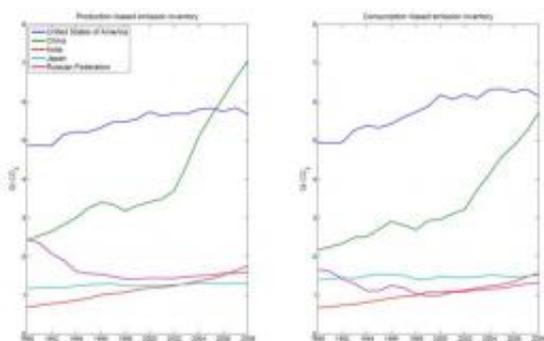


Study shows developed nation's reduction in CO₂, outpaced by developing country emissions

April 26 2011, by Bob Yirka



The Top 5 emitters from a consumption-based perspective in 2008 plotted as production-based emissions (left) and as consumption-based emissions (right). Image credit: PNAS, doi: 10.1073/pnas.1006388108

(PhysOrg.com) -- In a paper published in *Proceedings of the National Academy of Sciences*, a group of researchers and scientists show that the gains that have been made in stabilizing CO₂ emissions in developed or "rich" countries since the signing of the Kyoto agreement, have been neutralized by the increase in CO₂ emissions from developing nations as they produce goods for trade, primarily to developed countries. Because of this disparity, many groups are calling for a change to the Kyoto agreement practice of only counting CO₂ emissions that are produced in-country, rather than the CO₂ footprint of those products that are consumed.

This is not the first time this argument has been heard, environmental groups, politicians and others have been speaking out about the apparent discrepancy for several years; what's new is that the paper is backed up by a study of international [CO2 emissions](#) worldwide; in other words, by hard data.

In the paper, lead author Glen Peters, senior research fellow with Cicero (a research group), and his colleagues, describe their findings in a study they conducted whereby 113 countries and 57 economic sectors were examined and analyzed, for the period 1990 to 2008; they found that CO2 emissions from the production of traded goods and services had increased from 4.2 gigatonnes per year to 7.9, or from 20% of global emissions to 26%, resulting in net emission transfers to [developed countries](#) of 0.4 gigatonnes in 1990, to 1.6 in 2008.

Meanwhile, during this period, developed nations have been able to claim collective reductions of almost 2%. Thus, the authors have shown that as developed countries (other than the U.S. which has neither signed the Kyoto treaty, nor stabilized its CO2 emissions) stabilize emissions created in their own countries, they instead use products produced in other countries that were made using processes that continue to pour CO2 into the atmosphere and who haven't, for the most part, signed the Kyoto treaty.

Because of this situation, rich nations are able to claim gains, while poor countries are criticized for releasing ever more carbon into the atmosphere, which many see as unfair.

So now that the facts have been presented, there is little left to do but argue about whether developed nations should be held accountable for the carbon emissions that were released in making the products they now consume, or whether those [developing nations](#) that are the ones actually releasing the carbon should remain solely responsible. As with many

political arguments, the whole situation appears to boil down to a matter of simple semantics; because when all is said and done, what really matters is that carbon emissions worldwide be reduced, regardless of who gets the credit.

More information: Growth in emission transfers via international trade from 1990 to 2008, *Proceedings of the National Academy of Sciences*, Published online before print April 25, 2011, [doi: 10.1073/pnas.1006388108](https://doi.org/10.1073/pnas.1006388108)

Abstract

Despite the emergence of regional climate policies, growth in global CO₂ emissions has remained strong. From 1990 to 2008 CO₂ emissions in developed countries (defined as countries with emission-reduction commitments in the Kyoto Protocol, Annex B) have stabilized, but emissions in developing countries (non-Annex B) have doubled. Some studies suggest that the stabilization of emissions in developed countries was partially because of growing imports from developing countries. To quantify the growth in emission transfers via international trade, we developed a trade-linked global database for CO₂ emissions covering 113 countries and 57 economic sectors from 1990 to 2008. We find that the emissions from the production of traded goods and services have increased from 4.3 Gt CO₂ in 1990 (20% of global emissions) to 7.8 Gt CO₂ in 2008 (26%). Most developed countries have increased their consumption-based emissions faster than their territorial emissions, and non-energy-intensive manufacturing had a key role in the emission transfers. The net emission transfers via international trade from developing to developed countries increased from 0.4 Gt CO₂ in 1990 to 1.6 Gt CO₂ in 2008, which exceeds the Kyoto Protocol emission reductions. Our results indicate that international trade is a significant factor in explaining the change in emissions in many countries, from both a production and consumption perspective. We suggest that countries monitor emission transfers via international trade, in addition

to territorial emissions, to ensure progress toward stabilization of global greenhouse gas emissions.

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