

## **The Trump Administration – A Geoengineering Administration?**

Geoengineer David Keith first made his intention to launch a geoengineering trial public back in 2012 – saying then that it would take place “within a year” and naming Fort Sumner in New Mexico as the likely location.<sup>1</sup> All indications were that he was ready to move forward, but was first waiting to get a signal of public support from the US government, ideally in the form of funding. Tellingly, the experiment never came. Five years later, Keith is once again announcing his geoengineering experiment is moving forward – this time in late 2018 at World View Spaceport in Tucson, Arizona.<sup>2</sup> What has changed between 2012 and 2018 that has emboldened David Keith to announce this test in Washington, DC? Answer: The USA’s new government.

Although climate activists have been rightfully alarmed that the Trump administration appears to be a climate change denial administration, there are nuances that suggest that this may more accurately turn out to be a geoengineering administration. Some of the leading climate skeptics now moving into power do not necessarily deny that warming is happening or might happen, they may only disagree that CO<sub>2</sub> or human emissions are to blame. As a prominent Trump EPA appointee, David Schnare, has pointed out many times – whether you believe in human causes for warming or just natural cycles, geoengineering provides a means to address the consequences without having to burden the fossil fuel industry or change consumption patterns. “Solar Geoengineering” is regarded by Schnare and allies as a ‘no regrets’ policy that creates an “uncomfortable middle ground” in which global warming ‘alarmists’ and ‘skeptics’ can collaborate to dial back the worst effects of climate change in a supposedly apolitical manner.<sup>3</sup>

When the Obama administration took office, discussion and support for geoengineering bubbled under the surface but never made it into formal policy. Science advisor John Holdren raised geoengineering in an early White House briefing,<sup>4</sup> and ex BP-chief Steve Koonin was midway through finalising a technical paper on how to carry out solar radiation management when he was

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<sup>1</sup> Martin Lukacs “US Geoengineers to spray sun reflecting chemicals from Balloon,” *The Guardian*, 17 July 2012. Accessed 24 March 2017. <https://www.theguardian.com/environment/2012/jul/17/us-geoengineers-spray-sun-balloon>

<sup>2</sup> James Temple, “Harvard Scientists Moving Ahead on Plans for Atmospheric Geoengineering Experiments” *MIT Technology Review*, 24 March 2017. Accessed 24 March 2017. <https://www.technologyreview.com/s/603974/harvard-scientists-moving-ahead-on-plans-for-atmospheric-geoengineering-experiments/>

<sup>3</sup> David Schnare, “Climate Change and the Uncomfortable Middle Ground: The Geoengineering and ‘No Regrets’ Policy Alternative,” Thomas Jefferson Institute for Public Policy, March 2008. Accessed 24 March 2017. [http://www.thomasjeffersoninst.org/pdf/articles/Schnare\\_speech.pdf](http://www.thomasjeffersoninst.org/pdf/articles/Schnare_speech.pdf)

<sup>4</sup> See ETC Group, “Obama and Geoengineering – Yes you can but don’t!” News Release, 14 April 2009. Available at: <http://www.etcgroup.org/content/obama-and-geo-engineering-yes-you-can---dont>

tapped for office,<sup>5</sup> but right until the end of the Obama administration other forces within the White House and agencies seemed able to keep a lid on the ambitions of the geoengineers to move ahead with testing and experimentation. The Trump administration however may be happier to give the nod to geoengineers such as David Keith under the influence of individuals who appear open and interested in moving a geoengineering approach forward.

Three of note are:

### 1) David Schnare – EPA

David Schnare was one of the lead appointees to Donald Trump's EPA transition team,<sup>6</sup> and until March 16, 2017 was a senior official within the EPA administration (until he suddenly quit, citing internal fights with established EPA staff<sup>7</sup>). A lawyer and scientist by training, he is known for his skepticism of climate change theories and aggressive legal action against climate scientists as general counsel for Energy and Environment Legal Institute (E&E Legal) – a legal outfit with ties to the coal industry.<sup>8</sup> In 2007, Schnare, as a representative of the right-leaning Thomas Jefferson Institute, gave evidence to a US Senate committee calling for the establishment of a federal programme for SRM geoengineering research.<sup>9</sup> He laid out a five phase plan for ratcheting up SRM research and deployment in which real world testing of SRM would begin within 18 months and actual deployment of an SRM programme would begin three years later and be maintained for a full century. Schnare, then an employee at the EPA, presented his plan for geoengineering at the first Heartland 'climate deniers' conference in 2008 and coordinated a letter to government signed by prominent climate scientists calling for such a research programme. He later told *Science* journalist Eli Kintisch that he had almost succeeded in allocating federal funds to SRM research: "he had managed to convince staffers on one of the Senate's appropriations committees to consider paying for geoengineering research. They'd just silently tuck roughly \$5 million into the bowels of an enormous spending package they were preparing, he envisioned, labeling it something vague,

