

ENERGY AUDIT OF IIT-BOMBAY CAMPUS

Draft Final Report

**Ist Year M.Tech Students of the
Department of Energy Science and Engineering**



**INDIAN INSTITUTE OF TECHNOLOGY – BOMBAY
POWAI, MUMBAI – 400 076.**

This report has been prepared by:

**Chikku Abraham (T.A. for the project)
Mel George
Victor Jose
and Sharath Deshpande**

**with the support and cooperation of the following students of the Department of
Energy Science and Engineering.**

**Manoj Kumar
Mahendra Rane
Ms. Debasmita Panda
Ms. Ragini Agarwal
B. Kiran Kumar
Hrushikesh Patade
Hardik Patel
A. Senthil Kumar
Ms. Harathi Nanda
Deepak Yadav
Chinmay Kinjavdekar
Anand Upadhyay
Yajnavalkya K. Nookala
Ravindra Narkhede
S. Nagaraja Rao
Anoop S.
Prasad Wani
Kalpesh Karnik
Shiva Kumar
D. Surendranath
Vineet P.
Ms. Riddhi Panse
Vikrant Bhalerao**

**under the guidance of
Prof. Rangan Banerjee**

as a part of the course work for the subject EN 607: Energy Management

4. MEASUREMENTS PERFORMED

Data obtained based on measurements are included in this chapter.

4.1 Room air conditioners

A commercially available energy saver for room ACs was procured and measurements were carried out for over 60 hrs, with and without the saver, for a typical 1.5 ton Voltas Vertis AC in the DESE Urja Computational Lab from 7th- 12th May, 2008.

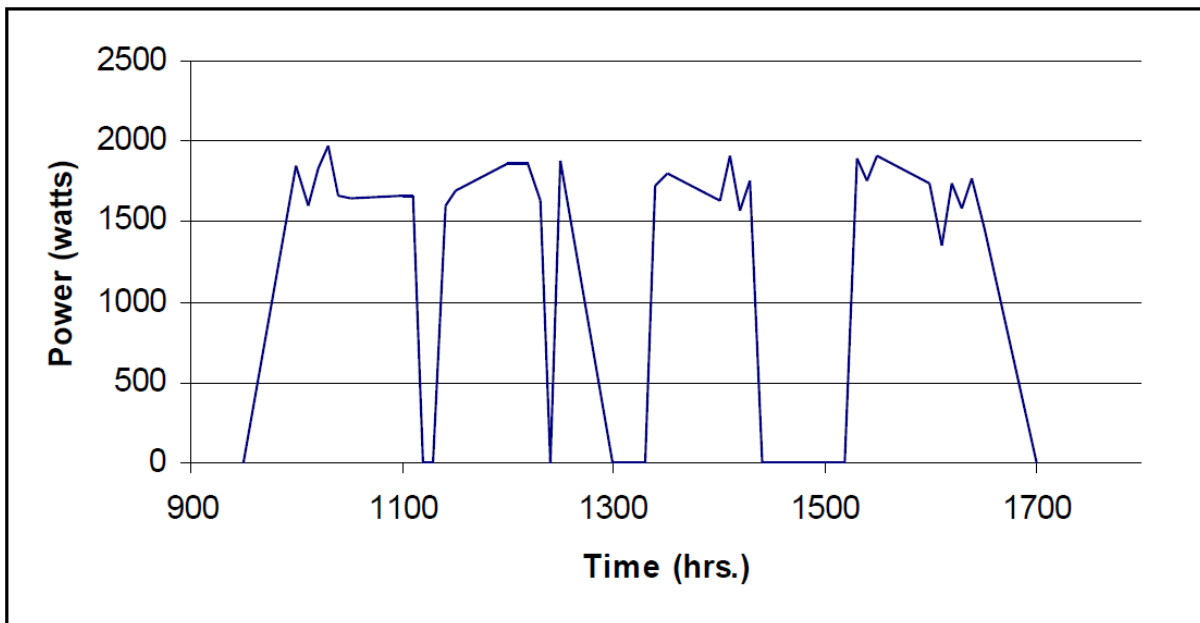


Fig. 4.1 AC Load curve for the day without the energy saver for ACs (on 12th May, 2008)

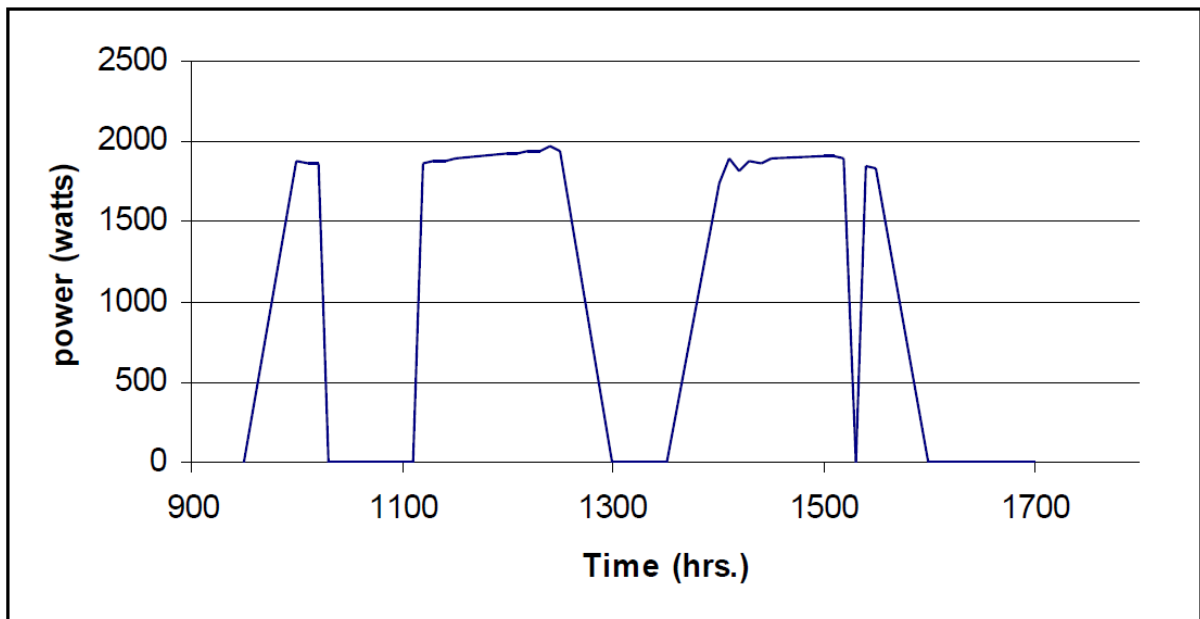


Fig. 4.2 AC Load curve for the day with the energy saver for ACs (on 7th May, 2008)

These measurements are purely from a study point of view and are applicable only in the specific context. They should not be construed as an endorsement of the merits or deficiencies of the said product(s) by IIT-Bombay.

Table 4.1 Energy savings achieved by installation of energy saver for a 1.5 ton AC

Time hrs.	Energy consumed without saver (in Watt hrs.)	Energy consumed with saver installed(in Watt hrs.)	% savings
1000-1110	2532	1368	46
1140-1230	1886	1086	42.4
1250-1310	372	334	10.2
1340-1430	1900	1050	44.7
1530-1650	1650	1544	41.7
Whole working day (7.5 hrs)	14880	8887	40.3

Thus savings of the order of 35-40% was seen when the energy saver was fitted.