

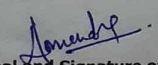
ENERGY AUDIT

The Energy audit has been conducted in the APSGMNS government P.G. College, Kawardha as per the report submitted by them. We have audited the campus and verified it physically and with the voucher available.

Department	Fan	LED Tubelight	CFL Tube light	A.C.	Fridge	Computer	Printer	Scan-ner	Xerox Machine	Proje-ctor	Borewell Motor
Principal Office	5	5	-	2	1	1	1	1	-	-	-
Physics Lab.	6	5	3	-	-	1	1	-	-	-	-
Zoology Lab.	4	4	1	-	-	-	-	-	-	-	-
Botany Lab.	6	6	-	-	-	-	-	-	-	-	-
Chemistry Lab	4	4	-	-	-	-	1	-	-	-	-
Office	8	-	10	-	-	4	5	-	-	-	1
Computer Lab.	8	5	1	2	-	50	1	-	-	-	-
Exam.Dept.	6	-	4	2	-	-	-	-	1	-	-
Staff Room	4	-	3	2	-	-	-	-	-	-	-
Library	22	5	13	5	-	1	-	-	-	-	-
Classroom	118	-	100	-	--	--	-	-	-	-	-
YCMOU/NAAC	3	-	2	2	-	-	-	-	-	--	-
Sport	2	-	1	1	-	-	-	-	-	-	-
HOD Office	4	-	7	1	-	-	-	-	-	-	-
Smart Classroom	4	6	-	-	-	-	-	-	-	-	-
Guest house	6	6	6	--	-	-	-	-	-	-	-
Commerce day care center	6	-	7	-	-	-	-	-	-	-	-
IT Lab	4	6	-	-	-	35	-	1	-	1	-
Washroom	4	20	-	-	-	-	-	-	-	-	-
Total Quantity	224	72	158	17	1	92	9	2	1	1	1

Electricity generation through Renewable sources:

Total power requirement	Power requirement met by renewable energy sources	Renewable energy source	Renewable energy generated and used
1892.55KW	360 unit/month	Solar panel	360 unit/month


 Seal and Signature of the
Sub-Engineer
CREDA
 D.O.-Kabirdham (C.G.)

Energy Audit Report

A.P.S.G.M.N.S PG COLLEGE KAWARDHA

Submitted
to

Principal,
A.P.S.G.M.N.S PG COLLEGE KAWARDHA

By

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Guest Faculties of Department of Physics,

A.P.S.G.M.N.S PG COLLEGE KAWARDHA

Preface

Data collection for energy audit of the **A.P.S.G.M.N.S PG COLLEGE KAWARDHA** Campus was conceded by team for the period of 1 Jan 2020 to 1 Jan 2021. This audit was over sighted to inquire about convenience to progress the energy competence of the campus. To drop of energy utilization whilst cultivate or humanizing comfort, health and safety were of prime anxiety. This audit required to recognize the mainly energy proficient appliances. Besides, several each day processes concerning common appliances have been provided which facilitate sinking the energy expenditure. The energy audit survey was completed by Dept. of Physics. All data collected from each classroom, laboratory, every room. The work is completed by considering, how much tubes, fan, A.Cs, electronic instruments, etc in each room. How much was participation of each component in total electricity consumption.

Acknowledgement

Head Department of Physics **A.P.S.G.M.N.S PG COLLEGE KAWARDHA** is very much thankful to Principal Dr B.S.Chauhan, IQAC coordinator NAAC for motivating us for energy audit

Energy Audit Report of A.P.S.G.M.N.S PG COLLEGE KAWARDHA

Introduction:

A nation is tiring to advance in quantity and quality to the spread of education among the common India and development of their intelligence. In India the entire field of education and other fields of intelligent activities had been monopolized by a handful of men before independence. But today we are marching towards the desirable status of a developed nation with fast strides. But the development should be a sustained one. For achieving such an interminable development energy management is essential . As far as concerning electricity crisis, we are facing lack of electricity during office work. So, institutional management is taking design regarding production of electricity and saving electricity for eco- social aspect. Energy requirement of India is growing and incomplete domestic fossil fuel treasury. The country has motivated strategy to enlarge its renewable energy resources and policy to establish the nuclear power plants. India increases the involvement of nuclear power to largely electrical energy development facility from 4.2% to 9%. India's industrial demand accounted for 35% of electrical power requirement, domestic household use accounted for 28%, agriculture 21%, commercial 9%, and public lighting and other miscellaneous applications accounted for the rest. Energy conservation means reduction in energy consumption without making any sacrifice of quantity. A successful energy management program begins with energy conservation; it will lead to adequate rating of equipment's, using high efficiency equipment and change of habits which causes enormous wastages of energy . By observing all these study lack of electricity and huge electricity demands. It is necessary to plan to being self-sufficient in electricity requirement.

In the present study, college electricity audit has been done. In this study considered practical laboratory, instrument, Fans, air conditioners, Computers etc are considered in this study. We have studied total budget of the college, total economic investment of college on the electricity.

and total generation electricity from the solar panel hybrid electricity generation unit. Also, we have studied total saving of electricity and money from solar panel generation and requirement of solar energy. Also, it is studied that exact contribution of bulb, fans, computer, instruments etc in the total requirement of electricity. We studied all these mentioned things by collecting exactly data from survey.

