Trade, Fossil Fuel Supply, and Leakage: The Consequences of Unilateral Withdrawals from the Paris Agreement

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Personal Profile & Research Interests: Joschka Wanner is currently PhD student at the University of Bayreuth. His research interests include International Trade (especially Structural Gravity Models), Environmental Economics, International Environmental Agreements.

Abstract: Countries that drop out of the Paris Agreement harm the effectiveness of the international initiative to lower greenhouse gas emissions in two ways. First, by canceling their own reduction commitments, they fall back on a business as usual emission path, directly reducing the extent of the global emission reduction. Second, carbon leakage may occur in response to the climate policy of Paris member countries, actually increasing the withdrawing country's emissions above the level it would have experienced in the complete absence of the Paris Agreement. This leakage in turn occurs via two channels: emission-intensive production is shifted from committed to non-committed countries and the climate policies of Paris members lower their fossil fuel demand, driving down energy prices and hence leading to more energy-intensive production in non-committed countries. We extend the structural gravity model with emissions by Larch and Wanner (2017) to better capture the second, energy-market leakage channel by the inclusion of a constant elasticity of fossil fuel supply function. We use the extended framework to simulate the consequences of unilateral withdrawals from the Paris Agreement.