

## Further Input on Geoengineering to the twenty-eighth meeting of the Working Group of the Parties to the Aarhus Convention

1 August 2024

Geoengineering refers to a range of large-scale technological interventions in the Earth's natural systems to counteract some of the effects of climate change. Solar Radiation Modification (SRM) describes various geoengineering approaches designed to partially block or reflect sunlight with the aim of countering some of the effects of climate change. It does not tackle the root causes of climate change, and as such, the IPCC has made clear that it is not a form of mitigation<sup>1</sup>. The IPCC has also made clear that SRM risks further destabilizing an already destabilized climate system with more and new extremes, and that such approaches "if they were to be implemented, introduce a widespread range of new risks to people and ecosystems, which are not well understood."<sup>2</sup>

The most prominent SRM approaches are stratospheric aerosol injection (SAI) and marine cloud brightening (MCB) which carry the further risk of 'termination shock' – an abrupt spiraling of global temperatures if such injections were, for whatever reason, to be paused or ceased. For SAI this means continuous injections of chemicals into the stratosphere - intentionally polluting the environment - over several decades if not centuries. Furthermore, SRM and other highly speculative technological approaches to the climate crisis risk delaying meaningful action to cut greenhouse gas emissions in the short to medium term.

Because geoengineering involves intervening in earth systems at a regional or planetary scale, by their very nature SRM technologies cannot be tested effectively, either for their intended impact on the climate, or for their impacts on ecosystems, biodiversity, the hydrological system and of course the impact on populations around the world other than through large-scale deployment, by which time of course harmful impacts would be locked in. Given the complex nature, scale and proposed duration of these interventions, there is no precedent in human history to suggest that deployment could ever be effectively and fairly governed.

SRM, along with other forms of geoengineering, has been under a de facto moratorium through the Convention on Biological Diversity since 2010,<sup>3</sup> and marine geoengineering techniques are the subject of a drive for increased regulation under the London Convention / London Protocol (LC/LP),<sup>4</sup> where a prohibition on ocean fertilization has been in place since 2013. Over 500 leading scientists from multi-disciplinary backgrounds and civil society movements are in agreement on the need for states to

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<sup>1</sup> IPCC, WGIII 2022: full report, at 14.4.5, available at [https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC\\_AR6\\_WGIII\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf)

<sup>2</sup> IPCC, WGII 2022: Summary for Policymakers, at B.5.5, available at [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_SummaryForPolicymakers.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf)

<sup>3</sup> Decision X/33, at 8(w), available at <https://www.cbd.int/decision/cop/?id=12299>

<sup>4</sup> Res. LP.4(8), available at [https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/LC\\_LP/LP.4\(8\).pdf](https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/LC_LP/LP.4(8).pdf) and <https://www.imo.org/en/MediaCentre/MeetingSummaries/Pages/LC-45-LP-18.aspx>

go further and commit to Non-Use of Solar Radiation Modification.<sup>5</sup> Both the European Parliament<sup>6</sup> and the African Ministers Conference on the Environment<sup>7</sup> have called for a Non-Use mechanism for SRM.

Geoengineering technologies are extremely relevant in the context of the Aarhus Convention given the dire impacts on ecosystems and human rights, including cultural rights, associated with their deployment. By their very nature - that is large or even planetary scale interventions with Earth systems - deployment of these technologies “could seriously interfere with the enjoyment of human rights for millions and perhaps billions of people”,<sup>8</sup> according to the Human Rights Council Advisory Committee report specifically on “New Technologies Intended for Climate Protection”. The report also found that deployment of geoengineering technologies “would have a massive and disproportionate impact on Indigenous Peoples whose traditional lands and territories are particularly exposed and at risk of experimental uses”.<sup>9</sup>

Research, experimentation with and deployment of geoengineering technologies therefore clearly pose important questions about effective participation, access to information and access to justice of those individuals, groups and communities that are affected by them, as well as the question of how to ensure Free, Prior and Informed Consent.

As explained by the Committee on Economic, Social and Cultural Rights (CESCR) in its General Comment on the Right to Science, “participation includes the right to information and participation in controlling the risks involved in particular scientific processes and its applications”. Experiments and deployment of geoengineering technologies often happen without adequate participation of and access to information by the affected communities.

The SCoPEX case<sup>10</sup> and the Arctic Ice Project<sup>11</sup> are emblematic of a structural lack of participation and consultation of rights holders, including Indigenous Peoples.<sup>12</sup> The Aarhus Convention and the Escazú

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<sup>5</sup> Open Letter: We Call for an International Non-Use Agreement on Solar Geoengineering, available at <https://www.solargeoeng.org/non-use-agreement/open-letter/>

<sup>6</sup> Res.(2023/2636(RSP)), available at [https://www.europarl.europa.eu/doceo/document/TA-9-2023-0407\\_EN.html](https://www.europarl.europa.eu/doceo/document/TA-9-2023-0407_EN.html)

<sup>7</sup> Doc. AMCEN/19/6, available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/43789/K2316003E-AMCEN-19-6-ADVANCE-REPORT.pdf?sequence=3>

<sup>8</sup> Human Rights Council Advisory Committee, Report on “Impact of new technologies intended for climate protection on the enjoyment of human rights (10 August 2023), UN Doc. A/HRC/54/47, at 46, available at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FHRC%2F54%2F47&Language=E&DeviceType=Desktop&LangRequested=False>

<sup>9</sup> *Ibid.*, at 55.

