

MODELING LONG-TERM IMPACTS OF THE EUROPEAN EMISSION TRADE SYSTEM

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This study deals with regulatory instruments, but focuses especially on the Emission Trade System (ETS) designed by the United Nations Framework Convention on Climate Change and introduced by the European Union in 2005. It is in our interest to forecast the effects of the ETS on different indicators with economic importance (e.g. emission abatement, power price, import dependency, supply security, efficiency increase) and its costs up to the year 2020. Therefore we use an optimization model, in which we consider the regulation framework, the market parameters and technical constraints for the German energy market as well as an endogenous price for emission allowances, running times of plants and capacity enlargements. After solving the model with linear programming in different scenarios we find, that the ETS has strong impacts on production decisions, but low interest rates offered by the market inventive program are more effective in long-term decisions like plant investments.