

ABSTRACT

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Title : *Hybrid Power Plant Intergration Analysis in The South Tasikmalaya Beach Areaa Using The HOMER Application*

This study discusses the analysis of the Hybrid Power Plant (PLTH) system using the HOMER software in the Tasikmalaya Regency area located in Cipatujah Village. Data on electrical energy consumption was taken from the Karangnunggal GI Tasikmalaya in the southern coastal area of Tasikmalaya, namely Cipatujah Village of 20.6917 MW/day with renewable energy potential for solar radiation of 5.05 kWh/m². HOMER is the world's leading microgrid modeling software that simulates and optimizes renewable power generation systems based on calculations from the generator, namely Net Present Cost (NPC) and Cost Of Energy (COE). The results obtained by simulation using HOMER are planning for a hybrid on grid power generation system in the Coastal Coast of Cipatujah District which has potential energy that can be used as a source of electrical energy originating from solar panels and seawater wave turbines connected to the PLN network with a total production of 15.823.349-18.464.878 kWh/tahun the largest supplier is in the ocean wave power plant of the OWC system of 11,316,329-13,809,704 kWh / year.

Keywords: PLTH, HOMER, NPC, COE