Addressing climate change and inequality: A win-win policy solution

October 4 2024

Credit: CC0 Public Domain

Climate change and economic inequality are deeply interconnected, with the potential to exacerbate each other if left unchecked. A study published in *Nature Climate Change* sheds light on this critical

relationship using data from eight large-scale Integrated Assessment Models (IAMs) to examine the distributional impacts of climate policies and climate risks.

The study provides robust evidence that climate policies aligned with the Paris Agreement can mitigate long-term inequality while addressing climate change.

Led by Johannes Emmerling, Senior Scientist at the Euro-Mediterranean Center on Climate Change (CMCC), the study assesses how climate change is projected to increase inequality within countries, with the Gini index increasing by an average of 1.4 points by 2100.

However, implementing ambitious climate policies—such as carbon pricing—can significantly reduce this inequality increase in the long term. The study finds that redistributing carbon revenues equally among citizens can not only offset short-term economic costs but also reduce inequality, lowering the Gini index by nearly 2 points.

"This research demonstrates that with careful policy design, we can address both climate change and economic inequality—two of the most pressing challenges of our time," says Emmerling.

"By showing how redistributing carbon revenues can lead to immediate benefits for lower-income households while setting us on a path to a stable climate, we hope to provide policymakers with a roadmap for more equitable and politically feasible climate action."

The innovative multi-model comparison highlights that, while climate policies may result in a short-term rise in inequality, well-designed redistribution mechanisms can reverse this trend and contribute to greater social justice.

"As countries around the world look for ways to meet climate goals without exacerbating inequality, this paper comes as especially timely, highlighting the importance of smart policy design to ensure that the benefits of climate action are shared equitably," said Emmerling.

"This research highlights the need and the possibility to align climate safety and climate justice. This is a research topic of high importance for our institute, and this international collaboration is a testament to the capacity of community research to inform high-stake issues," concludes Massimo Tavoni, author of the study and director of the European Institute on Economics and the Environment at CMCC.

More information: A multi-model assessment of inequality and climate change, *Nature Climate Change* (2024). DOI: 10.1038/s41558-024-02151-7

Provided by CMCC Foundation - Euro-Mediterranean Center on Climate Change