

Technology-adjusted national carbon accounting for effective climate policy: from the perspective of vertical specialization

Topic: Thematic IO analysis: Energy and Environment

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A policy sensitive and effective green-house gas accounting method is very important for policy maker to allocate responsibilities for emissions. Both of the production- and consumption-based accounting (PBA and CBA) have their shortages for the purpose. Thus technology adjusted accounting methods are proposed for effective climate policy making (Kander et al, 2015). Considering the production fragmentation and vertical specialization (shown by the continuous increasing of the intermediate trade) in combination with the various technology used in sectoral production, this paper proposes a new technology adjusted national carbon accounting method, from the perspective of vertical specialization. Interregional differences in sectoral carbon intensity, patterns of final international trade, and patterns of intermediate international trade are taken into consideration in our new accounting method. Moreover, our method satisfies the conditions of additivity, sensitivity and monotonicity, without additional conditions. The empirical study is based on World Input-Output Database (WIOD).