

John Hayes MP

Minister of State

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Michael Penning MP

October 2012

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Dear Michael

Thank you for your letter dated 2 October, enclosing a follow-up email from your constituent Mr REDACTED REDACTED about weather modification.

Local weather modification by cloud seeding (typically over an area the size of a large city and immediate surrounding environment) is a well-known technique that has been tried with mixed results in some countries with dry regional climates such as China and the USA. However, despite over 50 years of research (particularly in the USA) into cloud seeding techniques it remains expensive with no guarantee on its effectiveness.

To the best of my knowledge weather modification is not practised in the UK, and I can confirm that my department does not sponsor any cloud seeding research programme. The contrails seen in the sky trailing behind aircraft are almost certainly nothing more than vapour trails caused by the impact of hot aircraft exhaust gases on the cold atmosphere. The physics behind their formation has long been understood and there is a large body of information available on this topic in the peer-reviewed literature.

The SPICE project is associated with the very different field of climate engineering (or geo-engineering), which is about the global manipulation of the climate in response to man-made climate change. The actual SPICE experiment was about testing hardware and was too restricted in scope to have had any environmental impact had it gone ahead. Your constituent can find further information from the websites given below which includes a list of participating organisations.

<http://www2.eng.cam.ac.uk/~hemh/SPICE/SPICE.htm>

<http://www.epsrc.ac.uk/newsevents/news/2012/Pages/spiceprojectupdate.aspx>

<http://www.nature.com/news/geoengineering-experiment-cancelled-amid-patent-row-1.10645>

Finally, regarding the governance of geo-engineering research activity, this is an area still under development. For further information your constituent can read the UK Government's position statement on geo-engineering on my department's website at:

http://www.decc.gov.uk/en/content/cms/about/science/activities/climate_change/ger/ger.aspx.

I do hope this helps in replying to your constituent.

Yours sincerely,

JOHN HAYES