

Socially Optimal Transition to a Fossil Free Society

Jens Myling-Petersen, Københavns Universitet

The aim of this master thesis is to analyze the behavior of the optimal transition towards fossil independence in a dynamic setting for the Danish economy. By calibrating and simulating the model from the draft paper On the optimal phaseout of fossil fuels by Peter Birch Sørensen and Frederik Silbye, I have investigated the socially optimal transition from fossil to renewable energy in the Danish economy. The simulation made it possible to study the model implications and the analysis illustrates how the optimal phase-out path evolves as expectations change. The analysis evaluates the Danish government's recent decision of downgrading their 50 % independence goal for 2030 and finds it suboptimal. Moreover, the model implications and results serve as a good illustration of the importance of understanding the effects guiding optimal phase-out of fossil fuels when policy making.