

## **Economic evaluation of climate protection measures in Germany**

Topic: Input-Output Analysis for Policy Making

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The paper builds on a study on the „Economic evaluation of climate protection measures and instruments for different policy scenarios“ for the German Environmental Agency. “Policy Scenarios for Climate Protection VI” are the basis for the model analysis of economic impacts of climate protection measures: In the Current Policy Scenario (CPS) all measures which have been implemented by July 8 2011 are considered. In the Energy Transformation Scenario (ETS) additional measures are taken into account to reach the climate targets of the German government until 2030. For the economic valuation of measures ETS and CPS are compared.

The two policy scenarios build on the same socio-economic assumptions and just differ by climate protection measures. Investment in climate protection will reduce energy consumption in the long term and shift it towards low or zero carbon energy carriers. In ETS annual additional investment in climate protection, especially in insulation of buildings, will reach 25 to almost 40 billion Euro.

Scenarios are implemented in the model PANTA RHEI. PANTA RHEI is an environmentally extended version of the econometric simulation and forecasting model INFORGE, which includes a time series of Input-Output tables for Germany. In PANTA RHEI IO data, energy accounts and SNA data are consistently linked for prices and volumes.

Results of more ambitious climate protection measures are positive: GDP will be 25 to 30 billion Euros higher in the ETS compared to the CPS. Positive employment impacts are in the range of 200 thousand additional jobs. Energy efficiency improvements increasingly contribute via reduced energy imports in the long term. The positive macroeconomic effects of the considered climate mitigation measures are robust with respect to major assumptions.