

## Power Control in Solar Battery Charging Station Using Fuzzy Decision Support System

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**Abstract :** Clean and abundant renewable energy sources (RES) such as solar energy is seen as the best solution to replace conventional energy source. Unpredictable power generation is a major issue in the penetration of solar energy, as power generated is governed by the irradiance received. Controlling the power generated from solar PV (SPV) panels to battery and load is a challenging task. In this paper, power flow control from SPV to load and energy storage device (ESD) is controlled by a fuzzy decision support system (FDSS) on the availability of solar irradiation. The results show that FDSS implemented with the energy management system (EMS) is capable of managing power within the area, and if excess power is available, then shared with the neighboring area.

**Keywords :** renewable energy sources, fuzzy decision support system, solar photovoltaic, energy storage device, energy management system

**Conference Title :** ICEPES 2023 : International Conference on Electric Power and Energy Systems

**Conference Location :** Sydney, Australia

**Conference Dates :** May 11-12, 2023