

## Energy Consumption and Energy Conservation Potential for HVAC System in Commercial Buildings Sector in India

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**Abstract :** In order to reduce energy consumption for sustainable development, continuous energy consumption tracking of building energy systems are essential. In this paper an assessment study has been done to identify the energy consumption & energy conservation potential for commercial buildings sector in Karnataka state, India. There are a total of 326 commercial buildings in the state of Karnataka who has qualified as designated consumers (i.e., having a Contract Demand  $\geq$  600 KVA), was consider for the study. It has estimated that the annual electricity sale to commercial sector is 3.62 Billion Units (BU) in alone Karnataka State, India, which is an account for 9.57 % of the total electricity sold. The commercial sector constitutes Government & private establishments, hospitals, hotels, restaurants, educational institutions, malls etc. Total 326 commercial buildings in the state accounting for annual energy consumption of 1295.72 Million Units (MU) which works out to about 35% of the sectoral consumption. The annual energy savings potential for 326 commercial buildings is assessed to be 0.25 BU.

**Keywords :** commercial buildings, connected load, energy conservation studies, energy savings, energy efficiency, energy conservation strategy, energy efficiency, thermal energy, HVAC system

**Conference Title :** ICEER 2015 : International Conference on Energy and Environment Research

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** July 29-30, 2015