

## **ABSTRACT**

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*Title* : *Hybrid Power Generation Analysis PV-Genset Off Grid System*

*The need for electrical energy increases every day, one solution to meet energy needs is the utilization of new renewable energy. Kuningan Regency has considerable solar energy potential with an average annual solar energy density of 5.08 kWh/m<sup>2</sup> / day so that it has the potential for the construction of PLTS. PT Kaliaren Jaya Plywood is one of the industries located in Kuningan Regency with an energy demand of 966.021 kWh/day. This study aims to analyze the planning of hybrid power plants to meet load requirements at PT Kaliaren Jaya Plywood. The method used is the concept of hybrid generation using the HOMER application to simulate the performance of hybrid plants. Research results on HOMER simulations show the performance of hybrid plants can meet load requirements where solar power plants can meet 96.6% of load requirements and 3.4% are supplied by PLTD. The results of the analysis of the cost of electrical energy show that the hybrid generation model is 19.4% more expensive than the PLN grid.*

**Keywords:** *New Renewable Energy, Hybrid Generation, Energy Density*