

ABSTRACT

This study examines the effects of GDP per capita, foreign direct investment (FDI), and population on renewable energy production in Europe. The objective is to analyze how these three factors influence the development of renewable energy as part of efforts to achieve sustainable energy growth amid global environmental challenges and international economic dynamics. This research applies a quantitative approach using panel data, combining time series and cross-section data from 30 European countries during the period 2014 to 2023. The estimation model employed is the Fixed Effect Model (FEM) with robust standard errors and validated by classical assumption testing. The results reveal that GDP per capita has a significant positive effect on renewable energy production, FDI shows a positive but insignificant effect, while population has a significant positive effect. These findings indicate that economic growth and demographic expansion drive higher demand for clean energy, thereby increasing renewable energy production capacity. However, the contribution of FDI remains insignificant since foreign capital inflows are still largely directed to sectors other than green energy. In conclusion, economic growth and demographic dynamics play a crucial role in supporting the energy transition in Europe, while FDI needs to be better targeted to make a tangible contribution to the renewable energy sector. Therefore, it is recommended that governments strengthen green investment strategies, enhance economic development quality, and expand environmentally friendly energy capacity.

Keywords: *Renewable Energy Production, GDP per Capita, Foreign Direct Investment, Population, Panel Data*

