

## Nexus between Energy, Environment and Economic Growth: Sectoral Analysis from Pakistan

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**Abstract :** Climate change has become a global environmental challenge and it has affected the world's economy. Its impact is widespread across all major sectors of the economy i.e. agriculture, industry, and services sectors. This study attempts to measure the long run as well as the short-run dynamic between energy; environment and economic growth by using Autoregressive Distributed Lag (ARDL) bound testing approach at aggregate as well as sectoral level. We measured the causal relationship between electricity consumption, fuel consumption, CO<sub>2</sub> emission, and real Gross Domestic Product (GDP) for the period of 1980 to 2016 for Pakistan. Our co-integration results reveal that all the variables are co-integrated at aggregate as well as at sectoral level. Electricity consumption shows two-way casual relation at for industry, services and aggregate level. The inverted U-Curve hypothesis tested the relationship between greenhouse gas emissions and per capita GDP and results supported the Environment Kuznet Curve (EKC) hypothesis. This study cannot ignore the importance of energy for economic growth but prefers to focus on renewable and green energy to pave on the trajectory of development.

**Keywords :** climate change, economic growth, energy, environment

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