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<sup>5</sup> JJ Blackstock et al, *Climate Engineering responses for Geoengineering Emergencies*, Novim, July 29 2009. Accessed 24 March 2017. <https://arxiv.org/pdf/0907.5140.pdf>

<sup>6</sup> Marianne Lavelle, "EPA Official, After Years of Work to Thwart the Agency's Mission, Returns to Carry Out Trump Agenda," *Inside Climate News*, 16 February 2017. Accessed 24 March 2017. <https://insideclimatenews.org/news/15022017/david-schnare-epa-donald-trump-climate-change-denial-scott-pruitt>

<sup>7</sup> Kevin Bogardus, "Questions trail agency critic's exit" *E&E News*, 16 March 2017. Accessed 24 March 2017. <http://www.eenews.net/stories/1060051580>

<sup>8</sup> DeSmog, "David Schnare," DeSmog, Entry in database of individual climate deniers. Accessed on 24 March 2017. <https://www.desmogblog.com/david-schnare>

<sup>9</sup> David W Schnare, "A Framework to Prevent the Catastrophic Effects of Global Warming using Solar Radiation Management (Geo-Engineering)," Supplementary testimony to US Senate committee on Environment and Public Works, 3 October 2007. Accessed on 24 March 2017. [http://thehardlook.typepad.com/thehardlook/files/schnare\\_supplemental\\_testimony\\_a\\_framework\\_for\\_geoengineering.pdf](http://thehardlook.typepad.com/thehardlook/files/schnare_supplemental_testimony_a_framework_for_geoengineering.pdf)

innocuous.”<sup>10</sup> The plan was scuppered, he claimed, as a result of Kintisch’s investigations. As a well-connected player in Washington, Kintisch labelled Schnare as geoengineering’s first supporter on the Hill. Schnare argues that public support for geoengineering (and SRM in particular) can be built by forcing both climate deniers and climate activists into an alliance around pushing forward SRM. In 2009, on a public geoengineering listserve, he encouraged geoengineering supporters to “publicly challenge the environmental activists to pick a side – death by economic harm, death by political inaction, death by climate change, or life through geoengineering,”<sup>11</sup> and proposed that the best means to build public support for geoengineering was to talk up a climate emergency. He is on record in many places arguing strongly for real-world SRM tests to begin as soon as possible.

## 2) Newt Gingrich

Formerly Republican speaker of the US House of Congress, and famous for his ‘Contract with America,’ this leading conservative strategist was tapped by Donald Trump as a possible running mate and despite choosing not to take a formal role in the Trump administration, he sits as a member of the Trump transition executive board and has been one of its leading spokespeople in media and on the speaking circuit. Gingrich has long been an outspoken fan of grand technological schemes (for example, Gingrich was also a leading cheerleader in Washington for Nanotechnology<sup>12</sup> and a large project to enhance human abilities<sup>13</sup>) and an opponent of both environmental regulation and technology assessment (Gingrich was credited with destroying the US Office of Technology Assessment). As a senior fellow for the American Enterprise Institute (AEI), a neo-conservative think tank with ties to big oil, Gingrich was one of the first political figures to speak up for Solar Radiation Management. In a 2008 action alert letter to AEI supporters titled ‘Stop the Green Pig’<sup>14</sup> Gingrich wrote about the prospect of releasing particles in the atmosphere and then asserted that “geoengineering holds forth the promise of addressing global warming concerns for just a few billion dollars a year. Instead of penalizing ordinary Americans, we would have an option to address global warming by rewarding scientific innovation.” That letter also marked the public coming-out for AEI’s Geoengineering Project which had at least two full time

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<sup>10</sup> Eli Kintisch, *Hack the planet: science's best hope-or worst nightmare-for averting climate catastrophe*. John Wiley & Sons, 2010, p. 192.

