

Cite as: Rayner, S., Redgwell C., Savulescu, J., Pidgeon, N. and Kruger, T. (2009) Memorandum on the role of the private sector in geoengineering. House of Commons Science and Technology Committee enquiry into The Regulation of Geoengineering.

Brief memorandum to the **House of Commons Science and Technology Committee** enquiry into **The Regulation of Geoengineering**

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8 February 2010

SUMMARY

- 1** In this memorandum, we respond to some of the oral evidence given to the Select Committee, with regard to the role of the private sector in geoengineering.
- 2** During the oral evidence, a number of the witnesses were asked their thoughts about the set of principles laid out in our previous memorandum. This memorandum is in response to some comments with regard to the role of the private sector in geoengineering. Some witnesses interpreted the principle that geoengineering should be regulated as a public good as a wholesale rejection of the involvement of the private sector. This is not our position. In this memorandum we lay out how it is important to consider carefully the role of the private sector.

ABOUT THE AUTHORS

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 - Steve Rayner is Professor of Science and Civilisation and Director of the Institute of Science, Innovation and Society at the Saïd Business School, University of Oxford. His expertise is in the relationship between science and society and he was a member of the Royal Society's working group on geoengineering.
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 - Julian Savulescu is Professor of Practical Ethics and Director of the Uehiro Centre, University of Oxford. His expertise is in the fields of genetic ethics and medical ethics.
 - Nick Pidgeon is Professor of Psychology at Cardiff University. His expertise is in the field of risk – its perception, communication and management – and public engagement with science and technology.
 - Tim Kruger is Director of the Oxford Geoengineering Institute. His expertise is in the technical aspects of geoengineering, specifically a process that involves

reducing atmospheric carbon dioxide by enhancing the capacity of the ocean to act as a carbon sink.

4 We would like to make a comment on the role of the private sector in geoengineering research and deployment. As we state in our submission:
"While the involvement of the private sector in the delivery of a geoengineering technique should not be prohibited, and may indeed be encouraged to ensure that deployment of a suitable technique can be effected in a timely and efficient manner, regulation of such techniques should be undertaken in the public interest by the appropriate bodies at the state and/or international levels."

5 We would like to draw attention to the particular issue of patents and other intellectual property rights in this area. The granting of patents in this area could have serious negative impacts:

6 - The ability to obtain patents on geoengineering technique could create a culture of secrecy and may lead to the concealment of negative results. This has been observed in the pharmaceutical industry, where negative research results are deliberately concealed. This is doubly damaging - firstly, the negative consequences of a geoengineering technique could be far more wide-ranging than from a drug trial, and secondly, the concealment of negative results could lead to a public backlash against all geoengineering research and research scientists. With respect to the latter, the highly regarded House of Lords Science and Technology Committee 'Science and Society Report' of 2000 concluded that openness and transparency are a fundamental precondition for maintaining public trust and confidence in areas which may raise controversial ethical or risk issues.

7 - Patents could lead to the creation of powerful vested interests in the field of geoengineering. Lobbying by these vested interests could lead to undesirable technological lock-in.

8 - The field could become blocked by a thicket of patents which some patent-holders may use to extort a rent on technologies which could be used to tackle climate change, resulting in delays and needless expense. Such blocking patents could be described as 'socially useless'.

9 The benefit of allowing the granting of patents is that it may encourage investment in research and development. But these benefits need to be weighed against the potential downsides.

10 An example of a field where there has been considerable investment from both the public and private sectors despite tight restrictions on patent rights is in the Human Genome Project. It was recognised that it would not be in the public good for a small group of organisations to own large parts of our genetic code and a decision was taken that the genome sequence could not be patented. Despite these restrictions investment in the field remains high.

11 It should be noted that geoengineering is a widely heterogeneous field and it is likely that the operation of normal patent regulations in some areas (such as, for example, biochar) may stimulate investment without leading to countervailing problems. Nevertheless we would encourage regulators to explicitly reserve the right to intervene in this area to encourage transparency and to stymie the creation of powerful vested interests that may operate against the public interest.

12 We have attached a copy of the recently published Manchester Manifesto, which was written by, amongst many others, Professor Sir John Sulston (Nobel Laureate 2002 - Physiology or Medicine). It considers the question "Who owns science?" and concludes that ownership rights pose a real danger to scientific progress for the public good.

13 There is an opportunity as we start to research and regulate geoengineering to ensure that we structure it in such a way as to spare our successors from having to grapple with powerful vested interests in the future. The question should be asked: if geoengineering research does not qualify as a public good, what on Earth does?