

Decomposing the Annual Growth in Greenhouse Gas Emissions, 1995-2008

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In this paper we aim to disentangle the annual growth in emissions into its determinants. It is well known that emissions in one country depend on consumption in another country. Emissions are embodied in the exports of intermediate products and of final goods. When decomposing the growth in emissions of a country, it is therefore crucial to take such trade linkages into account. Our analysis is based on the world input-output tables that have been constructed within the EU-funded FP7 project WIOD (World Input-Output Database). The database provides a time series of full intercountry input-output tables for the years 1995-2006 in constant prices. The world input-output tables cover 40 countries and the rest of the world. Taking China as an example, this study decomposes the annual changes in China's emissions into the following six components: changes in Chinese final demands; changes in foreign final demands, changes in China's technology; changes in foreign technology; changes in China's emission coefficients; and changes in trade relations.