

The spatial distribution of consumption, production and pollution – A different perspective on technology transfer possibilities

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In order to support countries that are interested in exceeding their Intended Nationally Determined Contributions to approach the 1.5°C target, accurate and reliable data regarding greenhouse gas emissions are necessary. How would they find out where in the world their economic behaviour (both consumption and production) has an impact on these emissions? Using the OECD's newly published inter-country input-output table and related consumption-based CO₂ emission accounts, we are able to show the different distributions of final goods consumption, value adding activities and CO₂ emitting activities around the globe. Using these data, countries can identify their "emission hotspots", that is partner countries and industries further upstream in the global value chain where a bulk of the CO₂ embodied in their final consumption or final goods production are emitted. Using this information, investing countries can better target their technology transfers, which would allow reducing the overall environmental impact of economic activities. The paper uses the example of global demand for motor vehicles to show the spatial distribution of consumption, production and pollution. By examining Germany's "emission hotspots" abroad, the paper demonstrates the opportunity to transfer technology in a variety of related industries to foster more advantageous environmental outcomes through a reduction in CO₂ emitted in upstream production processes around the world.