Department of Energy & Climate Change
3 Whitehall Place
London
SW1A 2AW
www.decc.gov.uk

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17 October 2011

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Dear Mr REDACTED,

Thank you for your letter dated 27 August to the Prime Minister, about Global Warming and jobs. Your letter has been passed to this Department as this matter falls within our remit and I have been asked to reply.

We previously stated in our letter of 8 April 2011 that our priority is to achieve strong global action to reduce emissions of greenhouse gases, and this continues to be the case. Emissions reductions offer the safest and most effective method for limiting global temperature rise. We recognise that there may be a role for geoengineering in the future to supplement mitigation efforts, but currently there is insufficient information available on the costs, feasibility, effectiveness and side effects of such techniques to enable objective discussion of the risks and benefits.

Furthermore, some techniques, such as placement of sulphate aerosol into the stratosphere, cross national borders and will have trans-boundary effects. Thus, it is vital that the political, legal and ethical dimensions of this issue are considered, and appropriate international governance mechanisms are put in place to ensure safe and responsible research and development.

We mentioned in our previous response that two research projects on geoengineering are underway. You may be particularly interested in the Stratospheric Particle Injection for Climate Engineering (SPICE) project (details may be found at www2.eng.cam.ac.uk/~hemh/SPICE/SPICE.htm), which looks specifically at one of the techniques you discuss. This project will investigate the amount of reflective particles, sulphate or otherwise, that would be required to reduce global temperatures as well as the environmental impacts or side effects of this technique. It is important to note that this technique, in common with other solar radiation management techniques, will not address other effects of rising carbon dioxide levels, such as ocean acidification.

On increasing reflectivity of the built environment, this technique was explored by the Institution of Mechanical Engineers and current understanding was summarised in their report, “Geo-engineering: Giving us the time to Act?”. The Institution of Mechanical Engineers concluded that, from the available results, increasing reflectivity would not produce a large enough effect to counter global warming, and that this method would best help to lower temperatures in urban areas and potentially reduce the need for air conditioning in hot climates. A full life-cycle analysis is needed to assess the economic cost and emissions resulting from delivering and maintaining an effective level of reflectivity.

You may also be interested to know that later this autumn the Government will be publishing a strategy that will set out scenarios for meeting the fourth carbon budget, as required under the Climate Change Act 2008. It will also articulate our vision to 2050 to achieve the 80% reduction target and include an updated ‘Carbon Plan’ which will outline shorter-term actions the Government commits to undertake and key milestones to keep us on track to delivering our ambitious climate change goals.

I hope this is helpful.

Yours sincerely,

REDACTED REDACTED
DECC Correspondence Unit