

## **ABSTRACT**

*The phenomenon of global warming and its increasingly widespread environmental damage can be readily observed. Global warming is primarily caused by human activities, the increase of population, as well as technological and industrial growth. In particular, the world of construction should be concern of the various environmental factors in every stage of development. Construction of environmentally-friendly buildings, known as Green Building, reduces the negative impact of buildings. Standards of these constructions in Indonesia, summarized in Greenship, is legislated by the Green Building Council Indonesia (GBCI) to certify construction of Green Buildings in Indonesia. This study discusses the efficiency of electrical energy in office buildings. In particular, design analysis of building cover using Overall Thermal Transfer Value (OTTV) calculation and measuring Energy Consumption Intensity (ECI) in green building and conventional. The data analysis produced an OTTV value smaller than a conventional building, and below the standard of SNI 03-6389-2011. Calculation of ECI also shows that green buildings are 16% more efficient compared to conventional buildings, and smaller than the standard value of 20%. In conclusion, our case studies demonstrated that green building is more energy-efficient than conventional buildings.*

*Keywords: global warming, green building, conventional building, energy efficiency*