INDIRA GANDHI GOVT. COLLEGE PANDARIA,
DISTT. – KABIRDHAM (C.G.)

ENERGY AUDIT ANNUAL REPORT

2024

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Energy Audit Assessment Team

(Internal Auditors)

- Mr. Madhusudan Singh Rajput (Asst. Proff) Department of Sociology
- Mr. Dinesh Kumar Kashyap (Asst. Proff) Department of History
- Mr. Omprakash Dewangan (Asst. proff) Department of Mathematics
- Mr. Chitrasen Thakur (Asst. proff) Department of Botany
- Mr. Bhola Ram Dhritlahre (Asst. proff) Department of Chemistry
- Mrs. Madhuri Ratna Bhaskar (Asst. proff) Department of Zoology

(External Auditors)

Mr. Dilip Thakur
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Junior Engineer
C.S.P.D.C.L. Pandariya

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(External Auditors)

Manish Agrawal (A.E)

CSPDCL

Acknowledgement

The Energy Assessment Audit Team of Indira Gandhi Government College, Pandaria is very thankful to Principal Dr. B.S.Chauhan, IQAC Coordinator for motivating us to prepare the Annual Energy Audit for Evaluation of Electrical Instruments, Bills,Safety& Conservation of Electricity of an Institution via Audit Report.

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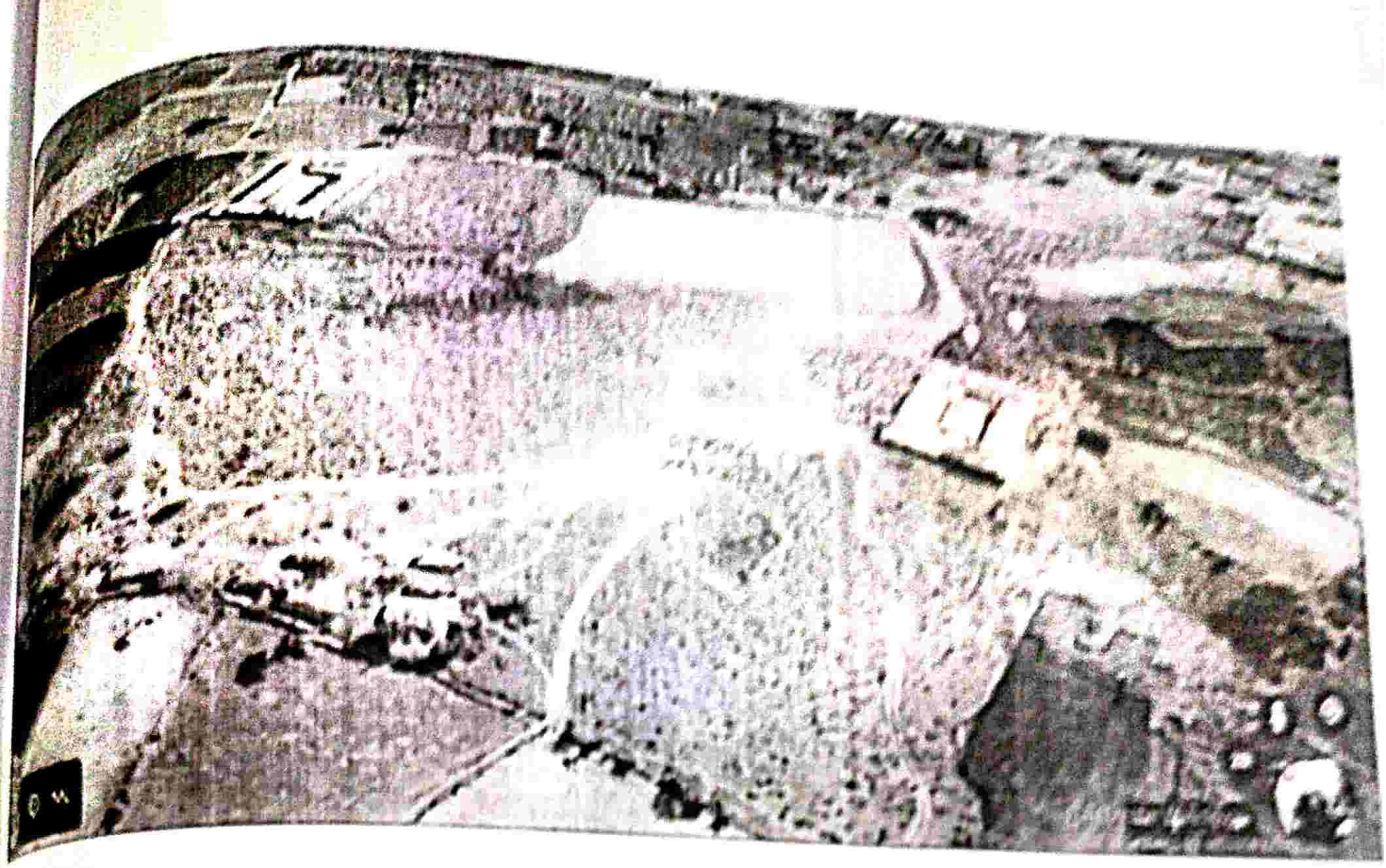
Introduction

