

Technology-based criterion to share environmental responsibility

Topic: Sustainable production and consumption II

Author: Jorge Enrique Zafrilla

Co-Authors: David Soto-González, Luis A. Lopez

Global greenhouse-gas emissions (GHG) are rising faster than ever. The number of Kyoto Protocol signatory countries is shrinking. Europe's Carbon Emissions Market is crashing. Positions of high pollutant and exporters emerging countries according to the acceptance of supranational agreements are far from making real. Why is the Kyoto Protocol failing and which are the post-Kyoto perspectives? From our point of view one of the main problems of the Kyoto Protocol is the establishment of the producer responsibility criterion for emissions allocation by region. Big pollutant and exporter countries, like China or India, are not willing to sign this kind of international agreements. A consumer responsibility criterion would be more adequate for those virtual carbon exporter countries. The question is clear: Is there any assignment criterion which tries to solve the controversy and which favor a technological transfer between the regions and countries considered? In this paper we assess a new perspective for sharing internationally traded emissions allocation by region based on a technological criterion. Virtual carbon embodied in trade will be shared depending on the technology benchmarking between multiple countries involved in the global supply chains. Developed countries with negative emissions balances would be responsible of a part of emissions embodied in imports, the non-domestically produced emissions which are avoided by trade. Incentives to not outsource pollutant phases of production to environmental lawless countries will arise. Big exporter countries would be responsible of the rest of real emissions, transferring a part of the producer responsibility. Differences between technological structures will be the allocation key. The analysis will be done using bi-regional models for the pursuit of easier international agreements between the two regions involved in a trade relationship. Thirty bi-regional models for six major regions will be developed to capture the estimation of new emissions inventories by country.