ABSTRAK

Cahyo Kuncoro Suni Pratomo, Analisis Efisiensi Penggunaan Energi Listrik Di Gedung Kampus 2 Universitas PGRI Madiun. Skripsi, Program Studi Teknik Elektro, Fakultas Teknik, Universitas PGRI Madiun. Pembimbing (1) Irna Tri Yuniahastuti, S.Pd., M.T. (2) Bayu Fandidarma, S.T., M.T.

Penelitian ini bertujuan menganalisis efisiensi penggunaan energi listrik di Gedung Kampus 2 Universitas PGRI Madiun. Metode yang digunakan adalah studi estimasi dengan memanfaatkan data teknis peralatan listrik, luas bangunan, serta pola operasional gedung. Tingkat efisiensi energi dievaluasi menggunakan indikator Intensitas Konsumsi Energi (IKE) dan dibandingkan dengan standar Permen ESDM No. 13 Tahun 2012. Berdasarkan hasil analisis, nilai IKE ruangan ber-AC pada gedung Kampus 2 Universitas PGRI Madiun berada pada rentang 6,36–22,54 kWh/m²/bulan, dengan variasi nilai pada lantai 1 sebesar 6,36–22,54 kWh/m²/bulan, lantai 2 sebesar 6,36–16,87 kWh/m²/bulan, dan lantai 3 sebesar 10,58–12,59 kWh/m²/bulan.Sementara itu, nilai IKE ruangan tidak ber-AC relatif lebih rendah, yaitu berada pada rentang 0,18–3,75 kWh/m²/bulan di seluruh lantai, dengan lantai 1 sebesar 0,24–3,75 kWh/m²/bulan, lantai 2 sebesar 0,18–3,75 kWh/m²/bulan, dan lantai 3 sebesar 0,18–3,75 kWh/m²/bulan.

Kata kunci: efisiensi energi, energi listrik, IKE.

ABSTRACT

Cahyo Kuncoro Suni Pratomo, Analysis of Electrical Energy Usage Efficiency in Campus 2 Building, PGRI Madiun University. Undergraduate Thesis, Electrical Engineering Study Program, Faculty of Engineering, Universitas PGRI Madiun. Supervisor (1) Irna Tri Yuniahastuti, S.Pd., M.T. (2) Bayu Fandidarma, S.T., M.T.

This study aims to analyze the efficiency of electrical energy use in the Campus 2 Building of Universitas PGRI Madiun. The method used is an estimation study utilizing technical data on electrical equipment, building area, and building operational patterns. The energy efficiency level is evaluated using the Energy Consumption Intensity (IKE) indicator and compared with the standards of the Minister of Energy and Mineral Resources Regulation No. 13 of 2012. Based on the analysis results, the IKE value of air-conditioned rooms in the Campus 2 building of PGRI Madiun University is in the range of 6.36–22.54 kWh/m²/month, with variations in values on the 1st floor of 6.36–22.54 kWh/m²/month, the 2nd floor of 6.36–16.87 kWh/m²/month, and the 3rd floor of 10.58–12.59 kWh/m²/month. Meanwhile, the IKE value of non-air-conditioned rooms is relatively lower, namely in the range of 0.18–3.75 kWh/m²/month on all floors, with the 1st floor of 0.24–3.75 kWh/m²/month, the 2nd floor of 0.18–3.75 kWh/m²/month, and the 3rd floor of 0.18–3.75 kWh/m²/month.

Keywords: *energy efficiency, electrical energy, ECI.*