

What accounts for the growth in Carbon dioxide emissions in advanced and emerging economies? The role of Consumption, Technology and global supply chain trade

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Climate policy pledges and negotiations involve commitments about the reduction of emissions within national borders. However, the rise of global value chains has changed the nature of production and international trade, blurring the attribution of ultimate responsibility for emissions. This paper applies a novel method that examines the change in territorial emissions due to changes in energy intensity, supply chain participation, and domestic and foreign consumption. Our findings suggest that rising levels of domestic consumption are related to increased carbon dioxide emissions in both advanced and emerging economies. A substantial share of emissions growth in emerging economies is accounted for by higher participation in global production networks that serve expanding foreign consumption. However, even for countries that most rapidly integrated in global production networks, such as China, rising domestic consumption accounts for the bulk of territorial emissions. Improved energy efficiency partially stemmed the spike in emissions from higher consumer demand.