

ABSTRACT

Developing countries such as Indonesia have the ambition to carry out structural transformations in order to increase their economic growth. The structural transformation of the economy from low-productivity agriculture to high-productivity industrialization is seen as a prerequisite for achieving sustainable economic growth, but there are concerns about the impact of industrialization on the environment, especially in the context of carbon emissions and climate change.

This study aims to analyze the effect of industrialization on long-term and short-term CO₂ emissions in Indonesia, using the Vector Error Correction Model (VECM) method on time series data in Indonesia for the period 1974-2016. The variables used in this study are CO₂ emissions, carbon intensity, energy intensity, Gross Domestic Product (GDP) and industrial value added, where the CO₂ emission variable is the endogenous variable and the industrial value added variable is a proxy for industrialization. The other variables refer to the rich identity theory which describes the similarity of the relationship between human activities and the environment.

The results showed that there was a significant positive effect of carbon intensity and energy intensity on CO₂ emissions in Indonesia in the long term, while industrialization and GDP per capita did not show a significant effect. Meanwhile, industrialization has a weak significant negative effect on CO₂ emissions in the short term, furthermore other variables do not show a significant effect.

Key Word : *Industrialization, CO₂ Emissions, Structural Transformation, Vector Error Correction Model (VECM), Granger Causality Test*