

## **Advancing Low Carbon Transition While Reducing Inequality: An Input-Output Modeling Approach to Climate Justice**

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Wealth and income are disproportionately distributed across countries and income groups resulting in carbon inequality. UNFCCC aims to keep warming well below 2 degrees Celsius while recognizing developing countries' right to eradicate extreme poverty. Carbon pricing is regarded as an essential tool for curbing carbon emissions and ensuring low carbon transition but can be regressive, in the worst-case increases poverty and moreover lacks universal acceptance among the public and policymakers. Recycling the carbon tax revenue raised to vulnerable households is a promising solution to this issue. Using an Input-Output model, this study investigates the complex interplay between income distribution, consumption, and carbon emissions on an international scale. It specifically addresses the issue of largely divided carbon footprints among various countries and income brackets. In addition, the study addresses the issues associated with the impacts of climate mitigation policies, e.g. carbon taxation, on different household demographics, with a particular focus on the regressive nature of these policies, as well as proposes strategies to adapt fiscal policies to aid economically disadvantaged communities, thereby promoting equity.