A Framework for More Democratic Governance of Climate Engineering

Preamble

Research into climate engineering cannot be divorced from a range of political, social and ethical considerations. Research and experimentation that may not change the physical environment may change the social environment. It may, for example, 'normalise' climate engineering as a response to global warming. So the risks associated with research and experimentation in climate engineering are both physical and socio-political.

Any move to develop principles for climate engineering governance should not therefore be based solely, or largely, on scientific protocols, but must take into account the political and social circumstances in which research, and possible deployment, is occurring and is likely to occur.

Broadly, those who would consider research into climate engineering technologies ought to take account of the following risks.

- Social and political risks include the possibility – for some, the inevitability – that geoengineering will appeal to some as a substitute for mitigation, and reduce the incentives to pursue emission reductions.
- The likelihood that as research programs grow a constituency will develop with an interest in advancing climate engineering, one that can be expected to downplay the risks and exaggerate the benefits.
- The danger that climate engineering research will be dominated by commercial interests (including "rogue geoengineers") motived by private gain, including private ownership of intellectual property that may be vital to a global response to an emergency.
- That in the absence of any international oversight the direction of research may be determined by wealthy nations (including wealthy individuals, corporations and foundations) to the exclusion of the poor and vulnerable whose particular concerns will be ignored.
- The risk that climate engineering research will become militarized and therefore subject to secrecy and suspicion.
- The prospect that the type of research undertaken, and control over it, will have a major impact on any future decision to deploy climate engineering technologies, so that minimal or scattered oversight is more likely to lead to self-interested deployment by one or more powerful nations.
- The risk that the climate system may experience sharp discontinuities. The pressure for 'desperate measures' in a situation where there is no organisational means for international decision-making is more likely to lead to conflict.

Governance

With these risks in mind, we support early moves towards the formation of one or more international institutions, formed on the basis of a multilateral agreement, to oversee climate engineering research and experimentation.

To ensure that climate engineering always remains subsidiary to mitigation, the new body should be linked to existing international institutions committed to emissions reductions.

As all citizens of the world would be affected by any deployment of climate engineering technologies, and therefore have a stake in research that may lead to deployment, the new organisation would ensure adequate representation for all member states (including those without the capacity or desire to engage in geoengineering research).

The principles embodied in the new agreement should at a minimum include: research coordination, transparency about research programs, cooperation among national research teams, joint funding where feasible, open exchange of research results through a clearing house, and the development of guidelines (sooner or later enforceable) to regulate experimentation.

Similar to the nuclear non-proliferation treaty, all parties would agree to complete transparency in national research programs in order to reduce the chances of secrecy and militarisation.

The architecture for oversight should be developed early but the governance should initially be of the 'light-touch' variety focussed on transparency, information exchange and public engagement. The ability to move to closer regulation should be built into the new treaty and should be implemented as climate engineering research moves into the experimental stage, particularly if those experiments entail greater environmental risks or are at an advanced stage.

Any deployment of climate engineering technologies designed to intervene in major Earth system processes – including sulphate aerosol spraying, ocean iron fertilization and marine cloud brightening – would require deliberation by the global body.

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