



कार्यालय, प्राचार्य, शासकीय स्वामी आत्मानंद स्नातकोत्तर
महाविद्यालय नारायणपुर जिला- नारायणपुर(छ.ग.)

Energy Audit Report

Government
Swami Atmanand Postgraduate College, Narayanpur

Submitted

To

Principal,
Government
Swami Atmanand Postgraduate College, Narayanpur

By

Mr. Bhagwan Das Chandak
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Government
Swami Atmanand Postgraduate College, Narayanpur
(C.G.)



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Preface

Data collection for energy audit of the Government Swami Atmanand Postgraduate College, Narayanpur Campus was conceded by team for the period of 1 Sept 2016 to 30 Aug 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 Department 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.



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Acknowledgement

Head Department of Botany Government Swami Atmanand Postgraduate College, Narayanpur is very much thankful to Principal Dr. S. R. Kunjam, IQAC coordinator NAAC for motivating us for green audit.




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**Energy Audit Report of Government Swami Atmanand
Postgraduate College, Narayanpur.**

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

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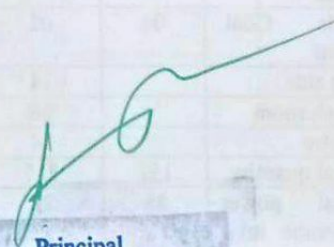


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consumption without making any sacrifice of quantity or quality. A successful energy management program begins with energy conservation; it will lead to adequate rating of equipment's, using high efficiency equipment and change of habits which causes 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, a college electricity audit has been done. In this study considered practical laboratory, instruments, Fans, air conditioners, Computers, etc are considered in this study. We have studied the total budget of the college, the total economic investment of the college on electricity, and the total generated electricity from the solar wind hybrid electricity generation unit. Also, we have studied the total saving of electricity, money, and the requirement of energy. Also, it is studied that exact contribution of a bulb, fans, computer, instruments, etc in the total requirement of electricity. We studied all these mentioned things by collecting exact data from the survey.




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Experimental and data collection:

All required data is collected by Department of Physics. In building, in every room, how much fans, tubes, fans, computer, instrument AC, etc will these is measured. According to survey following data is collected.

Total Power Requirement of Various Equipment

Dept./Inst.	Fan	LED Tu- Light	CFL Tu- light	AC	Comp.	Printer	Projecto r	Bore well	Other
Principal offi.	03	04	02	01	01				05
Clark office	06	05	03		02	03			-
Physics lab	06	06							75
Comp. lab	06	06		02	25		01		02
Chem. Lab	04	01	05						15
Seminar hall	08		09		01		01		01
IQAC Room	02	03	02		02	03			02
Staff Room	01	02	02						-
Dept. Zool.	04	02	04						03
Dept. Math.	04		06						-
Dept. Hindi	02		02		01				-
Dept. Comm.	02		02		01				-
Dept. Eco.	01	01	01		01				-
Dept. Geo.	06	02	08		-				02
Dept. Chem.	04	01	05		01				-
Dept. po.sci.	04	02	04		-				-
Library	11		32		02	02			-
Bot. lab	05	02	04						12
Class Rm(17)	70	40	44		02		02		-
Exam control room	04		06		01				-
Girls Com. room	04	02	04						-
Out side		14	02					01	-
Wash room		08	02						-
Lobby		14	10						08
Total quantity	157	115	159	03	40	08	04	01	125
Total power consume in 1 h.(watt)	55	22	40	1424	346	230	340	5968	346
Total power consume in 5	43175	12650	31800	21360	69200	9200	6800	29840	216250



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h (watt)									
consumption in month(Watt)	993025	290950	731400	491280	1591600	211600	156400	686320	4973750
Total Power Requirement of All Instrument= 10126.325 KW in Month									

Power Consumption of Electricity Board

2016-17		2017-18		2018-19		2019-20		2020-21	
Months	Unite	Months	Unite	Months	Unite	Months	Unite	Months	Unite
July	410	July	1260	July	1100	July	817	July	777
august	1000	august	1282	August	1205	August	828	August	776
September	1680	September	2434	September	1184	September	597	September	731
October	681	October	1242	October	1250	October	1159	October	791
November	474	November	1285	November	104	November	1024	November	785
December	470	December	1230	December	100	December	1043	December	821
January	586	January	1210	January	251	January	1067	January	772
February	790	February	1285	February	205	February	888	February	894
March	1876	March	1280	March	311	March	0	March	1020
April	2450	April	1300	April	433	April	1694	April	931
May	2000	May	0	May	5645	May	765	May	494
June	842	June	1593	June	910	June	560	June	1037
Total	13259	Total	15401	Total	12698	Total	10442	Total	9829

