ABSTRACT

Indonesia is one example of a developing country with economic growth are still rising, but the increase in economic growth is followed by an increased level of carbon dioxide emissions are also increasing every year, and this is in line with the hypothesis in the Environmental Kuznet Curve theory put forward by Simon Kuznets. The correlation between the rise in economic growth and the increase in carbon dioxide emissions in Indonesia is due to the high economic activity in Indonesia in the era of globalization which has an impact on the increased use of energy resources which are mostly still dominated by fossil fuels, and Indonesia also has problems related to not being able to fully utilize renewable energy reserves.

The purpose of this research to analyze the effect of economic openness and energy consumption on economic growth and carbon dioxide emissions, as well as see whether there is a causal relationship between variables economic growth, economic openness, energy consumption, and carbon dioxide emissions in Indonesia during the period 1971 to 2018. The method used in this research is VECM analysis and Granger Causality.

The results of the VECM analysis in this research show that in the short-run and the long-run the variable trade and energy consumption have a positive and significant effect on the variables GDP per capita and CO2 emission per capita in Indonesia. The Granger Causality analysis found a bidirectional causality between energy consumption and carbon dioxide emissions. It also found unidirectional causality between economic growth and carbon dioxide emissions.

Keywords : *Emissions, EKC, VECM, Granger Causality*

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