

## Energy Consumption and Economic Growth Nexus: a Sustainability Understanding from the BRICS Economies

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**Abstract :** Although the exact functional relationship between energy consumption and economic growth and development remains a complex social science, there is a sustained growing of agreement among energy economists and the likes on direct or indirect role of energy use in the development process, and as sustenance for many of societal achieved socio-economic and environmental developments in any economy. According to OECD, the world economy will double by 2050 in which the two members of BRICS (Brazil, Russia, India, China and South Africa) countries: China and India lead. There is a global apprehension that if countries constituting the epicenter of the present and future economic growth follow the same trajectory as during and after Industrial Revolution, involving higher energy throughputs, especially fossil fuels, the already known and models predicted threats of climate change and global warming could be exacerbated, especially in the developing economies. The international community's challenge is how to address the trilemma of economic growth, social development, poverty eradication and stability of the ecological systems. This paper aims at providing the estimates of economic growth, energy consumption, and carbon dioxide emissions using BRICS members' panel data from 1980 to 2017. The preliminary results based on fixed effect econometric model show positive significant relationship between energy consumption and economic growth. The paper further identified a strong relationship between economic growth and CO2 emissions which suggests that the global agenda of low-carbon-led growth and development is not a straight forward achievable. The study therefore highlights the need for BRICS member states to intensify low-emissions-based production and consumption policies, increase renewables in order to avoid further deterioration of climate change impacts.

**Keywords :** BRICS, sustainability, sustainable development, energy consumption, economic growth

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