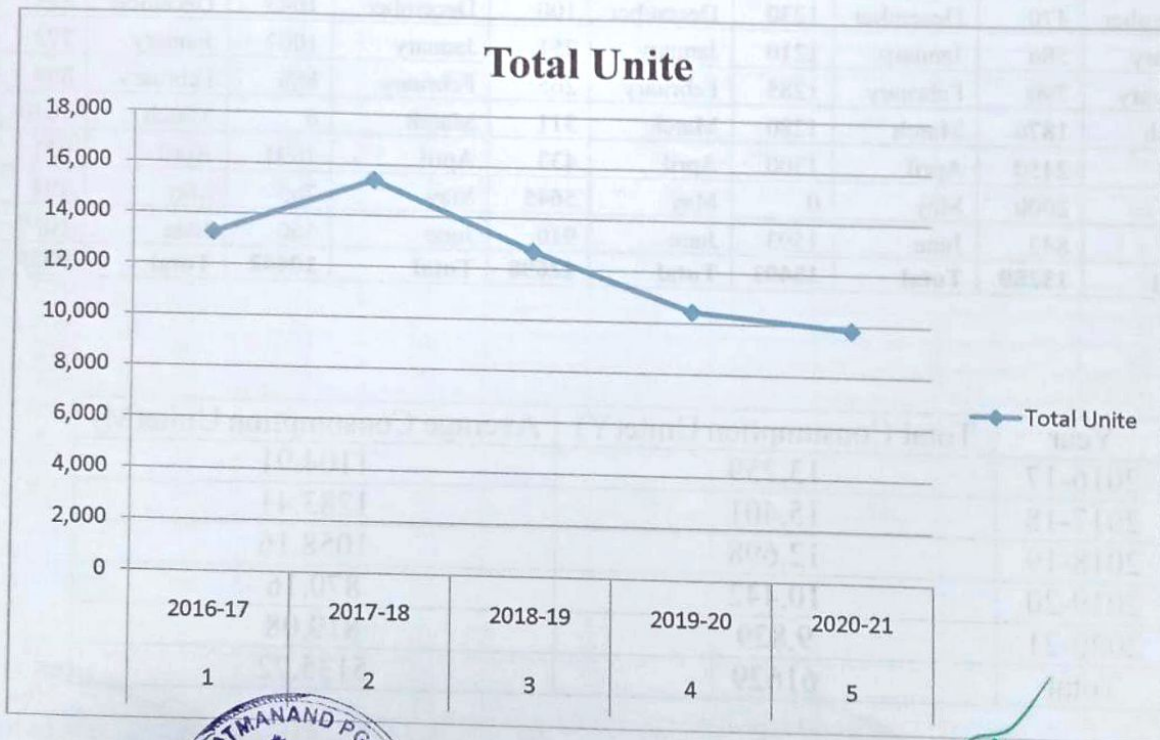
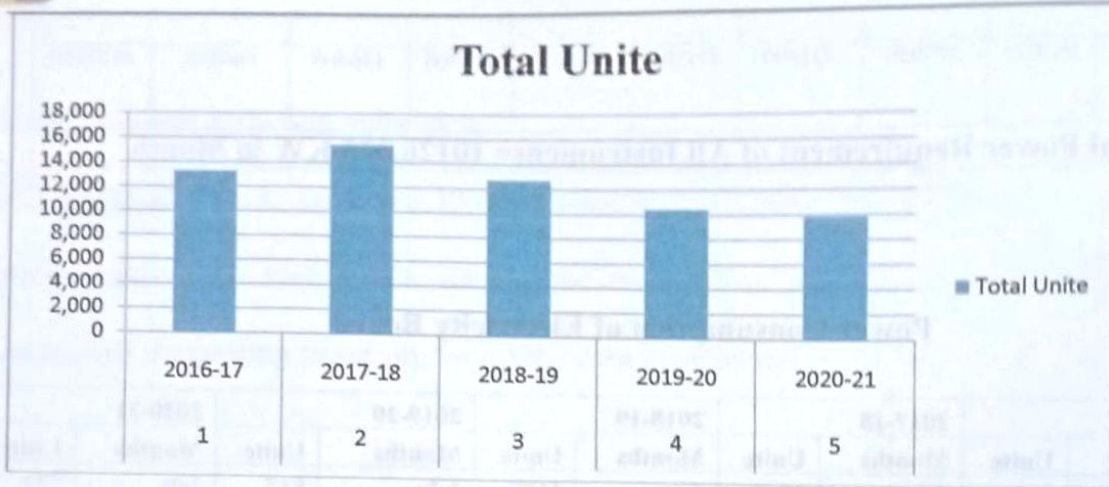
SN	Year	Total Consumption Unite(Y)	Average Consumption Unite(M)
1	2016-17	13,259	1104.91
2	2017-18	15,401	1283.41
3	2018-19	12,698	1058.16
4	2019-20	10,442	870.16
5	2020-21	9,829	819.08
	Total	61629	5135.72



