

A detailed regional household carbon footprint analysis using expenditure accounts

Topic: Classical IO applications: Industrial economics, Productivity and Efficiency

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Households are responsible for the bulk of the overall direct and indirect emissions of the carbon footprint of nations. Additionally, variation across different household characteristics (e.g. size, income, age) leads to differing consumption patterns between individual households. In combatting climate change, policy is thus challenged to account for these differences.

We analyzed, for the regional case of Flanders (Belgium), which socio-economic household characteristics are associated with a higher than average per capita carbon footprint and which consumption domains trigger this higher than average carbon footprint. To obtain a better estimate of direct and indirect emissions we draw upon the EXIOBASE multi-region input-output dataset combined with regional input-output data and detailed regional household budget survey data.

Our analysis shows that the decomposition of the carbon footprint into the relevant consumption domains reveals insights that are absent when comparing only total carbon footprints between different types of households. Overall we find that there is a clear link between the income distribution and the carbon footprint of consumption, a finding that returns frequently in literature for both developed and developing countries. However, this income distribution is closely related to several underlying other socio-economic categories (e.g. level of education and household size) which do provide further insights useful for policy as they reveal important socio-economic aspect which needs to be considered.

During the presentation we will present the results and give insights in the quantitative assessment of the regional household carbon footprint analysis using expenditure accounts and input-output analysis. The observed trends in the carbon footprint related to the different socio-economic characteristics of households will be discussed.