

The Challenge

The world is not on track to limit global warming to 1.5°C or 2°C, and the impacts of overshooting those goals are becoming ever more apparent.

In 2018, [the IPCC](#) reaffirmed that large-scale Carbon Dioxide Removal (CDR) is required in all pathways to limit global warming to 1.5°C. A mix of emissions reduction and carbon dioxide removal is needed to achieve net zero emissions by 2050, and net negative beyond.

Governments, scientists, civil society and the private sector are devoting increasing resources to CDR, but progress remains limited, and a lack of governance hinders the massive scale and pace of removals required – even in the most aggressive emission reduction pathways.

Some scientists have also been exploring other approaches known as Solar Radiation Modification (SRM), to help reduce climate risks. The IPCC says that while some SRM approaches may be theoretically effective in reducing a temperature overshoot, “they face large uncertainties and knowledge gaps, as well as substantial risks and institutional and social constraints to deployment related to governance, ethics, and impacts on sustainable development”.

Difficult choices lie ahead. Broad-based governance at many levels is critical to help policymakers take informed decisions, in which they weigh up the benefits and risks, the synergies and trade-offs of both action and inaction in a rapidly warming world. This includes considering the potential interaction of emerging approaches with the Sustainable Development Goals.

C2G's Mission

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

[Its mission](#) will have been achieved once their governance is taken on board by governments and intergovernmental bodies, and its activities integrated into intergovernmental organisations such as the UN. C2G will then close down, most likely in 2023. C2G's guiding principles are:

Impartiality: C2G is impartial regarding the potential use of climate-altering technologies 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 families of climate-altering approaches

Large-scale Carbon Dioxide Removal (CDR) approaches would aim to remove and permanently store massive amounts of atmospheric CO₂. 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.

Solar Radiation Modification (SRM) aims 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 a cause, and vary widely. Stratospheric aerosol injection, in particular, could have rapid planetary-scale impacts, posing risks requiring governance attention.

What is Governance?

C2G sees governance as more than laws, rules and regulations. It 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 that underpin them.



C2G's strategy

C2G focuses specifically 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:

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

C2G's 4-part process:

Raise awareness and inspire

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 elsewhere

C2G's expertise, products and practices transition into IGOs before it dissolves.

Challenges: Key barriers to governance discussions include limited awareness, limited technical knowledge, capacity, insufficient collaboration, and lack of comprehensive international governance frameworks.

In an evolving and politicised environment, C2G recognises that unexpected events and actions can upset plans and require recalibrations of approach.

The COVID-19 pandemic is a case in point. Building climate governance may be more difficult for some time, due to restricted travel and meetings, as well as shifting political priorities. At the same time, it may also create new opportunities and lessons to learn from.

In response, C2G has ramped up its online presence, and is exploring new ways of interacting with audiences, including the need to ensure diversity and inclusivity. This includes the launch of [C2GLearn](#) and [C2GDiscuss](#) to promote debate and catalyse online learning.

Overall, C2G believes an evidence-driven and risk-based approach remains the best direction of travel, and will continue to promote these ideas.

C2G within an expanding debate

C2G is a small, time-bound initiative of the [Carnegie Council for Ethics in International Affairs](#), currently funded by the V. Kann Rasmussen, IKEA, OAK and the Open Society foundations. This funding does not follow any party political agenda. Its virtual team operates in seven countries on three continents, and has backgrounds in government, IGOs, CSOs, media and academia, and retains relationships with decision-makers and their advisors around the world. C2G is guided by an [Advisory Group](#) of leading experts in multiple fields.

As more actors enter the field, C2G's contribution hinges on its impartiality, international access, and its catalytic, time-limited nature. C2G does not seek to play the role of research institute, solutions provider, think tank, arbiter, or information broker, but rather to catalyse the entry of others into this field.

C2G has produced a range of information products and events to support this process. These include evidence briefs, policy briefs, blogs, news briefings, infographics, and videos, and a series of webinars and informal 'campfire chats' to facilitate awareness raising and learning. In line with its mission, C2G prefers to support others in their own events and products, rather than promote its own brand.

The way ahead 2020-2023

Policymakers, civil society and the private sector are increasingly recognising the IPCC's reconfirmation in 2018 that large-scale **CDR** is necessary to achieve net zero and eventually net negative emissions.

Consequently, many actors have entered the field since C2G initiated its work in 2017, and in some ways C2G has already reached many of its objectives in this area. In this context, while increasingly reducing its activities on CDR governance, C2G will continue to:

- Work with and catalyse governments to address CDR governance gaps in the UNFCCC process
- 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, in particular when considering "nature-based solutions"
- Catalyse and support a government-led, informal forum to exchange practical experience on CDR activities and their governance together with representatives of relevant private sector, IGOs and CSOs
- Phase out C2G's work on CDR governance as the UNFCCC begins to address governance gaps

Discussions about **SRM** are less advanced and more controversial than those on CDR, but as the climate crisis deepens, SRM approaches and their research are receiving more attention. C2G will continue to:

- Increase outreach to governments and intergovernmental bodies to raise awareness and understanding at multiple levels, from the national to regional to 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 forthcoming IPCC findings 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.

C2G's approach in practice: the UN Environment Assembly

From 2017-2018, C2G worked with governments, IGOs, and NSAs to raise awareness and identify key international processes. One outcome was Switzerland's decision to submit a resolution on 'Geoengineering and its governance' at the 4th session of the UN Environment Assembly (UNEA) in 2019.

The resolution would have asked the UN Environment Programme (UNEP) to undertake an assessment of the risks, benefits and governance challenges of CDR and SRM. Intense negotiations did not achieve consensus, due to national differences, inadequate understanding, and the conflation of approaches. However, the proposal created a new level of interest, and prompted substantial and ongoing conversations within and between governments and NSAs.

Many new actors subsequently approached C2G for guidance and briefings. C2G dropped the collective term 'geoengineering' to refer collectively to CDR and SRM, following feedback that their conflation was hindering debate. A number of countries began discussing potential follow-up actions, including at the 5th session of UNEA in 2021, and in the margins of the UN in New York.

Geneva-New York, August 2020

