

**COMPARATIVE ANALYSIS OF ELECTRICAL ENERGY EFFICIENCY AT  
SDN RANUGEDANG 1 AND SD MUHAMMADIYAH 2 PENDIL**  
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**ABSTRACT**

Energy is a vital requirement in every aspect of human life. Energy management is useful in efforts to improve energy efficiency. Energy audits can help provide an overview of energy use, energy distribution, energy costs, and energy conservation in order to obtain savings measures and all feasible improvements to be implemented in increasing the efficiency of energy use. Therefore the need for energy efficiency in all lines of life, including in government, private and community institutions. An energy audit needs to be carried out at SDN Ranugedang 1 and SD Muhammadiyah 2 Pendil, this study aims to determine the lighting system, air conditioning, and energy consumption intensity. Energy consumption data is collected every day, the measurement results are converted into 1 month. Measurements taken include the lighting system, energy consumption intensity, air conditioning system. The method used in this research is quantitative method. Results The energy consumption intensity value (IKE) for SD Muhammadiyah 2 Pendil and SDN Ranugedang 1 averages <3.4, which means it is classified as very efficient when referring to the ESDM Ministerial Regulation No. 13 of 2012. The results of a comparative analysis of energy consumption intensity at SD Muhammadiyah 2 Pendil with an average value of 0.704 kWh/m<sup>2</sup> while at SDN Ranugedang 1 with an average value of 0.113 kWh/m<sup>2</sup>. The lighting standard at SDN Ranugedang 1 is still below SNI 03-6197-2000, namely 250 lux, and the average temperature is around 27.9°C. SD Muhammadiyah 2 lighting is up to standard and SDN 1 Ranugedang is not up to standard, the average temperature is around 30.24°C at SD Muhammadiyah 2 Pendil

**Keywords:** *Energy audit, Lighting, Air Conditioning, IKE, Saving Opportunities*