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Biomass Energy Production, Energy Imports and Economic Growth. Multivariate Panel Data Evidence for IEA-30 Countries

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Energy is considered a vital element that influences economic growth. The contemporary increase in worldwide population drives greater energy generation demand from conventional exhaustible resources. Energy generated from exhaustible resources endanger the environment and imperils economic development. However, switching to the production of renewable energies from naturally replenished resources addresses issues of global warming and climate change and further grants energy security. Also, country-based sustained economic growth is likely to trigger a surge in energy imports. Therefore, the aim of this current study is to investigate the nexus between total biomass energy production, energy imports and economic growth for International Energy Administration (IEA)-30 countries for the period of 2000-2015. Our panel fully modified and dynamic ordinary least squares regression shows a significant positive influence of total primary renewable energy production on economic growth. Thus, a percentage increase in primary renewable energy production increases Gross Domestic Product (GDP) per capita by 0.04%-0.05%. For our panel vector error correction model based causality nexus, we notice that in both the short and long-run, there exist unidirectional causality running from economic growth and energy imports to total biomass energy production which supports the conservation hypothesis. The findings indicate that economic growth and energy imports drive total biomass energy production. This study guides policymakers in formulating a conclusive energy and trade policies for sustainable economic growth.

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