

Study: Climate negotiations relying on 'dangerous' thresholds to avoid catastrophe will not succeed

October 15 2012

The identified critical threshold for dangerous climate change saying that the increase in global temperature should be below 2 degrees Celsius seems not to have helped the climate negotiations so far. New research from the University of Gothenburg and Columbia University shows that negotiations based on such a threshold fail because its value is determined by Nature and is inherently uncertain. Climate negotiators should therefore focus on other collective strategies.

Presenting their results in the [Proceedings of the National Academy of Sciences](#) (*PNAS*), Astrid Dannenberg, Postdoc researcher at the Environmental Economics Unit, University of Gothenburg and Columbia University, and Professor Scott Barrett, Columbia University, explain the paradox of why countries would agree to a collective goal, aimed at reducing the risk of climate catastrophe, but act as if they were blind to this risk.

If the critical threshold for climate catastrophe could be identified with scientific certainty, their research suggests that countries very likely would propose a collective target certain to avoid catastrophe, would pledge to contribute their fair share to the global effort, and would act so as to fulfill their promises. However, if there is scientific uncertainty about the climate threshold, countries are very likely to do less collectively than is needed to avert catastrophe. Dannenberg and Barrett, who provide [experimental evidence](#), grounded in a new analytical

framework, show that failure of negotiations is practically certain, because the climate threshold is determined by Nature, and uncertainty about its value is substantially irreducible.

"[Climate negotiations](#) are more complex than the game played by the participants in our experiment. The basic incentive problem, however, is the same and our research shows that scientific uncertainty about the dangerous threshold changes behavior dramatically," Dannenberg says.

Their research may explain why the UN [climate](#) negotiations have been framed around meeting the 2 degrees Celsius threshold and why negotiators wanted the threshold to be determined by science rather than by politics because only the former would be credible. Yet, the emission reductions countries have pledged in Copenhagen in 2009 virtually guarantee that this target will be missed.

"We will not know until 2020 if the Copenhagen Accord pledges will be met, but if our results are a reliable guide, countries may end up emitting even more than they pledged – with potentially profound and possibly irreversible consequences. Our research suggests that negotiators should focus their attention on alternative strategies for collective action, such as trade restrictions or technology standards," Barrett says.

Provided by University of Gothenburg

Citation: Study: Climate negotiations relying on 'dangerous' thresholds to avoid catastrophe will not succeed (2012, October 15) retrieved 3 May 2024 from

<https://phys.org/news/2012-10-climate-dangerous-thresholds-catastrophe.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.