Public—and researchers—skeptical to climate engineering

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Anders Hansson, Senior Lecturer at Linkoping University. Credit: Anna Nilsen/ Linkoping University

What does the general public know about climate engineering, and what do they think about what they know? These were questions asked by

researchers from Linköping University, together with researchers from Japan, the US and New Zealand.

With the Paris Agreement, the countries of the world agreed that the global temperature increase must stop, preferably at just 1.5 degrees Celsius. But it's still not clear how this is to happen. Wording in the agreement opens the door to technologies that manipulate the climate, for instance by balancing the emission of greenhouse gases against carbon sinks and the reduction of gases in the atmosphere.

But climate engineering technologies are still in their infancy, and testing has only just begun in a few locations. It might never work on the global scale that is required by the Paris Agreement.

"If society is to rely on climate engineering as a way of lowering the temperature, society should also know what climate engineering involves. But in Sweden, for instance, the issue is absent from the public agenda," says Victoria Wibeck, professor at Linköping University.

A final option?

Together with Anders Hansson and Jonas Anselm from Linköping University, and researchers from Japan, the US and New Zealand, Victoria Wibeck investigated what the public actually knows about climate engineering, and what they think about what they know. They also studied the ways in which the respondents described climate engineering. The results have been published in the scientific journal *Climatic Change*.

In the study, 136 people were divided into 23 focus groups. The results show that the Swedes, Japanese, Americans and New Zealanders who took part in the focus groups shared a sceptical attitude to climate engineering as a solution to climate change. They preferred political

solutions, regulation, emissions limitation and lifestyle change.

The respondents also expressed concern that climate engineering can cause greater problems than it solves, that we should not experiment with complex systems we don't understand and that climate engineering addresses the symptoms but not the main problem - human-caused climate change. However some respondents could see climate engineering as a final option to an unsolvable problem.

Many of the arguments the respondents put forward are similar to those in the research community and the public debate.

"Because these technologies don't yet exist, we're at the stage where we have to discuss principles. What type of action do we, as a society, want to take to come to grips with climate change? And with these choices, who will be the winners and the losers? You can discuss this even if you're not an expert in climate modelling," says Anders Hansson, senior lecturer at Linköping University.

Different strategies to understand a complex issue

The researchers also analysed the respondents' language when they described their thoughts on climate engineering. They found that the respondents often used culturally flavoured analogies and metaphors. In other words, they compared climate engineering with phenomena they already knew. A Swede who wanted to describe how climate engineering could have unforeseen side effects and less (rather than more) control over our climate likened climate engineering to dumping industrial waste in the ocean. To describe the same anxiety over losing control, an American cited dam construction that knocks out ecosystems. A New Zealander called climate engineering "a shot in the dark".

More information: Victoria Wibeck et al, Making sense of climate

engineering: a focus group study of lay publics in four countries, *Climatic Change* (2017). DOI: 10.1007/s10584-017-2067-0