

## ABSTRACT

Energy audit is the key to systematic approach in decision making in the areas of energy management. It attempts to balance the energy input with its use and serves to in all the energy streams in the facility. It quantifies energy uses according to its discrete function.

The main objective of the investigation is to find out various energy conservation opportunities (ECOs) lying unnoticed in selected industries and in buildings of various types. For this purpose, Lakwa thermal Power station is chosen. It is endeavored to draw a complete picture of the inside scenario and to find out various ECOs of the industries. Energy consumption data, process and equipment details have been collected from energy bill, log sheet, name plate and using different measuring instruments and analysis has been carried out. The analysis has revealed value facts.

LTPS consumes substantial energy both fuel and electricity. This study reveals that the Auxiliary Consumption of LTPS is very high which make a huge loss in total generation. They can reduce this consumption by proper instrumentation and with full awareness. This Study identifies number of energy conservation opportunities in LTPS and suggests various possible measures including cost benefit analysis.

In the second phase we have selected two different types of buildings, One is a shopping mall with contract demand of 750KVA which can be considered as a designated consumer according to EC act 2001 and the other is the DC court building of Nagaon with connected load of only 14 KW a government sector establishment. The study come with some conservation measures with cost benefit analysis for both the facilities but give importance to general awareness and training among the working staff of both the establishments.