

| | | | |
|---|--|---|---|
| Tiedekunta-Fakultet-Faculty Faculty of Social Sciences | | Laitos-Institution-Department Department of Economic and Political Studies | |
| Tekijä-Författare-Author Myllyvirta, Lauri | | | |
| Työn nimi-Arbetets titel-Title Preventing carbon leakage with consumption-based emission policies? | | | |
| Oppiaine-Läroämne-Subject Economics: General Economics | | | |
| Työn laji-Arbetets art-Level Master's thesis | | Aika-Datum-Month and year 2010-04-06 | Sivumäärä-Sidantal- Number of pages 75 |
| Tiivistelmä-Referat-Abstract | | | |
| <p>Steep and rapid reductions in greenhouse gas emissions are required from industrialized countries. An important policy concern is that these emission reductions could lead to increases in emissions elsewhere. This leakage effect can be avoided by suitable choice of policies.</p> <p>I study the greenhouse gas abatement policy of a large coalition of countries that faces competition from countries with laxer emission policies, comparing the changes in emissions from the rest of the world and in competitiveness of dirty industries caused by different policy options. My analysis is based on a two-region, two-good model of endogenous growth with directed technical change.</p> <p>I compare two approaches to allocation of emissions associated with the supply of internationally traded goods and services: production-based and consumption-based accounting. When technical change and complementary policies are omitted, emission constraints based on either approach cause emissions in the rest of the world to increase, although through different mechanisms. However, an emission constraint creates incentives for energy-saving innovation and countries' emission policies can include various complementary measures in addition to the emission constraint. These factors can cause also the rest of the world to reduce emissions. Models that omit these factors yield too low recommendations on emission reduction targets.</p> <p>In order to maximize global emission reductions achieved with unilateral policy, production-based emission constraints should be applied on sectors where there are good possibilities to substitute other inputs for fossil energy, and there are decreasing returns to scale in carbon intensive activities. Consumption-based emission constraints achieve larger global emission reductions in sectors in which fossil energy and other inputs are strongly complementary and returns to scale on the regional level are not strongly decreasing.</p> <p>Complementary policies, such as subsidies to energy efficiency investments, subsidies to R&D of energy-saving technologies, transfer of technology to developing countries and relaxing the protection of intellectual property rights, can reduce or reverse carbon leakage. Each of these policies only reduces global emissions under specific conditions. Choosing suitable policies and differentiating between economic sectors is of great importance.</p> <p>If border measures are applied on imported carbon-intensive goods, it is important to account for the relative carbon intensity of individual producers. A regular border tax levied per tonne of product does not encourage producers in the rest of the world to clean up their production.</p> | | | |
| Avainsanat-Nyckelord-Keywords climate policy emissions trading carbon leakage competitiveness technical change | | | |
| Muita tietoja-Övriga uppgifter-Additional information | | | |