Towards self-sufficient demand in 2030: Analysis of life-cycle cost for Indonesian energy infrastructure

Mohammed Ali Berawi, author

Abstrak

In 2015, the government of Indonesia launched the development of The 35,000 MW of power capacity. This project is required to stimulate economic growth and production in Indonesia. However, the project requires a huge financial investment, estimated to be about US$ 90.90 billion. Considering this situation, the construction of effective and efficient power plants based on energy potential in Indonesia is necessary. This research proposes alternative power plant development based on multiple linear regression and peak load analysis approaches. The results of this research show that 33% of the total power plants will be constructed in Java-Bali and the remaining 67% will be spread across Indonesia. Total energy demand in Indonesia is estimated at about 47.345 MW, with a total investment cost of about 1,813.32 trillion rupiah and operation and maintenance costs of about 289.13 trillion rupiahs per year. The research presented here also shows the use of renewable energy power plants increasing from 27% to 34% compared to the existing calculation.