

Audit Energi dan Analisis Peluang Penghematan Konsumsi Energi Listrik pada Ruang Komputer yang Menggunakan PLTS *Off-Grid* 150 Wp di SMP NEGERI 4 Tempurejo

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ABSTRACT

The utilization of electrical energy in schools is used in the teaching and learning process such as to illuminate the room, turn on the computer or mini pc, monitor and so on. The energy audit research study in the computer room of SMP Negeri 4 Tempurejo aims to analyze the energy use of the 150 Wp off-grid PLTS and identify the potential for saving electrical energy. The methods used in the research are initial energy audit and Energy Consumption Intensity (IKE) with the variables studied are room area, total electric power, and energy consumption in the computer room. The data analysis techniques used were literature studies, observations, and interviews with the Principal. Based on observations made on February 12 to 17, 2024, energy consumption in the computer room amounted to 576 Wh / day. The IKE value in the computer room is 0.05 kWh/m²/week or 0.2 kWh/m²/month with a room area of 61.16 m². The IKE standard for non-air-conditioned buildings is 0.84 - 1.67 kWh/m² / month. Therefore, with an energy consumption of 576 Wh/day, the 150 Wp off-grid PLTS is able to supply energy to the computer room and the IKE in the SMP 4 Tempurejo computer room is considered very efficient.

Keyword: Energy conservation, Energy audit, IKE, Computer room of SMP Negeri 4 Tempurejo