

The global climate impact of Swedish consumption: an input–output analysis time series of CO₂e emissions from 1993 to 2005

Topic: Environmental IO models 9

Author: Mårten Berglund

The development of the global climate impact of the Swedish final demand is assessed using an environmental extended input–output model. The environmental input–output model developed is done in a single regional framework where CO₂e emissions from imports have been estimated using emission intensities for the Swedish import countries. Included in the CO₂e emissions are CO₂, CH₄ and N₂O. To build the time series, a new method for updating input–output tables is developed. An uncertainty analysis is undertaken based on the variation of various data sources and most notably the valuation of GDP based on purchasing power parity rates or market exchange rates. The most conservative results show an increase in CO₂e emissions of 12 percent in the period studied, from 84 Mton in 1993 to 94 Mton in 2005. These results go contrary to the Swedish official UNFCCC territorial emission statistics which show a decrease of 8 percent during the same period. The results suggest that Sweden has not yet decoupled economic growth from increasing global climate impact.