

# ***DESIGN AND CONSTRUCTION OF PORTABLE POWER PLANTS, BASED ON PLTS, PLTB AND MANUAL SYSTEM FOR OUTDOOR ACTIVITY USERS***

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## ***ABSTRACT***

*Along with the development of the times, the need for clean and renewable energy is increasingly urgent along with increasing global awareness of the environmental impacts of fossil fuel use. Solar power plants (PLTS) and wind power plants (PLTB) are two main solutions that offer environmentally friendly alternatives. Innovations in renewable energy technology have also driven the development of portable generators that can be used in remote locations and emergency situations. Therefore, PLTS, PLTB and manual systems are types of electrical energy that are cheap, environmentally friendly and can be used as small-scale alternative energy sources. In this study, a small-scale power plant based on portable renewable energy was built which can be used as a small-scale alternative energy source for users of outdoor activities. In this study, researchers will build a Portable Power Plant Based on PLTS, PLTB and Manual Systems for people who need this portable generator to support their outdoor activities. which this tool can produce electrical energy as power consumption for low-power electronic devices such as electronic devices for charging smartphone batteries. In this test by taking data on photovoltaics, PLTB, and manual systems with a load installed of 10 watts. data collection on this generator produces an average power energy for each photovoltaic of 0.03234 watts, on the PLTB produces an average power of 0.007774 watts and the manual system produces an average power of 0.04308 watts. Based on system testing, if combined, the power results obtained by this generator can supply a battery capacity of 7.5 ah for 9 hours with each generator supplying the current that has been produced.*

*Keywords: Portable generator, PLTS, PLTB, and Manual System*