<sup>10</sup> See The Arctic Institute, Centre for Circumpolar Security Studies, “Sámi Council resistance to SCoPEX highlights the complex questions surrounding geoengineering and consent”, (20 May 2021), available at <https://www.thearcticinstitute.org/sami-council-resistance-scope-x-highlights-complex-questions-geoengineering-consent/>

<sup>11</sup> SCoPEX and the Arctic Ice Projects are two solar radiation management experimental projects planned in indigenous lands, which encountered Indigenous groups' resistance. The two projects are mentioned in Tonatierra, Submission to the United Nations Human Rights Council Advisory Committee in response to request for input on new climate technologies and human rights per UN HRC Resolution 48/14: <https://www.ohchr.org/sites/default/files/2022-05/20220528-tonatierra-ntcp-and-hr.pdf>

<sup>12</sup> *Ibid.*, fn 18, on the violations of the right to free, prior and informed consent, p.5.

Agreement provide an important framework in establishing States' obligations regarding procedural rights in the context of environmental policy making - and thus geoengineering interventions - with regard especially to meaningful public participation, access of information and access to justice.<sup>13</sup> As the CESCER specified, participation and transparency are essential for the precautionary principle, "because the risks and potential of some technical advances or some scientific research should be made public in order to enable society, through informed, transparent and participatory public deliberation, to decide whether or not the risks are acceptable".<sup>14</sup>

Below we list various initiatives, treaties and decisions, Advisory Opinions, and reports by UN experts that are relevant to geoengineering, which were not covered in the presentations of the panel on New or Emerging Technologies to the Working Group of the Parties at its twenty-eighth meeting .

### Legal opinion

- Sands, P. and Cook, K. (2021), [Joint legal opinion: The Restriction of Geoengineering under International Law](#) - whole document

### Solar Geoengineering Non-Use Agreement

- Solar Geoengineering Non-Use Agreement, endorsed by 500+ scientists 2000 civil society organizations <https://www.solargeoeng.org/> (both the [European Parliament](#) and the [African Ministers Conference on the Environment](#) have called for a Non-Use mechanism for SRM)

### International treaties, decisions, resolutions and declarations

- Convention on Biological Diversity (*de facto* moratorium on geoengineering since 2010, reaffirmed 2016): Decisions X/33 and XI/20. See: <https://www.cbd.int/climate/geoengineering>
- London Protocol/London Convention: resolution LP.4(8) that amended the Protocol to prohibit ocean fertilization activities 2013. See: <https://www.imo.org/en/OurWork/Environment/Pages/geoengineering-Default.aspx>

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<sup>13</sup> In that regard, an international voluntary standard which covers geoengineering was discussed within the International Standardisation Organisation (ISO) process in 2019. NGO back then raised concerns that the highly technical and confidential nature of ISO processes prevented communication of these discussions, in breach of the Almaty guidelines. In addition, NGOs viewed the proposed standard as stepping beyond the remit of the ISO by an enabling framework for geoengineering projects, thereby pre-empting democratic discussion and public engagement with policy/law-making on the controversial issue of geoengineering in MEA frameworks. The proposed ISO standard was never agreed and instead downgraded to a technical report. See sec. II, p. 2, European ECO Forum, Submission to the 24th Working Group of the Parties to the Aarhus Convention Promotion of the principles of the Convention in international forums, raising concerns about the integration of geo-engineering within ISO processes, and its potential impacts on the procedural environmental rights protected under the Convention, available at [https://unece.org/fileadmin/DAM/env/pp/wgp/WGP\\_24/Statements\\_and\\_Presentations/Item\\_8\\_EuECOForum.pdf](https://unece.org/fileadmin/DAM/env/pp/wgp/WGP_24/Statements_and_Presentations/Item_8_EuECOForum.pdf)

<sup>14</sup> CESCER General comment No. 25 (2020), fn 15, para 57

- Parties to the London Protocol/London Convention have also indicated their intention to regulate a further 4 categories of marine geoengineering (ocean alkalinity enhancement; biomass cultivation for carbon removal; marine cloud brightening; and surface albedo enhancement involving reflective particles and/or other materials) 2023  
<https://www.imo.org/en/MediaCentre/MeetingSummaries/Pages/LC-45-LP-18.aspx>

### **Courts' Advisory Opinions**

- International Tribunal of the Law of the Sea (ITLOS) [Advisory Opinion No. 31](#) - para. 231
- The [International Court of Justice](#) and the [Inter-American Court on Human Rights](#) are also in the process of preparing advisory opinions on States' obligations with regard to climate change, and might address the question of geoengineering.

### **Reports by United Nations experts**

- Advisory Committee of the Human Rights Council: Report on New Technologies Intended for Climate Technologies ([UN Doc A/HRC/54/47](#)) - whole report
- Committee on the Rights of the Child: General comment No. 26 (2023) on children's rights and the environment with a special focus on climate change ([UN Doc CRC/C/GC/26](#)) - para 98
- Special Rapporteur on toxics and human rights: The toxic impacts of some proposed climate change solutions ([UN Doc A/HRC/54/25](#)) – paras 2 and 71
- Special Rapporteur on human rights and the environment: Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment ([UN Doc A/74/161](#)) - para 83
- Special Rapporteur on human rights and climate change: Scene-setting Report ([A/HRC/56/46](#)) - paras 27-31
- Special Rapporteur on racism: Contemporary forms of racism, racial discrimination, xenophobia and related intolerance ([UN Doc A/77/549](#)) - para 65

### **Other relevant sources**

- [Maastricht Principles on the Human Rights of Future Generations](#) - para 19