Total Quantity	224	72	158	17	01	92	09	02	01	01	01
Total Power Consume in '1' hours(Watt)	290	37	80	6052	2000	828	230	30	1000	70	2000
Total Power Consume in '5' hours(Watt)	1450	185	400	30260	10000	4140	1150	150	5000	350	10000
consumption in month(Watt)	43500	5550	12000	907800	300000	124200	34500	4500	150000	10500	300000
Total Power Requirement of All Instrument=1892.55 KW in Month											

Power Consumption of Electricity Board

Sr.No.	Month	Consumption Unit(KW)
1	JAN 2020	1695
2	FEB 20	1499
3	MARCH 20	1198
4	APR 20	835
5	MAY 20	684
6	JUNE 20	988
7	JUL 20	680
8	AUG-20	550
9	SEP-20	722
10	OCT-20	692
11	NOV-20	374
12	DEC-20	1535
13	JAN 21	1471
Total Power Consumption in Yearly		12,923KW
Average Power Consumption in Monthly		1076KW

Graphically Representation of Electricity Distribution

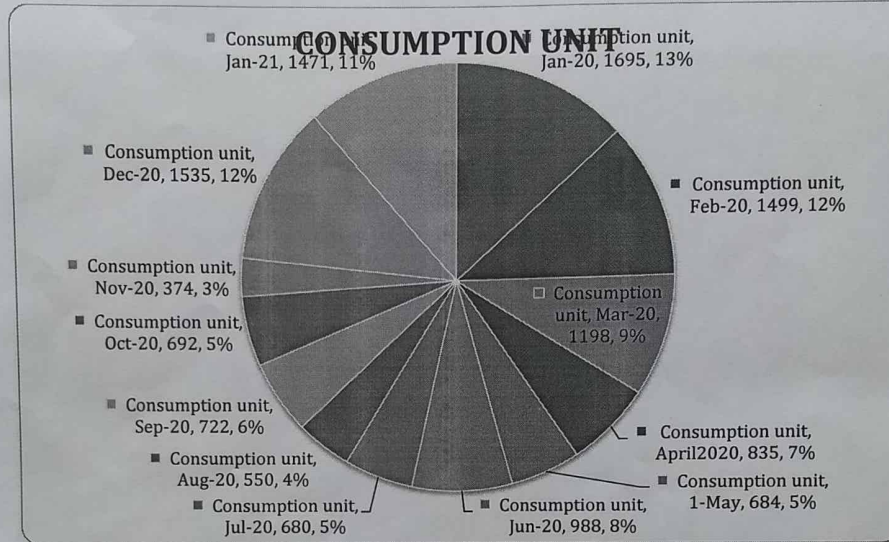


Fig. Contribution of tube light, fan, computer, printer, AC and instrument in total use of energy by Graphical Representation

Total requirement of electricity, generation of electricity using renewable energy sources:-

Power requirement met by renewable energy sources	Total power requirement	Renewable energy source	Renewable energy generated and used
1892.55KW	360 unit/month	Solar panel	360 unit/month

Photograph of Renewable Energy Sources

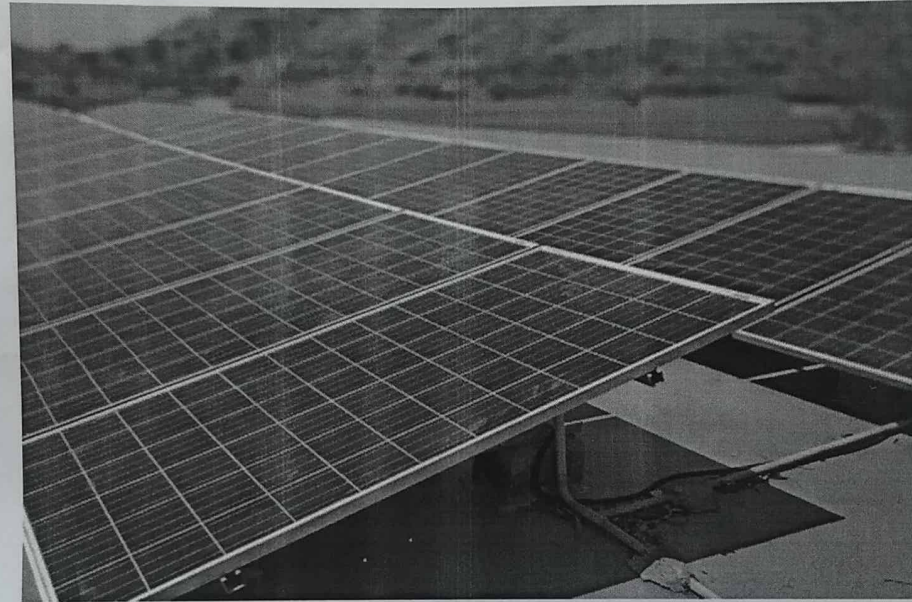


Fig- Solar Energy Generation system.

The energy generation devices contain a solar panel . The hybrid energy generation device generates 12 units per day.

Conclusion:

In conclusion, data generated in energy audit are useful for to understand the energy distribution and utilization of college. The college needs maximum 1892.55KW of electricity. hybrid energy generation device generate the only 360 units/moths.

Recommendation:

- 1) Replace all CFL Tube light using LED Bulb, to save more power.
- 2) Replace CRT monitor using LED or LCD monitor.
- 3) Separate connection of office, Computer Lab. and classroom.

Results and discussion:

As far concerning the energy audit, electricity audit is main concern regarding educational institution. We have collected data by considering the tube light, fan, computer, printer, A.C and instruments. The total required energy is **1892.55KW** .Energy Consumption through all device is **1076 Unit /Month** and Hybrid Renewable source Generate **360Unit /Month**.