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A METHODOLOGY TO RECONCILE THE EU ETS WITH NATIONAL ECONOMIC AND ENVIRONMENTAL ACCOUNTS

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Overview

The European Union Emissions Trading Scheme (EU ETS) is the premier policy tool through which Europe's carbon dioxide emissions reductions are to be realised through a "cap and trade" process. There is, however, considerable difficulty in matching the underlying economic and environmental accounts with the EU ETS coverage. Namely, the coverage is decided on a bottom-up methodology at facility level which is at odds with the aggregated top-down standard industrial classification (SIC) approach employed in sectoral economic modelling.

Methods

Multi-sectoral economic modelling methods such as Input-Output and Computable General Equilibrium models have become the standard tool for analysing the interactions between economic policy and environmental consequences over recent years. The EU ETS is an economic policy instrument that's coverage is based on technological and scientific principles rather than monetary flows. We therefore construct a new methodology to map the economic accounts to the "traded sector" or "non-traded sector" of the EU ETS to allow for economic analysis consistent with the European policy tool.

Results

A step-by-step methodology is developed which maps EU ETS emissions to the national economic and environmental accounts. The resulting new accounts are then used to demonstrate the economic and environmental impact of changes in demand for individual sectors using a multiplier analysis, comparing results for the traded and non-traded economic sectors. The multiplier analysis shows that the electricity and cement are the most emissions-intensive "traded sectors" in Scotland and the UK and that reducing emissions in this sector is absolutely essential for the transition to a low-carbon economy.

Conclusions

We highlight and attempt to address the main difficulties in attempting to assess the EU ETS at a national level using current macro-economic modelling tools which occur due to differences in the data available. A major conclusion from the construction of the accounts and the following analysis is the need for greater consistency between bottom-up data on the policy and the economic modelling tool. Emissions from the EU ETS should be reported in such a way as to be consistent with the SIC methodology employed throughout the EU.

References

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