Understanding the consequences of climate change mitigation policy

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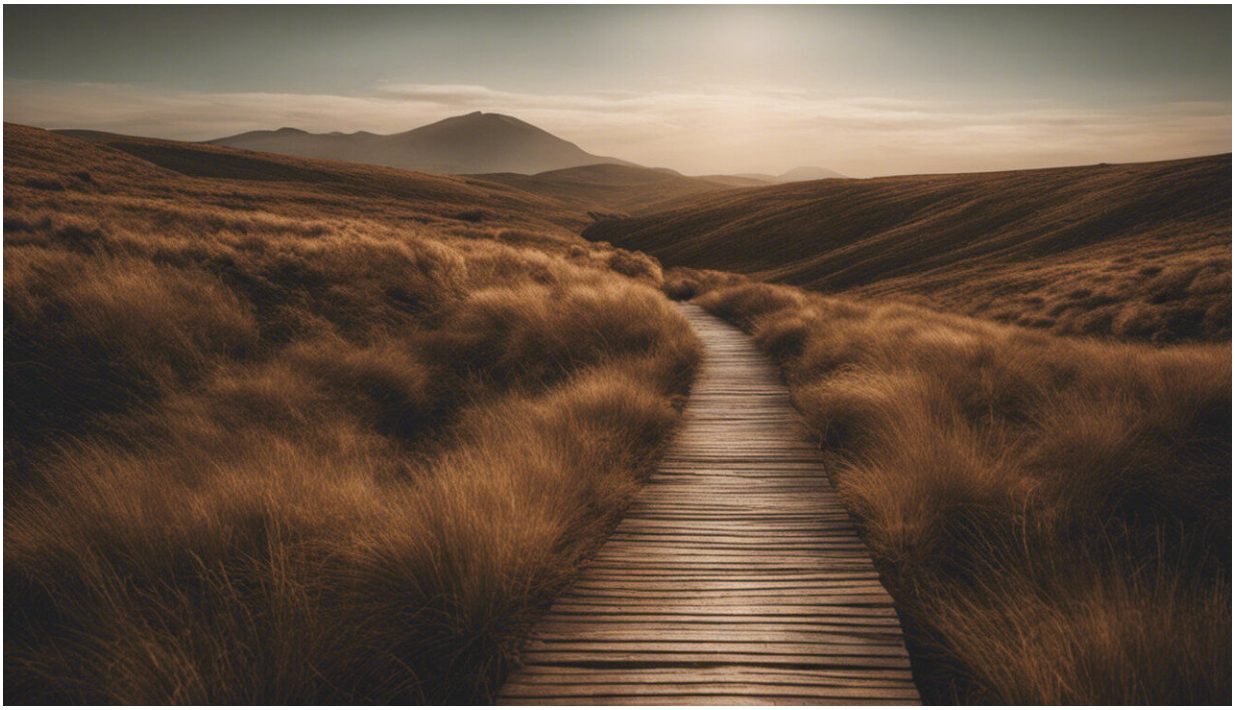

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EU-funded research shows that when climate change policy focuses only on mitigation without considering adaptation costs and residual damages, unintended inequalities result.

Although the Paris Agreement on climate change represents an

important step forward in international climate policy, like most climate policy, its analyses focus primarily on mitigation (i.e. national climate pledges, long-term temperature targets, etc.). However, this focus on mitigation comes at the expense of such considerations as adaptation costs and residual damages. When climate change policy fails to consider these important factors, the result is often regional unfairness in the implementation of mitigation efforts.

Currently, there are only a few studies that have analysed emission allowance allocation schemes in which mitigation costs, adaptation costs and residual damages are all considered. One such study was carried out by Italy's Fondazione Eni Enrico Mattei (FEEM), together with the Netherlands' Environmental Assessment Agency (PBL). Their recently published results, which were produced within the context of the LIMITS project, highlight the possible consequences of climate change mitigation and adaptation policies on global inequalities.

The LIMITS project conducted a rigorous assessment of what a stringent climate policy entails and what is required to overcome major impediments. Using the latest methodological instruments and technology, it assessed climate policies via mitigation and adaptation scenarios and evaluated the 'big picture' implications of today's climate change initiatives. The LIMITS approach to understanding climate policy allows policymakers, including those at the Paris Climate Change Conference, to better assess both costs and benefits of aggressive climate targets. It also served as the foundation of the FEEM/PBL study.

A broader view of equity

The study proved that the distribution of damages and adaptation costs remain unequal, even under a two-degree stabilisation policy, such as the one adopted by the Paris Agreement. The study reached this conclusion by utilising two integrated assessment models to examine five emission

reduction policy scenarios. It also compared three effort sharing schemes for distributing the global mitigation effort: greater mitigation effort where costs are lower; distribution of the mitigation effort to equalise regional mitigation costs; and distribution of the mitigation effort to equalise total climate costs.

From this work, researchers discovered that by not examining damages and adaptation, one actually risks further increasing the inequalities that already exist as a result of the mitigation policies. Based on these findings, researchers concluded that a global carbon market and international emission trading scheme could, in theory, compensate the countries most affected by these mitigation efforts. However, to do so, such an instrument would require a broader view on equity that explicitly considers the regional disparities in total climate costs – including damages and adaptation.

The study also states that additional financial transfers must compensate for residual damages and adaptation costs. Yet researchers note that doing so will be a challenge. For example, the Paris Agreement calls for an ambitious mitigation policy to stabilise global average temperature increases below two degrees Celsius compared to pre-industrial levels. But according to researchers, accomplishing this will see residual damages and adaptation costs rise to such levels as USD 500 billion by 2050.

Adopting adaptation

Needless to say, climate policy equity considerations should take into account all cost items associated with climate change. The good news is that research like the LIMITS project is moving the global climate change discussion in the right direction. In fact, for the first time, the Paris Agreement includes adaptation as one of its long-term, global goals.

More information: Project website: www.feem-project.net/limits/

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