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Decoupling and displaced emissions: on Swedish consumers, Chinese producers and policy to address the climate impact of consumption

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ABSTRACT

New developments in consumption-based emissions accounting suggest that the reductions claimed by wealthy, environmentally progressive nations have often come at the expense of increased emissions elsewhere – and thus net growth in global GHG concentrations. This paper traces Sweden's attempts to translate growing recognition of displaced emissions into national environmental policy. Drawing on multi-sited ethnographic research and policy analysis in Sweden and China, we argue that while the logical implications of consumption-based analyses point to the need to address production and consumption as an integrated system, complex governance challenges and the political precariousness of these ideas have thus far limited policy to the reinvention of consumer awareness campaigns and an international extension of long-standing ecological efficiency efforts. We argue that consumption-based emissions indicators justify more ambitious demand-side policy response.

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1. Introduction: the climate impact of consumption

Concerned about climate change, many nations have responded with mitigation efforts focused on improving domestic energy efficiencies – often with notable success (Weidner and Mez, 2008; EEA, 2013). However, a large and growing body of research has documented the cannibalization of these domestic improvements by sustained growth in consumption and the emissions embedded in international trade (Munksgaard et al., 2002; SEPA, 2012c). More disturbing, many lend empirical support to the assertion that national efforts to decouple economic growth from ecological harm can result in displaced environmental impact and net growth in global emissions (Peters and Hertwich, 2008; Peters et al., 2011).

Drawing on these findings, this paper addresses the significant climate impact of what the European Environmental Agency (EEA, 2012b) has suggested is the “mother of all environmental issues”; consumption. As living standards and ideologies of need continue to “ratchet up” (Shove, 2004) in both developed and developing economies, the emissions embodied in internationally traded consumer goods are increasingly significant drivers of global GHG

concentrations. Peters and colleagues (2011b) argue that 28% of global emissions are already embodied in international trade, a portion that is only projected to increase with intensified globalization and market liberalization (Sato, 2012).

While there have been significant advancements in methodologies to analyze the climate impact of growing consumption levels and carbon-rich international supply chains (Davis and Caldeira, 2010b; Davis et al., 2011; Peters et al., 2012, 2011; Wiedmann, 2009), efforts to incorporate these insights into international negotiations have been marginalized (see Atkinson et al., 2011; Carmondy, 2009; Isenhour, 2012; Mattoo et al., 2009; Petherick, 2012). National policies to address the climate impact of consumption are also extremely rare (Broadhag, 2010) due to the complex governance challenges presented by global supply chains. Only a few nations have measured the global impact of their consumption, and even fewer have attempted to utilize them to inform climate policy (Barrett et al., 2013).

This paper traces one such effort in Sweden – the first nation to officially recognize the displaced climate impact of their consumption. We explore how this wealthy and environmentally progressive nation has attempted to translate these findings into politically viable environmental policy. The Swedish case has significant international relevance given that Sweden is internationally celebrated as a successful example of ecological-economic decoupling, a strategy that has been highlighted as a significant

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policy goal in both the EU's 7th Environmental Action Plan (EEA, 2013) and in international discussions about the "green economy" (UN 2012).

Yet consumption-based emissions indicators challenge claims that economic growth and ecological harm can be absolutely decoupled. Instead, they point to the need for "strong sustainable consumption" policies that move beyond improving the efficiency of consumption to address consumer demand and reduce absolute material and energy consumption (Lorek and Fuchs, 2013). It is widely recognized that ecological modernization's focus on efficiency and neoliberalism's focus on consumer choice have combined to dominate sustainability rhetoric and practice, but that they do very little to address issues of environmental justice, rebound effects or growing global consumption levels.

Our analysis of policy formation in response to these concerns is based on ethnographic and mixed-methods research in Sweden and China between 2007 and 2014. Data include analysis of Swedish and EU policy documents published between 2008 and 2014 as well as interviews with 35 representatives of 25 Scandinavian governmental and non-governmental organizations including the Swedish EPA, Ministry for the Environment and Consumer Agency. To animate this policy formation process and associated challenges, we focus particular attention on Sweden's efforts to lend technological assistance to the People's Republic of China. We thus also incorporate research on Sino-Swedish climate cooperation which included additional policy reviews, secondary research and interviews with three Swedish and two Chinese climate policy analysts in Stockholm and Beijing during the summer of 2012 and 2014.

