scientific community, the media, and the government of Mexico - where further balloons were proposed for launch – who have since issued a statement about their intention to prohibit any such deployment in the country.

With further easing of COVID restrictions, C2G was able to engage in more in-person meetings in different parts of the world during the past quarter. This ability to engage face-to-face comes at an important time for delivery of C2G's mission with a strong focus on Capital engagement with governments and other actors in parallel to ongoing engagement around the UN in New York and the regions. As C2G enters its final year of operation, conversations about managing the risks from overshooting 1.5°C have become more common and widespread – making C2G's message about the need to strengthen governance for proposed interventions such as SRM more important than ever!

- Janos Pasztor, Geneva, February 2023

C2G Blog

Managing the Risks from an Increasingly Likely Overshoot of 1.5C – The role (if any) of solar radiation modification

By Janos Pasztor

C2GTalk

How will global warming impact society, both economically and socially?

An interview with Paulo Artaxo, Professor at the Institute of Physics at the University of São Paulo, Brazil

6 Feb 2023

Why did the Saami Council oppose Harvard's SCoPEx experiment?

An interview with Åsa Larsson Blind, Vice-President of the Saami Council

12 December 2022

What are the challenges facing international governance of solar radiation modification?

An interview with Marcos Regis da Silva, Executive Director of the Inter-American Institute for Global Change Research

14 November 2022

C2GDiscuss

[solar radiation modification in the face of global warming overshoot]

On 8 December 2022, C2G explored youth perspectives on solar radiation modification (SRM) and its governance in the face of the increasing likelihood that global warming temporarily exceeds (overshoots) the 1.5 / 2°C Paris Agreement limits.

Streaming audio content from C2GLearn, C2GDiscuss and C2GTalk is available on **Apple Podcasts** and **Spotify** 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 risk of a temperature overshoot in the Asia-Pacific – the roles (if any) of Carbon Dioxide Removal and Solar Radiation Modification (recording available)]

Side-event during 7th Committee on Environment and Development, UN ESCAP co-organised with the Energy and Resources Institute (TERI)

29 Nov 2022

[Keeping 1.5C Alive: Opportunities & Challenges for CO2 Removal and Storage in the Global South (recording available)]

Side-event during UNFCCC COP27 co-organized with CO2Geonet

9 Nov 2022

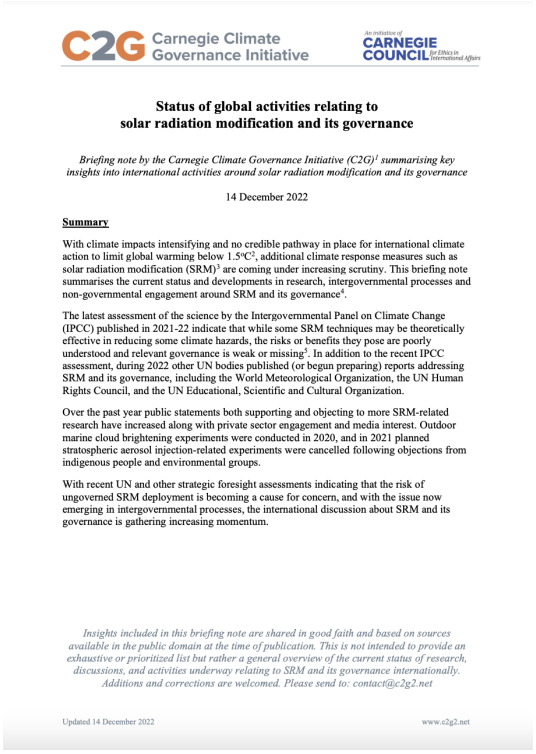
[temperature overshoot: the potential role of climate-altering techniques in Africa's just energy transition (recording available)]

Side-event during the 10th Conference on Climate Change and Development in Africa (CCDA-X)

25 Oct 2022

Publications

C2G Briefs


C2G Carnegie Climate Governance Initiative — An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Status of global activities relating to solar radiation modification and its governance

Briefing note by the Carnegie Climate Governance Initiative (C2G)[1] summarising key insights into international activities around solar radiation modification and its governance

14 December 2022

Summary

With climate impacts intensifying and no credible pathway in place for international climate action to limit global warming below 1.5°C[2], additional climate response measures such as solar radiation modification (SRM)[3] are coming under increasing scrutiny. This briefing note summarises the current status and developments in research, intergovernmental processes and non-governmental engagement around SRM and its governance[4].

