

Abstract of Presentation

Presentation Title:

Develop Research on Renewable Energy to Solve Energy Problem in
Island Community of Indonesia

Abstract :

Currently, renewable energy becomes potential sources for sustainable energy. Indonesia has huge potential of renewable energy, such as hydro, geothermal, biomass, solar and energy from ocean. For energy supply in island community, it is more appropriate to use this energy sources which is locally available, rather than to import fossil fuel from outside the island. At the same time, environmental impact of energy utilization has become an issue of global concern.

At present, the situation of electricity supply in Indonesia is low and still most population does not have access to the electricity grid. Providing a national grid would be extremely complicated due to the geography of the region and the scarcity of fuel for power plants. Due to the geography constraints widely dispersed communities and concentrated in specific area as well as remote in area, the utilities have difficulties to supply electricity through a common grid. So this area of interest can be categorized as a rural electrification and remote area since electricity supply is provided separately.

Many communities have some sort of diesel-driven generator, the electricity supply is unreliable and expensive. On the other hand, to provide a national grid would be extremely complicated and costly due to the geography of the region and the scarcity of fuel for power plants. Therefore, renewable energy application for distributed power source suitable to be implemented in island community of Indonesia.

It is important to explore the potential of renewable energy options to meet the island community needs by analyzing the technical, economic and environmental assessment. In addition, there are many area for research to be proposed, such as develop renewable energy mapping for Indonesia, develop methodology for energy analysis for example using Artificial Neural Network (ANN) model to estimate solar irradiation potential, develop decision support system to identify renewable energy utilization for island community in Indonesia.

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