ECO SMART CHARGING AREA DESIGN AT JEMBER STATE POLYTECHNIC

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ABSTARCT

The innovation of Public Electric Vehicle Charging Stations (SPKLU) using a solar energy system aims to create clean energy use in Indonesia and encourage the achievement of the national energy mix in 2050. The application of Public Electric Vehicle Charging Stations (SPKLU) innovations is expected to replace dependence on fossil fuels and is expected to increase public interest in switching to electric vehicles that do not have fuel emissions. The Public Electric Vehicle Charging Station (SPKLU) innovation in this activity was presented in concept form. The method used in the embodiment of the concept and design is carried out through the literature study stage and the survey stage. ECO SMART CHARGING AREA can generate a solar energy potential of 34,650 WP or 34.65 kWp. With the amount of energy that can be generated reaching 34.65 kWp, this charging area can charge 10 units of Wuling Air EV (Standard Range) electric cars and 41 units of electric motorbikes simultaneously. This charging area has a length of 11 m and a width of 35.49 m and has an area of 130.13 m^2 built at the Jember State Polytechnic.

Key Words : energy conversion, solar panels, eco smart, charging area