Title: Energy Efficiency Assessment of Educational Institutions in Bangladesh

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Abstract: Efficient use of energy and its saving is essential to balance the energy demand-supply scenario as well as sustainable development of a country. In this paper, energy audit is used to assess energy management system of a commercial building housing a Department of a University in Dhaka city. The various components of the building such as building envelop, energy use profile, electrical appliances for example, air conditioning system, lighting system have been analyzed. It has been found that air conditioning system consumes 58.34% of total power supply while lighting system represents only 2.34%. Considering the functionality of air conditioning and lighting system in the building, targeted energy audits had been carried out on them. The potential energy savings and cost-benefit are calculated and evaluated for proposed interventions in the systems. Result shows that 38.61% and 68.61% energy could be saved from lighting and air conditioning system respectively with payback period of 2.1 years for lighting system and 8 years for air conditioning system.

Key words: Air conditioning , Energy consumption , Visualization , Buildings , Urban areas , Lighting , Energy measurement

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