

**Audit Energi Listrik Untuk Sistem Pencahayaan Dan Sistem Tata Udara (Studi Kasus Laboratorium Teknik Kendaraan Ringan SMKN Senduro Kecamatan Senduro) (*Electrical Energy Audit for Lighting Systems and Air Conditioning Systems (Case Study of Light Vehicle Engineering Laboratory at Senduro Vocational School, Senduro District)*)**

**Dianes Kresna Pratama**

*Renewable Energy Engineering Study Program  
Engineering Department*

**ABSTRACT**

*This study aims to conduct an energy audit on the lighting system and air conditioning system in the Light Vehicle Engineering Laboratory of SMKN Senduro, Senduro District. The energy audit was carried out to identify potential energy savings and increase energy efficiency. The methodology used includes collecting historical data of existing systems, direct measurements in the field using temperature and humidity measuring devices as well as a luxmeter, and analysis of the obtained data. The audit results show significant opportunities for energy savings in the lighting and air conditioning systems. Several recommendations proposed include replacing conventional lamps with LED lamps, adjusting the operational time of the equipment, and implementing automation systems to optimize energy use. Implementing these recommendations is estimated to reduce electrical energy consumption by up to 20% and lower the laboratory's operational costs. This research is expected to serve as a reference for other educational institutions in energy conservation efforts and efficient use of electrical energy.*

**Keywords :** *Energy Audit, Energy Conservation, Energy Efficiency, Lighting System, Air Conditioning System*