

**Solar Power Plant System Construction for Emergency Light Battery
Charging Supply in Batu Ampar Village, Silo Sub District, Jember Regency**
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ABSTRACT

Geographical challenges and limited access to villages are often the reasons why the PLN's electricity access is difficult to reach many villages in Indonesia, especially in mountain areas and remote island areas in Indonesia. This is as experienced by the residents of RT04/RW17 Batu Ampar, Mulyorejo Village, Silo Sub District, Jember Regency. 12 houses of Batu Ampar Village residents still do not have electricity access, causing the lack of lighting facilities at night. Based on these problems, the solution to this problem is to carry out a solar power plant system construction for emergency light battery charging supply in Batu Ampar Village, Silo Sub District, Jember Regency. Solar power plant system construction using solar panels with a capacity of 100 Wp, solar charger controller mppt 60A, 100Ah battery storage, and 500 Watt inverter. The solar power plant system design is used to charge the emergency light batteries that can be used as public lighting access at night. From the research that has been done, the results of the energy consumption need per day for charging 12 emergency lamp batteries reach 208,743 Wh. Meanwhile, energy production has exceeded the energy requirement per day with total energy production from solar panels reaching 350,409 Wh.

Keywords : Batu Ampar, Emergency Lamp, Solar Panel