Dear Friend,

It hasn’t been the most encouraging New Year for those of us who work on climate change. 2019 ended with the failure of COP25 to finalise the Paris rulebook, or to evidence greater ambition in national climate plans (UNEP’s 2019 GAP report says countries have to increase pledges fivefold to achieve the 1.5°C goal). 2020 started with record wildfires devastating large tracts of Australia.

This makes C2G’s mission all the more timely. This year hosts two crucial events: the UN Climate Conference in Glasgow, UK, where countries are to submit more ambitious climate plans, and the Conference on Biological Diversity meeting in Kunming, China. In both cases, C2G will be working hard – together with other actors – to highlight the need for governance of large-scale carbon dioxide removal (CDR) that is fit for purpose, with a particular focus on nature-based approaches.

As that challenge becomes clearer, we also see increasing attention paid to other approaches, including solar radiation modification (SRM). Governments have tasked the IPCC to take a closer look at this in its sixth assessment cycle, which will deliver its findings next year. To that end, we will be making the case for why learning, discussions, and society-wide agreement are needed, not least to address SRM’s potential geopolitical and security implications.

2020 will test all of us. But society is not giving up, and there are signs everywhere of new players rising to the challenge. Here’s to a productive year.

—Janos Pasztor, Geneva, January 2020

New from C2G
C2G in 2020: Expanding the global debate
By Janos Pasztor
Given the early state of debate about climate-altering technologies, achieving our goals requires a lot of work over the coming year, across multiple fronts. This includes expanding outreach through partners to African, Latin American, and Asian policymakers and civil society groups, so they can prepare for the potential renewal of global discussions on SRM and CDR.

How COP25 affects C2G’s work
By Janos Pasztor
The longer the world takes to cut emissions, the more large-scale carbon dioxide removal would be needed to stay under 1.5°C. The longer the world avoids the governance challenges of massive emissions cuts and large-scale CDR, the more likely that people will consider solar radiation modification to buy time and reduce risks. And the longer the world takes to address the governance of SRM, the higher the possibility of dangerous, un Governed deployment.

Faith, climate-altering technologies, and the Arctic
Guest post by Maria Hammershøj, Secretary-General of Caritas Denmark
The major world religions have accumulated thousands of years of reflection on our role as caretakers of Earth, as well as ethical and moral reflections on new technologies and large-scale risk. These could have profound relevance as people consider the potential deployment of new technologies to save the Arctic.

Could nature ‘solve’ climate change?
By Paul Rouse
If we are to keep global heating to under 1.5°C, the IPCC tells us we need not only to reduce emissions, but to remove billions of tonnes of carbon dioxide from the atmosphere. For some, the biggest potential lies in ‘nature-based solutions’, a subset of approaches to the CO₂ removal challenge which have attracted growing attention over recent months. But how true is this?

Remembering Steve Rayner: the person who framed the geoengineering debate
Steve Rayner framed the most important questions about geoengineering before most people had heard of the term. Crucially, through the Oxford Principles, he also offered a means to answer them. For us, Professor Rayner, who passed away on January 17, will be most missed as a guiding light in the quest to govern the research and potential deployment of climate-altering technologies.
C2G Outreach

Over the fourth quarter of 2019, C2G continued raising awareness on the need to govern climate-altering technologies by participating in a number of international conferences and meetings. Highlights include:

**Madrid, Spain**
From 2-13 December, C2G hosted a press conference, convened and participated in several side events, and interacted with many key actors at the UN Climate Change Conference (COP25).

**Paris, France**
In November, C2G spoke about the governance of climate-altering technologies at the 2nd Paris Peace Forum. C2G also engaged with senior staff of the French Ministry of Ecological and Inclusive Transition.

**Washington, DC, USA**

**Geneva, Switzerland**
From 29-31 October, C2G participated in the High Mountain Summit at the World Meteorological Organization in Geneva, Switzerland.

**Beijing and Jinan, China**
In October, Janos Pasztor gave a keynote speech at the China and World International Forum on the Paradigm Shift of Ecological Civilization. He also spoke at Tsinghua University, and met with officials of the Ministry of Ecology and Environment, and the Ministry of Natural Resources.
C2G Publications and Infographics

Reykjavik, Iceland

From 8-13 October, C2G participated in the Arc Circle Assembly, and brought together scientists, policy experts, indigenous activists, youth representatives, and civil society representatives for two panel discussions.
C2G Media Advisories and News Briefings

C2G News Briefing: Microsoft announces intention to go carbon negative by 2030
Microsoft has pledged to go carbon negative by 2030, and remove all its direct and indirect historical carbon emissions by 2050. It will invest $1bn over the next four years into carbon removal technologies. Why does this matter?

COP25 Press Conference: Is the world ready for large-scale CO2 removal?
More than 70 nations have committed to net zero emissions by 2050 or earlier, but is society fully aware of what that entails? The IPCC says achieving this requires not only big emissions cuts, but also removing carbon dioxide from the atmosphere at a scale that has never been tried before.

Governing climate-altering technologies in the Arctic, risks and challenges
The Arctic continues to warm faster than any other region, with potentially profound consequences for the entire planet. To counter or slow this trend, some scientists are exploring the use of emerging climate-altering technologies. This raises important questions regarding the governance of these technologies and the ethics of their potential testing and use.

From C2G Partners

Climate Interactive launches En-Roads Climate Solutions Simulator
En-ROADS is an online climate simulator which provides everyone with an opportunity to foster meaningful conversations, precipitate change, and address the global climate crisis. Over 10 years in the making, it was co-developed through the hard work of system dynamics modelers and teams at Climate Interactive and the MIT Sustainability Initiative.

SRMGI: First African Master’s Thesis on SRM
Jose Ricardo Kouakou successfully defended his thesis on SRM, which explored how it might affect extreme temperatures in West Africa. He is a student at the University of Felix Houphouet-Boigny, and one of the Ivory Coast DECIMALS researchers, the world’s first international SRM research fund aimed at researchers from the Global South.

Red Cross Red Crescent Climate Centre: historic climate-humanitarian hook-up
A joint virtual event from COP25 in Madrid and the 33rd International Conference of the Red Cross and Red Crescent in Geneva brought together the most senior figures from each meeting to spur greater action on the humanitarian impacts of climate change.
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, 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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