





Dear Friends,

During the first quarter of 2022 while we have experienced some welcome easing of the global pandemic and its impacts, the tragic war in Ukraine and the subsequent international response is presenting new challenges for multilateral action, including on climate.

The geopolitical impacts of the war on global energy markets will – in the short term at least – likely make it even more challenging to address climate change without overshooting the globally agreed temperature goal. In the medium to longer term, however, the war may have a positive impact on climate change, accelerating the shift away from fossil fuels towards more energy efficiency and renewable energy supplies, strengthening energy security and independence and reducing greenhouse gas emissions.

Against this backdrop, two long awaited new working group reports from the Intergovernmental Panel on Climate Change's (IPCC) sixth assessment were published this quarter and paint a more dramatic picture than ever before of the fast-closing window for climate action. The latest report makes clear that without immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C is beyond reach. These reductions would require global greenhouse gas emissions to peak before 2025 (at the latest) and be reduced by 43% by 2030. Even if that is achieved, the IPCC assesses it is now almost inevitable that we will temporarily overshoot 1.5°C.

According to this latest assessment, the next few years are now critical for delivering the scale of emissions reductions required to avoid overshooting 1.5 or 2°C global warming. Large-scale use of carbon dioxide removal will also be needed. The world already faces unavoidable multiple

climate hazards over the next two decades with warming at 1.5°C, and even temporarily exceeding this warming level will result in additional severe impacts, some of which will be irreversible.

In this context more governance processes will need to emerge around additional approaches to avoid the risks from overshooting 1.5°C. The IPCC assessment tells us that approaches such as solar radiation modification (SRM) may have potential to offset warming and address other climate hazards, but their potential to reduce risks, or introduce novel risks is not well understood. It also points out that SRM is, at best, a supplement to achieving sustained net zero or net negative CO₂ emission levels globally and that there is no dedicated, formal international SRM governance in place. Over the past 5 years, C2G has worked hard to raise awareness of the need to strengthen governance around such additional approaches – in particular for large-scale carbon dioxide removal and SRM – and it's a reassuring confirmation of the importance of our work and of our key messages to see them addressed in this latest IPCC assessment.

Addressing knowledge and governance gaps around SRM will remain central to C2G's focus. Throughout 2022-23 we are redoubling our efforts to catalyse effective governance that can help the world most effectively manage the risks we increasingly face from climate change, and our response to it.

- Janos Pasztor, Geneva, April 2022

C2G Blog





<u>Understanding and managing temperature</u> <u>overshoot risks</u>

By Nicholas Harrison and Cynthia Scharf
The IPCC has shown us the gravity of the situation we now face and the fast-closing window for climate action that remains. More serious conversations about the likelihood and risks of overshooting the Paris goals, and whether additional response options such as SRM should or should not have a role in managing those risks, are needed. These discussions could help to ensure societies and decision-makers are better informed. and thus better prepared to address whatever lies ahead.

Calls for an SRM 'non-use agreement'
underline the need for governance

By Janos Pasztor

On January 17, more than 60 scientists and



scholars launched a global initiative calling for a "non-use agreement on solar geoengineering". It is not C2G's place to take a position on the initiative's merits per se, but we do believe it underscores the challenge C2G was created to address: that potential climate-altering techniques are being considered increasingly seriously, and that this requires governance.

C2GLearn



How does the Working Group-II report of the
IPCC Sixth Assessment address Carbon
Dioxide Removal and Solar Radiation
Modification?

12 April 2022, C2Glearn webinar with Maarten
van Aylst, Aditi Mukherj and Christopher Trisos
Coordinating Lead Authors of IPCC AR6 Working
Group II report

C2GTalk



C2GTalk Should scientists be allowed to do outdoor research on solar radiation modification? Ken Caldeira Senior Staff Scientist (Emeritus), Camegie Institution for Science (also Senior Scients; Breakhrough Energy)

How does society view solar radiation modification experiments?

