GATE: Global analysis of trade related emissions

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The growth of global economy while reducing greenhouse gas (GHG) emissions is the most significant challenge of 21th century. Since in a globalized era, trade plays a significant role for national economies, scientific research has recently focused on the impact of GHG emissions embodied in trade. International trade may be a relevant driver of GHG emissions i) when it flows from a more to a less GHG intensive country ii) when it flows from a country without emissions commitments, thus generating the "carbon leakage" effect. The GATE project aims to create a solid platform addressing the knowledge-generation for assessment of trade-related emissions and externalities as a basis for measures to incentivize consumers and systems for climate mitigation and sustainable resource flows. Thereby, the research area draws on the knowledge of the emission inventories undertaken in the department as advisory services, while developing a new knowledge base for environmental and climate governance. The information generated is expected to provide important support to the GHG mitigation strategies, showing the effective potentiality of reduction of emissions embodied in trade. As first step, GHG emissions embodied in trade will be quantified at the global level. The methodological approach will be to combine input-output modelling, life cycle and ecological footprint approaches. Secondly, the GATE project will investigate at least two additional levels: national and sectoral level. At the national level, Denmark will be an important reference point due its trade-oriented predisposition. At the sectoral level, meat sector will be evaluated being a hot topic due to the increasing people expected in the next decades. Finally, scenarios will be developed based on the most emission intensive products imported to Denmark, and the possibility to replace them by a less intensive domestic production. The primarily intention is to create a basic platform upon which additional analyses can be performed. For instance, it is expected to extend the approach to cover also additional areas focused on specific products or different emissions.