Carbon emission transfers and mitigation patterns of domestic migration in China

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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 con-tributing 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.