The 'Energy audit' aims to be a technique used to establish the pattern of energy use, and identifies the areas where energy can be saved or where energy can be used judiciously.

An energy audit consists of a detailed examination of how a facility uses energy, what the facility pays for that energy, and finally, a recommended program for changes in operating practices or energy-consuming equipment that will effectively save on energy bills.

About our College

Indira Gandhi Government College, Pandaria is an emerging college in Kabirdham District of Chhattisgarh. It was established in 1984 and enlightened the student fraternity of Pandariya and nearby villages. The most respected first Principal, Dr. V. B. Choudhary gave special attention to college. The college has touched new heights by making its goal meaningful. The college was established in 1984, when the college had a system of study in the arts faculty till graduation. Started 37 years ago with about 100 students, the college is today imparting education to about 1500 students. Earlier, the college was being run in an additional room of the basic primary school, Pandaria, which is today operating from its own 15 acre building in Village-Rauha (Pandaria). In this college, from the academic session 1984 to 2008 only B.A. Classes of the Faculty of Arts continued to be conducted. In the education session 2008-09, B.Sc. and B.Com. Classes were started under public participation and from the session 2010-11, MA in Sociology M.Com Begins in 2019 Session, History and Hindi literature classes are conducted under the state government. Today, the study-teaching work of all the faculties of the college is being done continuously.



Geographical location of Indira Gandhi Government College, PandariyaDistt.- Kabirdham (A/C To Google earth)

Objectives

The main objectives of carrying out the Energy Audit are:-
The primary objectives of an energy audit are to identify and evaluate opportunities to reduce energy consumption per unit of product output and reduce operating costs through energy conservation and planning.

The energy audit provides a "bench- mark" for managing energy in the organization and also provides the basis for planning a more effective use of energy throughout the organization.

ELECTRICITY INSTRUMENT USED IN AN INSTITUTION

S. N.	Room No.	LIGHT			FANS		COMPUTER	PRINTER	UPS	AC	PROJECTOR	OTHER INSTRUMENTS
		TUBELIGHT	CFL	LEDLIGHT	CELLING FAN	WALL FAN						
1.	PHYSICS LAB	5	2	0	2	1	1	1	1	0	0	0
2.	ACCOUNT SEC.	3	1	0	1	2	0	1	0	0	0	REFRIGERATOR 1, COOLAR 1
3.	BOTANY/ZOOLOGY LAB	6	3	0	4	1	1	1	0	0	1	REFRIGERATOR 1,
4.	CHEMISTRY LAB	7	3	0	4	1	0	0	0	0	0	0
5.	GEOGRAPHY LAB	6	2	0	4	0	0	0	0	0	0	0
6.	ROOM No. 01	5	0	0	4	0	0	0	0	0	0	0
7.	ROOM NO. 02	4	0	0	4	0	0	0	0	0	0	0
8.	ROOM NO. 03	2	0	0	2	0	0	0	0	0	0	0
9.	ROOM NO. 05	4	0	0	2	0	0	0	0	0	0	0
10.	ROOM NO. 06	6	0	0	6	0	0	0	0	0	0	0
11.	BARAMADA NO. 01	0	4	0	3	0	0	0	0	0	0	0
12.	BARAMADA NO. 02	0	2	0	3	0	0	0	0	0	0	0
13.	BARAMADA NO. 03	0	3	0	2	0	0	0	0	0	0	0
14.	BARAMADA NO. 04	1	2	0	1	0	0	0	0	0	0	WATER COOLAR 1
15.	PRINCIPAL ROOM	5	1	0	3	4	0	0	0	0	0	REFRIGERATOR 1, TV 2
16.	PRINCIPAL WASH ROOM	0	0	0	0	0	0	0	0	0	0	0
17.	STAAF ROOM	7	1	0	4	2	1	1	1	0	0	COOLAR 1
18.	STAAF WASH ROOM	0	1	0	0	1	0	0	0	0	0	0
19.	OFFICE	4	0	0	2	2	2	1	1	0	0	0
20.	BARAMADA NO. 05	2	0	0	0	2	0	0	0	0	0	0
21.	LIBRARY	8	0	0	4	1	1	1	0	0	0	0
22.	COUTYARD	0	0	3	0	0	0	0	0	0	0	0
23.	HELP DESK	1	0	0	0	2	0	0	0	0	0	0
24.	MAIN DOOR	1	0	0	1	0	0	0	0	0	0	0
25.	SPORT ROOM	2	0	0	2	0	0	0	0	0	0	0
26.	ROOM NO. 04	2	0	0	2	0	0	0	0	0	0	0
27.	BOYS TOILET	1	0	0	0	0	0	0	0	0	0	PAD MACHIN
28.	GIRLS COMMAN	0	1	0	0	0	0	0	0	0	0	

