

Economic models significantly underestimate climate change risks

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Policymakers are being misinformed by the results of economic models that underestimate the future risks of climate change impacts, according to a new journal paper by authors in the United States and the United

Kingdom, which is published today (4 June 2018).

The paper in the *Review of Environmental Economics and Policy* calls for the Intergovernmental Panel on Climate Change (IPCC) to improve how it analyses the results of economic modelling as it prepares its Sixth Assessment Report, due to be published in 2021 and 2022.

The paper's authors, Thomas Stoerk of the Environmental Defense Fund, Gernot Wagner of the Harvard University Center for the Environment and Bob Ward of the ESRC Centre for Climate Change Economics and Policy at the London School of Economics and Political Science, draw attention to "mounting evidence that current economic models of the aggregate global impacts of [climate](#) change are inadequate in their treatment of uncertainty and grossly underestimate potential future risks".

They warn that the "integrated assessment models" used by economists "largely ignore the potential for 'tipping points' beyond which impacts accelerate, become unstoppable, or become irreversible". As a result "they inadequately account for the potential damages from climate change, especially at moderate to high levels of warming", due to rises in global mean temperature of more than 2 Celsius degrees.

The authors draw attention to "a major discrepancy between scientific and economic estimates of the impacts of unmanaged future climate change". They state: "These discrepancies between the physical and the economic [impact](#) estimates are large, and they matter. However, physical impacts are often not translated into monetary terms and they have largely been ignored by climate economists."

The paper states that the IPCC Sixth Assessment Report should "strengthen its focus on decision making under uncertainty" and "focus on estimating how the uncertainty itself affects economic and financial

cost estimates of climate change".

The authors point out that the preparation of the report "can act as a broad forum that brings together scientists and economists with a goal of quantifying the impacts of climate change".

They suggest that this would allow the IPCC to "provide policymakers with a more robust and rigorous way of assessing the potential future risks of economic damage from [climate change](#)".

The authors have written to Professor Hans-Otto Pörtner and Professor Debra Roberts, the Co-Chairs of IPCC Working Group II, to draw attention to the new paper.

More information: *Review Of Environmental Economics And Policy* (2018). [DOI: 10.1093/reep/rey005](https://doi.org/10.1093/reep/rey005)

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