

***ELECTRICAL ENERGY AUDIT OF KOTA CINEMA MALL BUILDING
KALIWATES SUB-DISTRICT, JEMBER REGENCY***

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ABSTRACT

The increase in electricity consumption in Indonesia continues to rise, yet energy conservation efforts are still not optimally implemented, leading to potential energy waste and an energy crisis. Energy audits are necessary to evaluate energy use efficiency and provide recommendations for energy savings. This study was conducted at Kota Cinema Mall Jember, a commercial building with an average electricity consumption of 25,772 kWh per month. The research used a mixed-methods approach through observation, interviews, and data collection and analysis related to electricity usage. The results showed that the average Energy Consumption Intensity (ECI) was 7.77 kWh/m²/month, which is considered highly efficient for commercial buildings. Based on lighting measurements, daytime lighting was very good due to abundant and efficient natural lighting; however, nighttime lighting levels in several areas were still below the national standard. Temperature and humidity in air-conditioned rooms were generally cool and comfortable, except in the lobby and office areas, which did not meet thermal comfort standards. The audit also revealed potential electrical hazards such as exposed cables and unprotected sockets in outdoor areas. Based on these findings, it is recommended to implement energy-saving strategies starting from no-cost, low-cost, to high-cost measures to enhance building efficiency and occupant safety.

Keywords: *energy audit, energy efficiency, ECI value, energy saving opportunities, Kota Cinema Mall Jember*