



16 July 2010

Dear friends,

Thank you for your open letter to the HOME campaign and for your endorsement of its goals. And thank you for the information you have forwarded for review. We agree that it is an entrenched practice for governments, motivated by self-interest, to try to alter the weather, and that there is increasing discussion about how the climate as a whole could be manipulated. And we know that past actions by governments have unintentionally altered weather patterns. However, as we see it, our role -- and the goal of the H.O.M.E. campaign -- is to bring public awareness to -- and to stop -- the plans of a small group of countries to get on with planetary geoengineering experiments in the absence of any international debate. This discussion must not be confined to a small group of scientific “experts” from a small group of (high-emissions) countries.

Many geoengineering experiments have already taken place (for example, in ocean fertilization and biochar, as well as in areas of weather modification). This is a fact and is denied by no one. The geoengineering technologies that bear some relation to what are sometimes referred to as “chemtrails” are, to the best of our knowledge, the following:

1. Cloud seeding to provoke rain or change precipitation patterns, usually involving the spraying of silver iodide or dry ice from aircraft: This technology has been practiced in dozens of countries over decades with unclear results and varying scientific grounding<sup>1</sup>.
2. Cloud seeding for military purposes: The most well-known examples are Operation Popeye used in an attempt to prolong the monsoon during the Vietnam war, as well as the US government’s Project Storm Fury (1962-1983) intended to disrupt hurricanes. ETC Group considers such weather modification technologies a form of geoengineering (unlike, for example, the Royal Society or the UK Parliamentary Committee on Science and Technology which specifically exclude these technologies from their definitions of geoengineering)<sup>2</sup>.
3. Chemical spraying of herbicides or other chemical from airplanes: The best known example was Agent Orange, used by the United States during the Vietnam war, with devastating effects on hundreds of thousands of people,

including civilians and military personnel as well as the children of those exposed to the high concentrations of toxins, primarily dioxin. It is of course possible that the military is looking at such options as part of its counter-insurgency or other plans and while we know DARPA, for instance, has held meetings on geoengineering, we have not had the opportunity to review precise information on such activities.

4. Cloud whitening: The most commonly discussed cloud whitening geoengineering technology involves spraying salt water into lower-level clouds to increase their condensation nuclei, expanding their coverage and creating whiter surfaces that will reflect sunlight back to outer space. This is a form of "solar radiation management" and there is a burgeoning scientific literature on the technique. To the best of our knowledge, no scientific experiments of this type of cloud whitening have taken place outside the lab because a delivery system has not yet been worked out. However, scientists working under the auspices of the Silver Lining Project in California are reportedly planning to execute an experiment in the next 2-3 years<sup>3</sup>.

5. Stratospheric aerosols – the injection of sulfates or aluminum particles into the upper layer of the atmosphere as a technique to cool the planet. Alarmingly, this technique has been receiving increased attention from policy makers. To the best of our knowledge, only two experiments have taken place using this technology (both in Russia under the direction of Yuri Israel). You are aware of the scientific debate around this testing since you have included one of our press releases<sup>4</sup> as an Appendix to the Belmont Group's Case Orange report.

It has also been well documented that human-made clouds, principally due to air traffic, are having impacts on the climate.<sup>5</sup> We have not studied what chemicals are released by the different types of aircraft involved and therefore are not in a position to judge the quality of the Case Orange report you have asked us to review.

On behalf of ETC Group, I would like to thank you for your engagement in the HOME campaign.

Sincerely,

Diana Bronson  
Programme Manager  
ETC Group

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<sup>1</sup> See ETC Group's 2007 report "Gambling with Gaia" (<http://www.etcgroup.org/en/node/4913>) for more information

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<sup>2</sup> See UK House of Commons Science and Technology Committee, *The Regulation of Geoengineering*, London, March 2010, chapter 2, available at <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/221/221.pdf> and Swedish Society for Nature Conservation, *Retooling the Planet: Climate Chaos in a Geoengineering Age, A Report Prepared by ETC Group*, 2009.

<sup>3</sup> See ETC Group press release, “As huge cloud whitening experiment goes public, global coalition urges an immediate halt to geoengineering,” 10 May 2010, available at <http://www.etcgroup.org/en/node/5137>

<sup>4</sup> ETC Group Press release, “Top-down planet hackers call for bottom-up governance,” 11 February 2010, available at <http://www.etcgroup.org/en/node/5073>

<sup>5</sup> Rex Dalton, “How aircraft emissions contribute to global warming,” *Nature news*, 21 December 2009, available at <http://www.nature.com/news/2009/091221/full/news.2009.1157.html>