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Research Brief: Governing Stratospheric sulphur Aerosol Injection (SSI) technology

Humanity has dreamed of and experienced nightmares over controlling the planet. Our failure to address climate change makes such dreams and nightmares ever stronger to certain actors. On the one hand our failure to address climate change shows the fallibility of humans as actors in regard to the climate and on the other it increases the need for humans to gain control over the climate. One of the most prominent ways of achieving this control concerns the distribution of reflective particles (often Sulphur), into the stratosphere. This reflects incoming solar radiation, reducing the global temperature increases (Royal Society report, 2009: 29).

There are many reasons to be worried about this technology, ranging from the huge power which could be abused in the pursuit of narrow self-interest, be it by a rogue individual, businesses, states or even entire generations, to increasing other climate related harms such as ocean acidification via the moral hazard of carbon emissions which result from taking SSI seriously (Hale, 2012). These reasons range from how they might effects ones behaviour to how we would live in a world in which SSI has been performed (Preston: 2013). The behavioural concerns are those which focus on how thinking about geoengineering might lead to a change in behaviour, this includes old ideas such as moral hazard and hubris, and leads to contemporary concerns such as moral corruption and moral schizophrenia (Hale, 2012) (Gardiner, 2011:45) (Gardiner, 2013: 12). This raises a set of difficult governance questions given the focus on thought processes with which such questions are concerned.

Research and development of these technologies covers a broad range of activities including computer simulations of SSI scenarios and large scale field tests. There are basic concerns as to whether this research is or could be considered legitimate and fair (Marrow, 2013). There are further fears concerning path dependence and lock-in scenarios, which stress that such research does not create pressure for the deployment of this technology (Hulme, 2014:69). Finally it looks like we have substantive and normative reasons to ensure vulnerable groups participate in this research (Preston, 2012: 92).

Implementing SSI raise many question of procedural justice and distributive justice, again how could such a procedure be legitimate or fair? These questions are particularly difficult due to the uneven distribution of the impacts of SSI. Certain regions will be particularly vulnerable to the changes in precipitation patterns, increasing the risk of famine. Secondly there is a fear of a termination shock for a generation which stops performing SSI, which has been identified as an existential risk (Ott, 2012: 35)..

We lack robust governance for this problem, people have wondered whether the international law on biodiversity could do the trick, yet that is clearly a great stretch of the law and does not cover many of the reasons for concern with geoengineering. Currently no clear governance institution exists for this, the Oxford principles are best we have got, and they are not recognised in law (Rayner, 2013). There is a much greater need for discussions about whether such technology should be subject to governance and if so, how should it be governed.

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