

# Interdependencies Between Countries in the Provision of Energy\*

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## Abstract

Many economies are concerned with the future security of electricity supply. This is rooted in the necessity to decarbonise energy systems and in the nuclear phase-out. Hence, some economies, instead of investing in own domestic energy capacity, rely on energy production by their neighbours. At the same time, countries claim to drastically cut back their fossil fuel energy production. Yet, they increasingly depend on fossil fuel energy imports from abroad. To analyse these interdependencies we employ data for 17 European countries from 1978 to 2017. We first examine how countries respond to changes in energy capacity investment by countries in the vicinity. Using spatial econometric models we find a negative relationship between countries' investment in energy capacities. Second, we use fixed effects and instrumental variable estimators as well as an event study framework to analyse the link between domestic fossil energy production and imports. Our results reveal that a decline in domestic fossil energy production has a positive effect on fossil energy imports, suggesting that countries partially substitute one for the other.

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