

## **Technology-Adjusted National Carbon Accounting for Greener Trade Pattern**

Topic:

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A large proportion of global emissions is induced by international trade, and an effective carbon accounting system should encourage trade patterns that generate global carbon savings. Neither production-based accounting (PBA) nor consumption-based accounting (CBA) schemes satisfy this condition and Kander et al. proposed the technology-adjusted consumption-based accounting (TCBA) method based on a Leontief demand-pull model. However, the original Leontief insight is not sufficient to quantify the emissions induced by export flows at bilateral and sectoral level. This paper proposes a more generalized technology-adjusted carbon accounting scheme that takes into account technology difference in bilateral exports of different products. Based on WIOD, this study calculated national carbon emission under four different accounting schemes. Given the consideration that TCBA faces the problem that regional carbon responsibility is negative, this paper recommends to use technology-adjusted production-based accounting (TPBA) as an alternative to PBA, which will remain as core indicator of regional emissions in the near future.