ABSTRACT

This study examines the relationship between economic growth and carbon emissions in Indonesia using the Environmental Kuznets Curve (EKC) framework during the period 1990–2021. The research is motivated by Indonesia's position as a developing country whose economic growth still relies heavily on fossil-based energy, particularly coal, which may increase environmental pressure.

The empirical findings indicate that GDP per capita has a positive and statistically significant effect on carbon emissions in Indonesia, while the squared term of GDP per capita is negative and significant, supporting the existence of an inverted U-shaped relationship consistent with the Environmental Kuznets Curve hypothesis. The estimated turning point is approximately 4,177, which is higher than the maximum GDP per capita observed during the study period. This suggests that Indonesia has not yet reached the turning point of the EKC and remains in a stage where economic growth is associated with increasing emissions.

Keywords: Environmental Kuznets Curve, Carbon Emissions, Economic Growth, Coal Production, Coal Consumption, Indonesia, Time Series Analysis.