

ABSTRACT

The energy requirements of a telecommunication devices is currently very high. PLN as electrical energy services provider firms, can not provide power supply to the devices on far areas, power consumption continuously PLN also causes high operating costs and more use of fossil fuels by PLN will shrink the earth's natural resources.

In this final project is designed windmills and solar panels as an alternative energy to the Access Point. Windmill installed on a pole with a height of 6 meters and made with scrap metal, fiber glass, and plastic maket. Windmill made with model 5 blades, so easy in turning bicycle lamp dynamo to produce DC power that will be stored in a dry battery. The solar panel installed at the bottom of the windmill, then the solar cell converts light energy into DC power based on photovoltaic phenomenon, when sunlight is absorbed surface of photovoltaic material, the electricity generated will be stored into the dry battery and battery distribute Access Point.

The result of the installation of this prototype is, the windmill can be made, solar panel and windmill can work with output after a solar charge control is 12 V then dole battery, access point works as well as getting ration at 9V with a current 0.85A, and implementation of the Rancabali Elementary School can be accomplished.

Keywords : Alternative Energy, Windmill, Solar Panel, Access Point.