

ABSTRACT

Indonesia's potential for renewable energy sources is quite large, namely 443 GW consisting of water, wind, solar, biomass/bio energy, micro/hydro, and geothermal energy sources. Currently the government is encouraging the use of renewable energy sources significantly, through various policies that have been issued such as Presidential Regulation Number 22 of 2017, where the Government has an energy mix target of 23% in 2025 and 31% in 2050. The government has also signed an international policy related to emission control, namely the Paris Agreement. Of course there is a need for research related to optimization between the utilization of renewable energy sources and the emissions produced. Utilization of renewable energy sources in operation will certainly reduce emissions (especially CO₂) compared to fossil fuel energy generators (fossil generators). However, the need for land for renewable energy sources is far greater than the land required by fossil generators. Thus the use of renewable energy sources will cause a loss of land absorption of CO₂ far greater than the loss of land absorption of CO₂ for fossil generators. There needs to be a simple application to optimize the use of renewable energy sources so as to produce the most minimal emissions. Apart from considering optimizing CO₂ emissions, there are also other types of emissions such as SO_x and so on. Involving investment considerations both in the operation and in the construction of renewable energy generators is also important in the application of renewable energy. So that we get a hybrid generator type consisting of renewable energy generators and the capacity obtained with optimal conditions. It can be seen from various aspects: emission policy, investment, and others. This simple application is very useful for both electricity providers and the government.

Keyword : Emission, Investment, Simple Application