

# ***DESIGN OF PROTOTYPE 20 WP SOLAR POWER PLANT FOR POWER CONSUMPTION PROTOTYPE OF METAL AND NON-METAL WASTE SEPARATE***

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## ***ABSTRACT***

*Indonesia is a tropical area that has a very large amount of sunlight which is potential for renewable energy with an average irradiation of 4.5-4.8 kWh/m<sup>2</sup>. As a renewable energy, sunlight is not polluting, will not run out but is free or free. Therefore, this energy source can be used for electricity through the Solar Power Generation (PLTS) system. PLTS utilizes sunlight to produce DC electricity, which can be converted into AC electricity through an inverter if needed, therefore even if the weather is cloudy as long as there is light, PLTS can still generate electricity. Therefore, in this study, a solar panel will be made which is used as a source of electricity from metal and non-metal automatic waste sorters. This research method uses solar panels as the main source. From the results of measurements and analysis in this study, the panel used is able to supply the load and still has a spare time of 1.25 days. Then if within one day the PV does not get sunlight, the battery capacity at 70% is able to supply the load for only 1.14 days. And the battery charging time from 30% to 100% capacity takes 4.48 days.*

***Keywords:*** *Renewable Energy, PLTS, Solar Panels*