

# C2G Approach

## The Challenge

**The world is not on track to limit global warming to 1.5°C nor 2°C, and the impacts of overshooting these goals are becoming ever more apparent.**

In 2021/22, the [Intergovernmental Panel on Climate Change \(IPCC\)](#) reaffirmed that large-scale Carbon Dioxide Removal (CDR) is a key element in all scenarios assessed as likely to limit global warming to 2°C or 1.5°C. Unprecedented levels of both emissions reduction and CDR are now needed to achieve net zero emissions by 2050, and net negative beyond.

Governments, scientists, civil society, and the private sector are devoting increasing attention and resources to CDR, but progress remains limited, and lack of governance hinders delivery of the massive scale and pace of removals required – even in the IPCC’s most aggressive emission reduction pathways. According to the IPCC, even in the lowest emissions pathways it assessed, it is now more likely than not that warming will exceed 1.5°C.

Some scientists have also been exploring additional approaches known as Solar Radiation Modification (SRM)<sup>1</sup> to help reduce climate risks. The IPCC says that while some SRM approaches have the potential to offset warming and reduce some climate hazards, there are large uncertainties and knowledge gaps around their potential to reduce climate change risks. If SRM were to be implemented, it would also be expected to introduce a widespread range of new risks to people and ecosystems. These risks are not well understood.

Would researching, developing, or deploying SRM introduce more or less overall risk than the risks faced from overshooting 1.5°C or even 2°C warming? Difficult choices lie ahead. What is clear is that no climate response options are risk free.

The IPCC tells us that there is currently no dedicated, formal international framework or fora to guide and connect governance processes for SRM research, development, demonstration, or deployment, which itself poses risks. Broad-based governance at many levels is critical to help policymakers and actors take informed decisions, in which they weigh up the benefits and risks, and the synergies and trade-offs of different response options in a rapidly warming world. This includes considering the potential interaction of these emerging techniques with delivery of the Sustainable Development Goals.

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<sup>1</sup> Also referred to elsewhere *inter alia* as solar geoengineering, geoengineering, solar radiation management, climate engineering or climate intervention. C2G uses the IPCC terminology: solar radiation modification.

## C2G's Mission

The [Carnegie Climate Governance Initiative \(C2G\)](#) seeks to catalyse the creation of effective governance for climate-altering techniques, in particular for SRM and large-scale CDR.

Its mission will have been achieved once governance processes are taken on board by governments and intergovernmental bodies, and its activities integrated into intergovernmental organisations such as the UN and other non-state actors. C2G will then close down at the end of 2023. C2G's **guiding principles** include:

- **Impartiality:** C2G is impartial regarding the potential use of climate-altering techniques or interventions, but not on the need for effective governance.
- **The need for governance:** Governance includes interlocutors from across all sectors of society coming together in diverse processes to discuss, learn, share knowledge, and take decisions at multiple levels.
- **Rule of international law:** C2G affirms the need for urgent climate action on many fronts, including the implementation of existing multilateral agreements.
- **A broad risk management approach:** C2G encourages evidence-based discussions, guided by the precautionary principle, about potential benefits, risks, trade-offs, and synergies.
- **Preparedness:** Society needs to make difficult decisions today, to be ready for tomorrow.

### Two types of climate-altering approaches:

**Carbon Dioxide Removal (CDR)** refers to techniques that remove Carbon Dioxide (CO<sub>2</sub>) from the atmosphere and durably store it. They fall into two broad categories – nature-based and technology-based – and differ significantly, including in their governance needs. No single approach is likely to suffice. According to recent IPCC assessments, in addition to deep and rapid emissions reductions, large-scale CDR is a key element in all scenarios likely to limit warming to 2°C or 1.5°C and is unavoidable if net zero emissions are to be achieved. CDR and its governance is now increasingly on the agenda of national and international discussions and processes.

**Solar Radiation Modification (SRM)** refers to techniques that aim to reflect sunlight back into space or allow more heat to escape Earth's atmosphere. They would primarily address a symptom of climate change, rather than its root cause, and vary widely. According to recent IPCC assessments, while some SRM techniques have the potential to reduce some climate hazards, if implemented, they would introduce a widespread range of new risks, which are not well understood. There is also currently no dedicated, formal international governance for SRM research, development, demonstration, or deployment, which in itself poses risks.

## What is Governance?

C2G draws on the IPCC's definition of governance: it is more than laws, rules, and regulations, and includes multiple, diverse processes, involving all sectors of society in a process of learning, discussion, and decision-making, which may lead to multilateral agreements. It is not C2G's role to influence the specific outcome of these processes, but to raise awareness of the critical questions raised in relation to their governance.



