STUDY DEVELOPMENT OF MICRO HYDRO POWER PLANT (MHPP) DOMPYONG 50KW IN DOMPYONG, BENDUNGAN, TRENGGALEK TO ESTABLISH ENERGY INDEPENDENT VILLAGE

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ABSTRACT

The high rate of demand for electric power is not matched by an increase in the provision of cheap electric power, adequate, and environmentally friendly. The depletion of fossil resources trigger an increase in prices of electrical energy and electrical energy crisis in Indonesia. So, we need comprehensive studies on the utilization potential of renewable energy sources as an alternative energy source. One is the potential energy of water. One of the locations that can be developed is Dompyong watershed that can be built into MHP Dompyong. MHP Dompyong planned to be built in the village of Dompyong, Bendungan, Trenggalek.

MHP Dompyong utilizing Dompyong river flow with flow rate $0.41 \text{ m}^3/\text{s}$ and head 20m produce power for 50.76kW. From the results of a feasibility financial study is obtained MHP Dompyong quite feasible with the NPV is positive in the 12th year with the lending rate by 6% and in year 16th with the lending rate of 9%, and ROR of 12:23%. MHP Development Dompyong electricity used for the purposes of shelter and treatment of cow's milk (Milk Collecting Center/MCC) in order to spur local economic growth. And assist the government in order to realize Energy Independent Village.

Keywords: renewable energy, MHP, Energy Independent Village, Milk Collecting Center (MCC)