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Test Flight for Sunlight-Blocking Research Is Canceled

The Swedish Space Corporation said it had canceled the flight — part of research to better understand the controversial idea of blocking the sun to fight climate change — after an outcry from environmentalists and others.

By Henry Fountain and Christopher Flavelle

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A test flight for researching ways to cool Earth by blocking sunlight will not take place as planned in Sweden this June, following objections from environmentalists, scientists and Indigenous groups there.

The Swedish Space Corporation said this week it had canceled plans for the flight, in which it would have launched a high-altitude balloon, on behalf of researchers, from its facility in the Arctic. It would have been the first flight of a long-planned experiment called Scopex, a project led by scientists at Harvard University.

The corporation, which is government owned, said it had consulted "with both leading experts on geoengineering and with other stakeholders," as well as with a Harvard committee that is advising the researchers. The decision not to conduct the test was made in agreement with the Harvard panel, it said

The advisory committee issued its own statement saying it recommended that any test flights be suspended until it "can make a final recommendation about those flights based on a robust and inclusive public engagement in Sweden."

Scopex is intended to better understand one form of solar geoengineering: injecting substances into the air to reflect some of the sun's rays back to space and thus reduce global warming relatively quickly

Solar geoengineering has long been a subject of intense debate among scientists and policymakers, often seen as a desperate, potentially dangerous measure that could have unintended consequences for regional climates Even conducting research on the subject has been viewed as harmful in that it could distract society from the goal of reducing emissions of planet-warming gases to avoid the worst effects of climate change

But there is a growing view among some scientists that, with the world not making nearly enough progress in reducing emissions, research in geoengineering is needed to learn more about how and whether it would work if pressure grew to use the technology. Last month, the National Academies of Sciences, Engineering, and Medicine, an influential scientific advisory body, called on the United States to spend at least $100 million on research

Solar geoengineering research currently involves computer simulations or experiments in a laboratory setting Scopex, which stands for Stratospheric Controlled Perturbation Experiment, has been in development for years, and one of its primary goals is to provide real-world data to improve simulations.

The planned first flight would not have involved injecting anything into the atmosphere. Instead, it would have tested the experimental setup, which includes large fans to create a short wake in the upper atmosphere. Such disturbed areas would be where injection experiments would take place in future flights.

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It was concern about what might come later that prompted objections in Sweden, said Niclas Hällström, of What Next, an environmental research group based in Uppsala.

"The mobilization against this project in Sweden has been remarkable, uniting scientists, civil society and the Saami people, against the danger of a slippery slope toward normalization of a technology that is too dangerou to ever be deployed," Mr. Hällström said.

David Keith, a Harvard physicist involved with the project, said he doubted that anyone knew how widespread opposition was in Sweden. He said surveys in other countries, including some in those most affected by climate change, had shown support for geoengineering research.

"Each time there has been real consultative process, all of those have suggested that public support for experiments like this is significant," he said.

The Scopex flight was originally planned to take place in the southwestern United States, but was moved to Sweden last year because of contractor issues. As to whether the flight might now be moved back to the United States, "we're certainly looking at that and other options," Dr. Keith said.

The Harvard advisory panel said that "societal engagement" should occur in Sweden before any Scopex research is conducted there, and that it was working with specialists to begin the process. "This will likely postpone the platform launch until 2022," the committee said.

But Mr. Hallstrom said that no amount of engagement would persuade those opposed to the project that it should move ahead.

Geoengineering research has inched forward in the United States in recent years. In 2019, Congress gave the National Oceanic and Atmospheric Administration $4 million to research the technology. Last year a nonprofit organization called Silver Lining announced another $3 million in grants to Cornell University, the University of Washington and others for research.

Kelly Wanser, executive director of Silver Lining, called the decision to cancel the test "an indication that

purely private efforts are unlikely to work well," and evidence of the importance of government-run research

A previous attempt to conduct atmospheric research, a project called Spice that was to take place in Britain in 2012, was canceled because of conflict-of-interest concerns involving some of the researchers. But the project also was the target of public opposition. Like the first Scopex flight, the Spice experiment was just a technical test of the equipment.

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