Economic Impacts of Future Changes in the Energy System - National Perspectives - DTU Orbit (08/11/2017)

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In a climate constrained future, hybrid energy-economy model coupling gives additional insight into interregional competition, trade, industrial delocalisation and overall macroeconomic consequences of decarbonising the energy system. Decarbonising the energy system is critical in mitigating climate change. This chapter summarises modelling methodologies developed in the ETSAP community to assess economic impacts of decarbonising energy systems at a national level. The preceding chapter focuses on a global perspective. The modelling studies outlined here show that burden sharing rules and national revenue recycling schemes for carbon tax are critical for the long-term viability of economic growth and equitable engagement on combating climate change. Traditional computable general equilibrium models and energy systems models solved in isolation can misrepresent the long run carbon cost and underestimate the demand response caused by technological paradigm shifts in a decarbonised energy system. The approaches outlined within have guided the first evidence based decarbonisation legislation and continue to provide additional insights as increased sectoral disaggregation in hybrid modelling approaches is achieved.

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