18 Mar 2022, An interview with Sheila Jasanoff
The Pforzheimer Professor of Science and
Technology Studies at the Harvard Kennedy
School

Should scientists be allowed to do outdoor research on solar radiation modification?

9 Mar 2022, An interview with Ken CaldieraSenior Staff Scientist (emeritus) at the CarnegieInstitution for Science

Streaming audio content from C2GLearn, C2GDiscuss and C2GTalk is available on <u>Apple Podcasts</u> and <u>Spotify</u> in video on <u>YouTube</u>, and on the <u>C2G</u> and <u>Carnegie Council of Ethics in International Affairs</u> (CCEIA) websites, including interpretation from English into Chinese, French, and Spanish.

Side Events at International Meetings



Governance of Solar Radiation Modification:

Challenges and Opportunities for LDCs

29 March 2022, The Gobeshona Global Conference

Publications

C2G Policy Briefs



Briefing Note: Solar Radiation Modification in the IPCC AR6 WG III (中文) (Français)
(Español)

7 April 2022

Briefing Note: Solar Radiation Modification in the IPCC AR6 WG II (中文) (Français) (Español) 8 Mar 2022

C2G Technical Papers



Part I: Summary of key findings on SRM from the WG-II report
SRM and related information can be found in different parts of the report, including a detailed
assessment of SRM approaches in the "Cross-Working formy box SRM" located in Chapter 16 of the
WG-II report. Some mention of SRM is also included in both the Summary for Policymakers (SPM)
and the Tackinsia Jammary of the WG-II report. Part I includes extracts from these sources. ¹

Status of global activities on solar radiation modification and its governance

10 Feb 2022

Solar Radiation Modification: Governance gaps and challenges

March 2022

Solar Radiation Modification: Governance
gaps and challenges

7 April 2022

Solar Radiation Modification: Governance gaps and challenges

Summary

March 2022

Solar Radiation Modification: Governance gaps and challenges (Summary) (中文) (Français) (Español)

Solar Radiation Modification: A Risk-Risk Analysis

March 2022

Solar Radiation Modification: A Risk-Risk

Analysis

8 Mar 2022

7 April 2022

Solar Radiation Modification: A Risk-Risk Analysis

Summary

March 2022

Solar Radiation Modification: A Risk-Risk

Analysis (Summary) (中文) (Français) (Español)

8 Mar 2022

Supported Papers

Interactive tool on the impact of carbon dioxide removal measures and technologies on the Sustainable Development Goals in Latin America and the Caribbean

JANUARY 7, 2022 | WORK DOCUMENT

SUSTAINABLE DEVELOPMENT AND HUMAN SETTLEMENTS



Interactive tool on the impact of carbon dioxide removal measures and technologies on the Sustainable Development Goals in Latin America and the Caribbean User instruction (EN and ESP) Template (EN and ESP),

Example of use (EN and ESP)

7 Jan 2022

- 25 March 2022 <u>Is it time to take sun dimming tech seriously? Experts disagree</u> Liang
 Lei, Eco-Business
- 24 March 2022 <u>The Promise and Perils of "Solar Radiation Modification" to Mitigate Climate</u>
 <u>Change</u> Mark Leon Goldberg, UN Dispatch
- 18 February 2022 O que é geoengenharia solar e seus impactos eCycle
- 14 February 2022 <u>Solares Geoengineering Dauerverwaltung, nicht Lösung der</u>
 <u>Krise</u> Schattenblick
- 5 February 2022 What if on Earth we reflected the sun's rays to cool the climate? According to scientists, this is a very bad idea Michał Perzyński, Biznis Alert (PI)
- 1 February 2022 <u>Solar Geoengineering Research is a Risk Worth Taking</u> Clara Ferreira Marques, Bloomberg

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













C2G, an initiative of <u>Carnegie Council for Ethics in International Affairs</u>, 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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