

Emissions from consumption outstrip efficiency savings

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Emissions from consumption growth have exceeded carbon savings from efficiency improvements in the global supply chain of products consumed in the UK, according to new research by Stockholm Environment Institute (SEI) at the University of York and the University of Durham.

Carbon dioxide emissions from UK [consumption](#) grew by 217 Million tonnes(Mt) of carbon dioxide from increased spending between 1992 and 2004 while cuts from more efficient production only led to reductions of 148 Mt leaving a net growth of 69 Mt of carbon dioxide.

In previous research, Stockholm Environment Institute (SEI) and partners found that while territorial CO₂ emissions in the UK decreased between 1992 and 2004, consumer CO₂ emissions kept growing. Consumer emissions include CO₂ released in the UK and the rest of the world for producing the goods and services demanded by UK consumers.

The report published today by DEFRA continues this research by analysing the determinants of CO₂ emission growth from consumption distinguishing a series of technological factors such as CO₂-intensity, energy mix or production structure and socio-economic factors such as consumer spending, household or population size.

Keeping everything else constant, UK consumer emissions grew by 48.5 per cent from increased consumption over this period. During the same

period a 27 per cent reduction in CO₂ emissions throughout the world resulting from less carbon intensive production processes, another two per cent fall due to the greening of the global supply and another six per cent fall as a result of a less carbon intensive consumption basket were not sufficient to offset the CO₂ emission increases.

The novelty of the research is that the authors undertake the analysis using a global production model based on multi-regional multi-sector input-output framework. By doing so the authors are able to show that the transition of the UK towards a service economy has helped to decrease emissions in the UK supply chain. But these savings were mirrored by increased emissions in other world regions for the production of goods and services consumed in the UK. The research highlights the importance of taking a global perspective when analysing a countries' CO₂ emission patterns.

Dr Jan Minx, of SEI, who led the study, said: "Our research highlights that between 1992 and 2004 the additional CO₂ emissions from growing consumption in the UK have outweighed decarbonisation efforts in the [global supply chain](#)." The co-project leader, Dr Giovanni Baiocchi, added: "The UK's continuous transition towards a service economy might have benefitted the UK's territorial emission balance, but has made little difference for the climate from a global perspective."

Provided by University of York

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