

Carbon emission transfers and mitigation patterns of domestic migration in China

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Author: Rui Wang

Co-Authors: Xun Zhang, Xin Zhang, Jun Tang, Lixiao Xu

The carbon footprints of migrant consumption (MCFs) are crucial in achieving carbon peaking and carbon neutrality. In this study, a methodological framework is established through house-hold survey data and an environmentally extended multiregional input-output model to quantify MCFs pre- and post-migration in 30 provinces in 2017. The study also examines provincial and sectoral strategies for reducing emissions. Results indicate that MCFs reach as high as 660 million tons of CO₂ equivalent (MtCO₂e) (over 6.0% of Chinas total emissions), with rural migrants contributing over 60%. Areas that concentrate migrants (e.g., Guangdong, Zhejiang, Shanghai, Jiangsu, Beijing) are facing an overwhelming challenge, and interprovincial migrants are the main source of the transfer-in of carbon emissions. Consumption by migrants predominantly drives emissions in energy-intensive sectors, accounting for more than 46% of total emissions. Reducing the carbon intensity in these sectors is therefore a key starting point in implementing measures to reduce emissions, and it is important in achieving overall control and staged abatement goals.