

## Accelerating Sustainable Urban Transition Through Green Technology Innovation and Clean Energy to Achieve Net Zero Emissions

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**Abstract :** Urbanization has become the focus for challenging goals relating to environmental performance, such as carbon neutrality. Green technological innovation and clean energy are considered the prominent factors in reducing emissions and achieving sustainable cities. Through the application of a fixed effect model, generalized method of moments, and quantile-on-quantile regression, this study explores the role of green technology innovation and clean energy in accelerating the sustainable urban transition towards net zero emissions in developing countries while controlling for nonrenewable energy consumption, and economic growth. The long-run results show that green technology innovation and renewable energy consumption reduce CO<sub>2</sub> emissions from urban residential buildings. In contrast, economic growth and nonrenewable energy consumption increase CO<sub>2</sub> emissions. This study proposes a consistent technique for encouraging green technological innovation and renewable energy projects in developing countries where the role of innovation in achieving carbon neutrality is still understudied.

**Keywords :** green technology innovation, renewable energy, urbanization, net zero emissions

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