

Economic growth, structural change and environmental pressures: The case of the Netherlands, 1950-2009

Topic: Structural change

Author: Rutger Hoekstra

Co-Authors: Jan Pieter Smits, Ruben van der Helm

During the twentieth century the Netherlands transformed from a low-energy economy into an economy that is known for its high level of energy use. The bulk of this transformation occurred in the period 1950-1970. This paper examines the forces that lead to this rise in energy intensity and to the increases in emissions of CO₂ and SO₂ that were the results of this change in energy-intensity. By means of a structural decomposition of GDP growth, which is facilitated by the use of brand-new historical input/output tables, we try to assess which industries were responsible for the increase in environmental pressure in the second half of the twentieth century. This will enable us to come to a deeper understanding of the trade-offs between economic growth and environmental damage. Besides, based on a new methodology, we try to measure the costs of the environmental damage that was created in the long-run. From an inter-generational perspective we will quantify these costs of environmental damage and relate them to the conventional GDP and productivity growth estimates (at industry level) to come to a new and deeper understanding of the ways in which the processes of economic growth and environmental damage are inter-related.