

Effects of Economic Growth on N_2O Emissions: An Empirical Analysis on China, USA, and EU

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Abstract: This paper investigates the relationship between economic growth and N_2O emissions for China, United States, and European Union, by considering data from 1997 to 2021. Main results show that the impact of these variables on N_2O emissions changes significantly both for the economies and for the relationship among variables. Specifically, an increase in real GDP and renewable energy consumption decreases nitrous oxide emissions in both China and the European Union that have started the transition to renewables. In contrast, an increase in government expenditure and in public debt does not affect emissions' reduction for all economies.

Keywords: Renewable energy, Economic growth, GHG emission, Panel data regression.

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