Our argument proceeds as follows: we begin with background and a theoretical rationale for the Swedish case – highlighting both domestic and international claims that Sweden has successfully decoupled economic growth from ecological harm. The second section traces Sweden's attempts to translate a growing awareness of displaced emissions into policy through: 1) domestic mitigation and efficiency improvements, 2) consumer education and 3) international policy specifically via technological transfer to producer-nations such as the People's Republic of China. The fourth section discusses our findings relative to recent debates about the need for strong sustainable consumption policy. Our conclusion reiterates the argument that our understandings of displaced emissions and the climate impact of consumption justify more ambitious demand-side policy than it has generated to date – in Sweden and abroad.

2. Swedish decoupling and global markets: theory and background

Sweden is internationally celebrated as a positive example of economic-ecological decoupling, or the effort to separate economic growth from ecological harm. According to Kyoto reporting requirements, the state's emissions taxes and significant investments in technological improvements have resulted in a 20% reduction in GHG emissions since 1990 (SEPA, 2013). While this accomplishment is notable in itself, state documents emphasize that these reductions were achieved during a period of significant overall growth. Between 1990 and 2010 efficiency measures and simultaneous economic growth resulted in a 72% reduction in the carbon intensity of the national economy (SEPA, 2012a, TCO 2012), leading many in Sweden and abroad to declare decoupling an overwhelming success, one worthy of international replication (OECD, 2004; UNEP, 2011) (Fig. 1).

During the last decade, however, there have been significant improvements in and a subsequent "explosion" (Carmondy, 2009) of robust consumption-based environmental indicators that call into question claims of successful decoupling (EEA, 2014). These include tools to measure per capita water (Hoekstra and Mekonnen, 2012), biodiversity (Lenzen et al., 2012) and nitrogen use (Leach et al., 2012). More central to our discussion here is the significant refinement of research on carbon footprints (e.g. Berglund, 2011; Sato, 2012) and a growing number of increasingly robust databases, analytical tools and studies which account for the emissions embedded in international trade (Davis et al., 2011; Peters and Hertwich, 2008; Peters et al., 2011).

In contrast to the production-based emissions inventories used in the UNFCCC reporting processes, which account for GHGs released within a given set of geo-political boundaries, consumption based emissions capture both direct and indirect emissions associated with the goods and services a nation's citizens consume (e.g. Davis and Caldeira, 2010b; Feng et al., 2013; Peters et al., 2011), regardless of where they were produced (domestic electronics, toys from China, clothing from Bangladesh or beef from Argentina). The total global emissions are essentially the same, but the consumption-based method sheds light on emissions drivers (Peters et al., 2012) and suggests an alternative distribution of responsibility. As Dawkins and her colleagues write, "territorial emissions tell us where the emissions occur, but the consumption approach tells us why the emissions occur. Increasing demand for

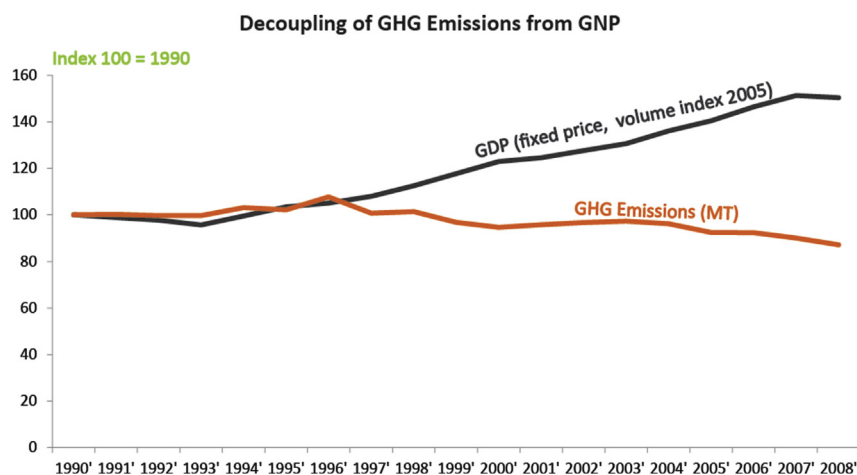


Fig. 1. Swedish decoupling of GHG from GNP.

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