

Renewable energy generation in ASEAN: The influence of economic factors, infrastructure, and governance quality

ABSTRACT

This paper examines the relationship between renewable energy (RE) generation, economic factors, infrastructure, and governance quality in ASEAN countries. Based on the Fixed Effects regression model on panel data spanning the years 2002–2021, results demonstrate that domestic capital investment, foreign direct investment, governance effectiveness, and crude oil price exhibit an inverse yet significant relationship with RE generation. An increase in those factors will lead to a decline in RE generation. Meanwhile, economic growth and infrastructure have a positive relationship, which implies that these factors act as stimulants for RE generation in the region. Hence, it is advisable to prioritise policies that foster economic growth, including offering tax breaks specifically for RE projects. Additionally, it's crucial to streamline governance processes to facilitate infrastructure conducive to RE generation, along with investing in RE infrastructure. This could be achieved by establishing one-stop centres for consolidating permitting processes, which would streamline the often-bureaucratic process. However, given the extensive time period covered, future research should examine the short-term relationship between the variables to address any potential temporal trends between the factors and RE generation.