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Conclusion:

In conclusion, data generated in energy audits are useful for understanding the energy distribution and utilization of college. The college needs a maximum of 10126.325 KW of electricity. In other words, college needs 1027.144 Units/Year.

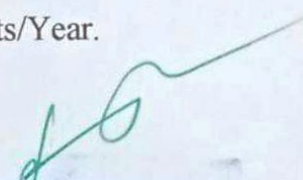
Recommendation:

- 1) Replace all CFL Tube lights using an LED Bulb, to save more power.
- 2) Replace CRT monitor using LED or LCD monitor.
- 3) College needs an Energy generation device or Renewable source.

Results and discussion:

As far as the energy audit, the electricity audit is the main concern regarding the educational institutions. We have collected data by considering the tube light, fan, computer, printer, A.C, and instruments. The total required energy is 10126.325 KW. Energy Consumption through all devices is 1027.144 Units/Year.




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क्रमांक 1185/स्था./2022

नारायणपुर, दिनांक 18/02/2022

प्रति,

सहायक अभियंता, (उप संभाग)
छ.ग. राज्य विद्युत वितरण
कंपनी मर्यादित नारायणपुर (छ.ग.)

विषय :- विद्युत अंकेक्षण बाबत।

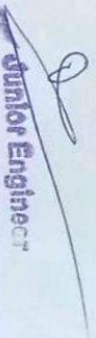
उपरोक्त विषयान्तर्गत में लेख है कि महाविद्यालय का नैक मूल्यांकन किया जाना है।
जिसके लिए विगत पाँच वर्षों का विद्युत उपभोग का अंकेक्षण अभिलेख की यथाशीघ्र आवश्यकता है।
अतः विगत पाँच वर्षों का विद्युत उपभोग का अंकेक्षण कर अभिलेख उपलब्ध कराने का
कष्ट करें।

(डॉ. एस. आर. कुमाम)

प्रभारी प्राचार्य

शासकीय स्वामी आत्मानंद स्नातकोत्तर
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78	2021/09	1,17,180	1,18,328	1,148	8,373.00	4,320.00	0	35	413.28	401.8	2.38	13,495.46	202.4	13,697.86	22.10.2021	13,500.00
79	2021/10	1,18,328	1,19,491	1,163	8,606.20	4,800.00	0	35	418.68	407.05	-4.54	14,262.39	213.94	14,476.33	23.11.2021	14,260.00
80	2021/11	1,19,491	1,20,561	1,070	7,918.00	4,800.00	0	35	331.7	374.5	2.39	13,461.59	201.92	13,663.51	20.12.2021	13,460.00
81	2021/12	1,20,561	1,21,876	1,315	9,731.00	4,800.00	0	35	407.65	460.25	1.59	15,435.49	231.53	15,667.02	24.01.2022	15,440.00
82	2022/01	1,21,876	1,22,954	1,078	7,977.20	4,800.00	0	35	237.16	377.3	-4.51	13,422.15	201.33	13,623.48	17.02.2022	13,420.00


Junior Engineer
O.S.P.D. Co. Ltd. Narayanpur (T)