The latest assessment of the science by the Intergovernmental Panel on Climate Change (IPCC) published in 2021-22 indicate that while some 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[5]. In addition to the recent IPCC assessment, during 2022 other UN bodies published (or begun preparing) reports addressing SRM and its governance, including the World Meteorological Organization, the UN Human Rights Council, and the UN Educational, Scientific and Cultural Organization.

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. Outdoor marine cloud brightening experiments were conducted in 2020, and in 2021 planned stratospheric aerosol injection-related experiments were cancelled following objections from indigenous people and environmental groups.

With recent UN and other strategic foresight assessments indicating that the risk of ungoverned SRM deployment is becoming a cause for concern, and with the issue now emerging in intergovernmental processes, 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 is not intended to provide an exhaustive or prioritized list but rather a general overview of the current status of research, discussions, and activities underway relating to SRM and its governance internationally. Additions and corrections are welcomed. Please send to: contact@c2g2.net

Updated 14 December 2022 www.c2g2.net

[Status of global activities on solar radiation modification and its governance]

14 Dec 2022

Supported papers

removal.

Paper published by the UN Economic Commission for Latin America and the Caribbean (ECLAC) with support and authored contributions from C2G.

Jan 2023

C2G Team in the Media

- 9 February Geoengineering Startup Begins Releasing Sulfur Particles Into Atmosphere In Attempt To Stop 'Climate Change', GreatGameIndia
- 31 January Amerykański startup chce zarabiać na ochładzaniu klimatu za pomocą siarki. Dlaczego to zły pomysł? Ewelina Zambrzycka-Kościelnicka, National Geographic (Poland)
- 31 January Geoengineering in Latin America may create more problems than it solves, Hebdenbridge News
- 7 January Inventor in Baja is testing a plan to cool the Earth by mimicking a volcanic eruption Catherine Clifford, CNBC
- 28 December Rogue geoengineering startup attempts to affect atmosphere despite warnings Jerusalem Post
- 28 December 'Greenfinger': Environmentalist Seeking To Cool Planet By Polluting Stratosphere Likened to Bond Villain Greg Wilson, Daily Wire
- 28 December Cette startup franchit une ligne rouge en modifiant le climate PresseCitron
- 27 December Startup Claims It's Sending Sulfur Into the Atmosphere to Fight Climate Change Lauren Leffer, Gizmodo
- 25 December This Climate Startup's Rogue Plan to Manipulate the Weather is Horrifying Scientists Maddie Bender, Daily Beast
- 24 December A startup says it's begun releasing particles into the atmosphere, in an effort to tweak the climate James Temple, MIT Technology Review
- 28 November La Casa Blanca está impulsando una investigación para enfriar la Tierra mediante geoingeniería solar Fuente

- 25 November Globálne otepľovanie nezvrátime. Vedci čoraz viac hovoria o riešení, ktoré je poslednou nádejou pre ľudstvo Roland Tököly, Fontech
- 22 November Dimming the Sun to Cool the Planet Is a Desperate Idea, Yet We're Inching Toward It Bill McKibben, The New Yorker
- 17 November Tempting solution: cool the planet artificially Luigi Jorio, Swissinfo
- 5 November Remove carbon–but do it equitably: Carbon removal mustn't become a new frontier for injustice Fletcher Harper and Cynthia Scharf, Fortune
- 4 November How to Meet Climate Targets: Leave No Economy Behind Eduardo Porter, The Washington Post
- 13 October White House is pushing ahead research to cool Earth by reflecting back sunlight Catherine Clifford, CNBC

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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.