

Design of a Solar Power Plant for Public Street Lighting (PJU) in Karang Tengah Village, Jatisari Village, Tempeh District Lumajang Regency, Adytia Eko Rhomadhon, NIM H41161686,2020, Renewable Energy Engineering, Engineering ,Risse Entikaria Rachmanita, M.Si (Advisor I), Yuli Hananto, S.TP., M.Si (Examiner I), Ahmad Fahriannur.ST.,MT (Examiner II)

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ABSTRACT

The problem that occurs in Karang Tengah Hamlet, Jatisari Village, Tempeh District, Luamajang Regency is the lack of public road lighting facilities to the farmers' plantations. The lack of public facilities has an impact on the peace and comfort of people's lives. Research activities in Karang Village are being carried out to solve problems that occur in this environment. One solution to solving the problem is by improving public facilities in the form of street lights (PJU) based on solar systems. The application of solar system technology is due to the potential for solar power in Karang Tengah Hamlet, Jatisari Village, Tempeh District, Lumajang Regency, which is quite high, around 1000-1300 W/m² and also as an effort to maximize new renewable energy (EBT). The work steps include observation, planning, implementation and testing. The main components of solar system-based PJU lights are AC lamps, solar modules, Solar Charge Control and Batteries. Based on the plan, a 20 Watt AC lamp is needed, a 65 Ah-12 V battery, a 100 Wp solar module and a 10 A charge control for use for 8 hours. The final result of this research activity is that solar system based PJU lights have been able to be applied in the Karang Tengah Hamlet, Jatisari Village, Tempeh District, Lumajang Regency.

Keywords : Solar Modules, Public Street Lighting