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**Judul** : **AUDIT ENERGI GEDUNG G KAMPUS  
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### **ABSTRAK**

Audit energi tiga tahap (singkat, awal, rinci) pada Gedung G ITI mengacu SNI 6196:2011 mengidentifikasi pemborosan dan peluang efisiensi energi. Audit singkat menunjukkan IKE seluruh kampus 5,59 kWh/m<sup>2</sup>/bulan (sangat efisien). Audit awal dengan Tuya Smart Energy Meter menghasilkan IKE Gedung G 6,32 kWh/m<sup>2</sup>/bulan. Audit rinci mengungkap 86,4% ruangan under-lit (pencahayaan 24–61% dari SNI 6197:2020) dan COP AC rata-rata 2,22–2,84 jauh di bawah SNI 6390:2020 (4,20). IKE audit rinci 6,79 kWh/m<sup>2</sup>/bulan mengonfirmasi inefisiensi. Rekomendasi PHE diutamakan pada tindakan tanpa biaya (2–5%; Rp2,5–5,0 juta/tahun), biaya rendah melalui perawatan AC (7%; Rp7,5 juta/tahun), dan biaya tinggi melalui penggantian AC dan konversi LED (88–91%; Rp95,9 juta/tahun). Total potensi penghematan Rp105,9–108,4 juta/tahun dengan investasi Rp108,1 juta dan payback period ±11 bulan, mendukung Net Zero Emission 2060.

**Kata kunci** : Audit Energi, IKE, COP, Efisiensi Energi, Gedung G ITI

### **ABSTRACT**

*A three-stage energy audit (walk-through, preliminary, detailed) on Building G of Institut Teknologi Indonesia, based on SNI 6196:2011, identified energy waste and efficiency opportunities. The walk-through audit showed campus-wide EUI of 5.59 kWh/m<sup>2</sup>/month (very efficient). Preliminary audit using Tuya Smart Energy Meter gave Building G EUI of 6.32 kWh/m<sup>2</sup>/month. Detailed audit revealed 86.4% rooms under-lit (illumination 24–61% of SNI 6197:2020) and average AC COP of 2.22–2.84, far below SNI 6390:2020 (4.20). Detailed audit EUI of 6.79 kWh/m<sup>2</sup>/month confirmed inefficiency. Proposed Energy Saving Opportunities prioritize no-cost measures (2–5%; IDR 2.5–5.0 million/year), low-cost AC maintenance (7%; IDR 7.5 million/year), and high-cost AC replacement and LED conversion (88–91%; IDR 95.9 million/year). Total savings potential is IDR 105.9–108.4 million/year with IDR 108.1 million investment and ±11 months payback, supporting Net Zero Emission 2060.*

**Keywords** : Energy Audit, EUI, COP, Energy Efficiency, Building G ITI