	ROOM											
29.	COLLEGE CAMPUS OUTER SIDE	0	6	0	0	0	0	0	0	0	0	0

Electricity Bill Analysis

ELECTRICITY BILLS FOR ACADEMIC YEAR 2023-24

Month	Current Reading	Previous Reading	Consum-ption	Energy Charge	Fixed charge	Meter Rent	FCA	Previous Arrears	Surcharge	Net Bill
[illegible]	41333	40188	1145	15532.55	1440	35	545.6	241359.9	13727.2	272640
[illegible]	40188	39690	498	5391	720	35	617.02	234596.5	10106.8	251470
[illegible]	39690	38900	790	9209.25	720	35	666.39	223965.9	6587.82	241180
Dec-23	38900	38000	900	10577.5	720	35	187.59	212006.8	3667.38	227190
Nov-23	38000	37757	243	2664.65	960	35	2302.37	238530.1	17953.6	262450
Oct-23	37757	36207	1550	22331.58	2160	35	1694.45	212309.2	14375.7	252910
Sep-23	36207	34971	1236	16435	1200	35	2320.47	192318.7	11191.1	223500
Aug-23	34971	33340	1631	22507	1440	35	2773.49	165563.2	8306.27	200620
Jul-23	33340	31645	1695	24265.05	1920	35	1403.05	137940.1	5822.82	171390
Jun-23	31645	30803	842	9859.75	720	35	1326.97	125998.4	3753.72	141090
May-23	30803	29716	1087	12895.75	720	35	695.28	111652.4	1863.74	127860
Apr-23	29716	28680	1036	13118.5	960	35	712.94	109422.9	7403.01	131650
									TOTAL	250550

Recommendations

According to the energy auditors we can easily save between 5 and 10% of their energy consumption (and costs) by changing our behavior such as switching electrical equipment off at the mains rather than leaving it on stand-by, turning off lights when they're not being used.

Today's major appliances don't hog energy the way older models do because they must meet minimum federal energy efficiency standards. These standards have been tightened over the years, so any new appliance you buy today has to use less energy than the model you're replacing.

Lighting

- Get into the habit of turning lights off when you leave a room. Saving Energy 0.5 %
- Use task lighting (table and desktop lamps) instead of room lighting
- The ordinary regulator would take 20 watts extra at low speed.
- The energy loss can be compensated by using electronic regulator.
- Buy efficient electric appliances:
- They use two to 10 times less electricity for the same functionality, and are mostly higher quality products that last longer than the less efficient ones. In short, efficient appliances save you lots of energy and money.
- In many countries, efficiency rating labels are mandatory on most appliances. Look Energy Star label is used.
- The label gives you information on the annual electricity consumption. In the paragraphs below, we provide some indication

of the consumption of the most efficient appliances to use as a rough guide when shopping. Lists of brands and models and where to find them are country-specific and so cannot be listed here.

Average consumption of electric appliances in different regions in the world, compared with the high efficient models on the market.

Educate everyone in the home, including children and domestic helpers.

CONCLUSION

An energy audit is a tool, which is the start of every activity to improve energy efficiency. Under the concept of an energy audit, many activities actually take place – from simple analyses of energy consumption, which are implemented within expert groups in organizations, to comprehensive energy audits, which enable the creation of a quality mid-term energy strategy.

If a comprehensive review of possibilities for energy consumption optimization isn't implemented, some opportunities are lost, which is evident in higher energy costs Based on good cooperation with expert groups within organizations, we can identify and also implement simpler measures that don't require higher investments.

Within the energy audit, we create a plan, which proposes possible organizational and investment measures and also enables systematic achievement of savings. With every measure, the level and return of investment and a sensible priority of measure implementation are determined alongside energy and cost savings.

Recorded energy cost savings, which fluctuate between 5 and 15 percent of total energy cost in organizations, depend on multiple factors. These factors are mostly energy complexity of organizations, existing energy use control and organizational and expert qualifications of responsible persons.