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White House Urges Research on Geoengineering to Combat Global Warming

By HENRY FOUNTAIN JAN. 10, 2017



A carbon-capturing device being developed by Global Thermostat in 2013. Several companies have developed machines that can remove carbon dioxide from the atmosphere, but they would have to be deployed on a large scale to have any impact

A White House road map for federally funded climate research has for the first time recommended research into geoengineering, the concept of intervening in nature to slow or reverse global warming.

The document, an update of a report that lays out a plan for climate-related research at 13 federal agencies until 2021, calls for studies related to the two most-discussed approaches to geoengineering: distributing chemicals in the atmosphere to reflect more heat-producing sunlight away from the earth, and removing carbon dioxide from the air so the atmosphere traps less heat.

The report was submitted to Congress this week by the U.S. Global Change Research Program, which was established in 1990 and is overseen by the executive branch. The program, the report notes, “provides insight into the science needed to understand potential pathways for climate intervention or geoengineering and the possible consequences of any such measures, both intended and unintended.”

Although the update had long been in the works, its release in the final days of the Obama administration is another sign that President Obama is intent on extending his legacy on the issue of climate change. Among other actions, Mr. Obama in recent weeks has declared parts of the Arctic and the Atlantic Ocean off limits to offshore drilling for oil and gas and invoked the Endangered Species Act to further protect bumblebees and polar bears.

The report is an advisory one, and its recommendations face an uncertain future under the incoming Donald J. Trump administration. Mr. Trump has called climate change a hoax and has named people to his cabinet who deny the scientific consensus on global warming, so it is unclear how concerned the new administration will be with technologies to counter it.

David W. Keith, a Harvard physicist who has proposed a small-scale geoengineering experiment, said he was pleased that the call for research was included in the report. “Though — of course — worried about consequences under Trump,” he wrote in an email.

But the concept of manipulating the atmosphere stirs controversy beyond partisan politics.

Opponents of the idea, including many scientists, argue the risks are too great: Geoengineering might have unintended damaging effects on weather patterns, or it might be used unilaterally as a weapon by governments or even extremely wealthy individuals.

Many environmentalists have opposed geoengineering research on the ground it would be a distraction from the task of reducing the impact of climate change by cutting carbon emissions in the first place. Others say scientists should at least be getting a head start on research in case geoengineering is someday needed.

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Far from calling for any test of geoengineering methods, the report has much more modest recommendations, including research to improve how computer models represent the interaction of clouds and aerosol particles of the type that someday might be used to reflect sunlight.

Michael MacCracken, chief scientist for climate change programs at the Climate Institute, a Washington research group, said in an email that the recommendations were only a “very first step of what is needed — given the faster than projected severe impacts that are emerging.”

Still, the recommendations illustrate how far the subject of geoengineering has come in official circles. For years, the Obama administration avoided mentioning the term after the White House science adviser, John Holdren, drew criticism for saying in 2009 that geoengineering measures should not be “off the table.” But a government-sponsored panel of the National Academy of Sciences recommended in 2015 that some geoengineering research be allowed, with proper oversight.