

**Audit dan Analisis Peluang Penghematan Energi di Gedung Jurusan  
Produksi Pertanian Politeknik Negeri Jember**  
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***ABSTRACT***

*The use of electrical energy in educational buildings is often poorly controlled, causing waste and high operational costs. This study aims to audit and analyze energy saving opportunities in the Jember State Polytechnic Agricultural Production Department Building with a focus on lighting and air conditioning systems. The method used was an initial energy audit with measurements of electrical power consumption, lighting, and air conditioning conditions to determine the efficiency of the energy used. The results showed that the actual Energy Consumption Intensity (ECI) value of this building was 3.4 kWh/m<sup>2</sup>/month and the theoretical value was 7.3 kWh/m<sup>2</sup>/month, both of which were still classified as very efficient. However, several rooms were found to have substandard lighting due to the lack of natural lighting and sub-optimal use of lamps. In addition, the air-conditioning system showed an imbalance between the installed air-conditioning capacity and the actual demand, which could lead to energy wastage. Energy saving opportunities that can be implemented include optimizing lighting by adding broken lamps and replacing curtains with window blinds, as well as regular maintenance of air conditioners and setting the temperature as needed. The conclusion of this study shows that although the building's energy consumption is already efficient, there are still steps that can be taken to further improve efficiency to reduce electricity consumption and operating costs.*

**Keyword:** *Energy Audit, IKE, Energy Consumption Evaluation*