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CO2 Emissions and Energy Technologies in Western Europe

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Abstract

In this paper we investigate the path to the green transition in Europe. In so doing, we implement an empirical model of dynamic panel data on a sample of sixteen Western European countries over the period 1980 to 2019. The model is consistent with various features of neoclassical growth theory incorporating energy use. Our focus is on the short-run determinants of carbon emissions within that set of countries. We provide evidence that the relationship between economic activity and CO2 emissions is strong in economies where economic booms depend on energy intensive sectors. Also, the mitigating role of renewable energy technologies is key when energy intensity rebounds. These circumstances may constitute a challenge for the climate transition goals targeted in the EU's Recovery Plan, whose main objective at this very moment is to mitigate the economic and social impact of the coronavirus pandemic.

Keywords: CO2 Emissions, Energy, Business Cycles, Panel Data

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