## C2G's strategy

C2G focuses on working with policymakers and their advisors in government and non-state organisations, at international, regional, national levels. It seeks to work with catalytic actors who drive broader societal governance discussions. C2G does not focus on the public at large. Audiences include inter alia:

- **Intergovernmental organisations (IGOs):** the Office of the UN Secretary-General, various UN departments, including regional commissions, UNEA/UNEP, UNFCCC, CBD, UNCCD, IPCC, WMO, the Commonwealth, G20, Arctic Council, The Pacific Islands Forum, the AU and its Commission, the EU, IUCN.
- **National governments:** Decision-makers and their advisors in key relevant government positions in selected countries.
- **Non-state actors (NSAs):** Key civil society organisations (CSOs), faith groups, think tanks, humanitarian organisations, sub-national actors, youth, the private sector and influential individuals from the international policy world, academia and media.

## C2G's four-part process:

- **Raise awareness**  
Policymakers and their advisors, and other key actors, learn about new approaches, their implications, and why they need to be governed.
- **Convene and collaborate**  
Diverse actors convene, discuss, and develop shared understanding and collaborative approaches to governance.
- **Catalyse decisions**  
Governments - nationally and in relevant UN and other intergovernmental processes - take decisions to fill critical governance gaps.
- **Transition C2G functions to IGOs and other actors**  
C2G's expertise, products, and practices transition into IGOs and non-state actors before it dissolves.

## C2G's evolving role

C2G is a small, time-bound initiative of the Carnegie Council for Ethics in International Affairs. It is funded entirely by private philanthropy, including the V. Kann Rasmussen, Children's Investment Fund, OAK, IKEA, Open Society and MacArthur foundations and the Green Horizon's Fund. This funding does not follow any party-political agenda. C2G's virtual team operates from seven countries on three continents and brings diverse professional experience from the UN and other IGOs, government, CSOs, media, academia, and private consultancy, and retains relationships with decision-makers and their advisors around the world. C2G is guided by an Advisory Group of leading experts in related fields.

C2G's unique contribution to the field of governance for emerging climate-altering techniques, hinges on its impartiality, access to global, senior level policymakers, and catalytic, time-limited nature. C2G's role is to catalyse the entry of other actors into this field. It is not a permanent institution, research institute, think tank or information broker.

C2G has produced a range of [information products](#) and [events](#) to support this process. These include [briefs and reports](#), [blogs](#), [infographics](#), and [videos](#), and an online series of resources [C2GLearn](#), [C2GDiscuss](#), and [C2GTalk](#) to facilitate awareness raising and learning. Translated versions of many products have also been published in [Chinese](#), [French](#) and [Spanish](#). In line with its mission, C2G prefers to support others in developing their own events and products, rather than promote its own identity.

## Completing C2G's work during 2022-23

Policymakers, civil society, and the private sector are increasingly recognising the IPCC's reconfirmation in 2022 that large-scale CDR is necessary to achieve the Paris Agreement's temperature goals, which means net zero and eventually net negative global emissions.

Many actors have entered the field since C2G initiated its work in 2017, and in important ways C2G has already achieved many of its objectives on CDR governance. While increasingly focusing its activities on catalysing SRM governance in the final months of its existence, C2G will continue to:

- Work with and catalyse governments to address CDR governance gaps in the UNFCCC process as the UNFCCC begins to address this issue
- Engage with relevant actors to ensure that CDR objectives are consistent with the broader sustainable development agenda, especially for biodiversity, food security and land-use, and in particular, when considering "nature-based solutions"

Discussions about SRM governance remain less advanced and more controversial than those on CDR, but as the climate crisis deepens, research on SRM techniques is receiving more attention. C2G will continue to:

- Increase outreach to governments and IGOs to raise awareness and understanding at multiple levels, from the national to regional and global
- Catalyse greater involvement of actors from the Global South, in particular from the least developed and climate-vulnerable countries
- Identify governance gaps, and the research and intra- and inter-governmental discussions needed to address them
- Support governments as they explore findings of the IPCC in its Sixth Assessment Report related to SRM governance, including through consideration in the UN General Assembly

In all cases, C2G will continue to track and respond to the shifting political, scientific, and economic situation, and is ready to adapt quickly if needed. This includes watching out for potential pivotal moments, which may alter risk calculations and create new governance demands.

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