<sup>11</sup> Message from David W Schnare to Geoengineering Google Group, 17 Jan 2009.

<sup>12</sup> Patrick Di Justo, “Newt Gingrich Gets Small,” *Wired*, 20 May 2002. Accessed on 24 March 2017.

<http://archive.wired.com/science/discoveries/news/2002/05/52673>

<sup>13</sup> Mihail C Roco and William Sims Bainbridge (eds), *Converging Technologies for Improving Human Performance: Nanotechnology, Biotechnology, Information Technology and Cognitive Science*, National Science Foundation and Department of Commerce (US), June 2002, p. 36. Accessed on 24 March 2017.

[http://www.wtec.org/ConvergingTechnologies/1/NBIC\\_report.pdf](http://www.wtec.org/ConvergingTechnologies/1/NBIC_report.pdf)

<sup>14</sup> Newt Gingrich, “Stop the Green Pig: Defeat the Boxer-Warner-Lieberman Green Pork Bill Capping American Jobs and Trading America’s Future,” *Human Events*, 3 June 2008. <http://humanevents.com/2008/06/03/stop-the-green-pig-defeat-the-boxerwarnerlieberman-green-pork-bill-capping-american-jobs-and-trading-americas-future/>

Washington DC staff pushing for establishment of SRM research funding.<sup>15</sup> The principals of that project have argued that geoengineering by SRM is the cheapest way to address climate change.

### **3) Rex Tillerson – Secretary of State, Former CEO of Exxon**

Much alarm has been expressed by climate campaigners and scientists about the appointment of Exxon CEO Rex Tillerson as Secretary of State in the Trump administration. While Exxon's funding of climate denial is well documented, less commonly understood is Exxon's role in advancing geoengineering. Exxon scientists have been at the forefront of developing geoengineering technologies, particularly in the area of capturing greenhouse gases from the atmosphere (so-called CDR – Carbon dioxide removal – technologies). Some of the earliest work was led by Dr Haroon Kheshgi, who remains head of the global climate change programme at Exxon. In an early 1997 book called *Engineering Response to Climate Change: Planning a Research and Development Agenda*,<sup>16</sup> Kheshgi co-authored the chapter on geoengineering. In the mid-1990s he proposed the idea of adding lime to the oceans and continued to actively participate in shaping discussion on geoengineering, for example facilitating discussions at an influential meeting on solar radiation management research held by NASA in 2006.<sup>17</sup> Another former leading Exxon scientist Peter Eisenberger went on to found Global Thermostat, a geoengineering company which spun out of Columbia university. Tillerson himself has also been interpreted as promoting geoengineering. While at Exxon he stated that he regarded climate change as just an "engineering problem"<sup>18</sup> and he told Exxon investors in 2015 that "Our plan B has always been grounded in our beliefs around the continued evolution of technology and engineered solutions to address and react to whatever the climate system and its outcomes present to us."

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<sup>15</sup> Samuel Thernstrom, "What Role for Geoengineering?" *American Enterprise Institute*, 2 March 2010. Accessed 24 March 2017. <https://www.aei.org/publication/what-role-for-geoengineering/>

<sup>16</sup> Robert G. Watts (ed.), *Engineering Response to Climate Change: Planning a Research and Development Agenda*, CRC Press, 30 July 1997. <https://www.crcpress.com/Engineering-Response-to-Global-Climate-Change-Planning-a-Research-and-Development/Watts-Watts/p/book/9781566702348>

<sup>17</sup> Lee Lane, Ken Caldeira, Robert Chatfield, Stephanie Langhoff, *Workshop Report on Managing Solar Radiation*, National Aeronautics and Space Administration, April 2007. Accessed 24 March 2017. <http://www.homepages.ed.ac.uk/shs/Climatechange/Geo-politics/NASA%20Ames%20solar%20workshop.pdf>

<sup>18</sup> Chris Mooney, "Rex Tillerson's view of climate change: It's just an 'engineering problem,'" *The Washington Post*, 14 December 2016. Accessed 24 March 2017. [https://www.washingtonpost.com/news/energy-environment/wp/2016/12/13/rex-tillersons-view-of-climate-change-its-just-an-engineering-problem/?utm\\_term=.42fceda39e52](https://www.washingtonpost.com/news/energy-environment/wp/2016/12/13/rex-tillersons-view-of-climate-change-its-just-an-engineering-problem/?utm_term=.42fceda39e52)