Decoupling of Energy Consumption and Air Emissions from Economic Growth in Denmark 1966 to 2006?

by

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Abstract

Economic activity in general is inseparably connected with energy consumption and air emissions. The rate of economic growth, however, is not necessarily connected with a similar growth rate in energy consumption and emissions. This paper examines the degree of decoupling between economic growth and energy consumption / emissions in the Danish economy in the period 1966 to 2006. Comprehensive input-output Structural Decomposition Analyses are used to reveal the main factors behind the observed development in air emissions. The analyses are based on the detailed Danish annual input-output tables and the Danish environmental accounts (energy accounts and air emissions accounts), which are constructed as satellite accounts and linked with the national accounts and the input-output tables. The explanatory power from changes in composition of energy consumption, changes in energy intensity, changes in emission coefficients and changes in the level and structure of domestic final demand and production are investigated. Also effects from changing energy prices and changing patterns of foreign trade are included as explanations for the decoupling observed in the Danish economy. Sensitivity analyses are provided as a mean to assess the validity of the calculations.

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