

**OFFICE OF THE PRINCIPAL/SECRETARY**  
**JAGANNATH SINGH COLLEGE**

**Affiliated to Assam University, Silchar**

**P.O: UDHARBOND**  
**CACHAR, ASSAM**  
**788030**  
**Estd. 1998**

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Dated Udharbond, the 8<sup>th</sup> August 2022

**FOREWORD**

With an aim to make a study on energy load, usage, consumption and management at Jagannath Singh College campus and energy audit drive was undertaken by the institution. For the sake of assessing the energy usage, consumption and savings in Jagannath Singh College campus a four member audit committee has been formed including an external member to prepare an energy audit report of the college in compliance with the energy consumption, savings and management practices undertaken during the session 2021-22. The college expected to have more suggestions for management and reducing energy consumption in college campus.

(Dr. S Somarendro Singha)

Principal

Jagannath Singh College  
Udharbond, Cachar, Assam.

*Principal*  
**Jagannath Singh College**  
Udharbond, Cachar.



## External Energy Audit Report

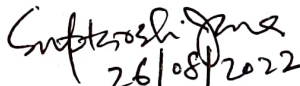
### To whom it may concern

This is to certify that in compliance with the letter No.JNSC/2022/3697, dated. 18-08-2022 of Jagannath Singh College, Udharbond,Cachar, Assam seeking an examination and verification of the Energy Audit Report of the college I, being an external member of the Energy Audit Committee of Jagannath Singh College, have accordingly verified and audited the energy audit report of the committee. I have made a physical verification of the report and found it correct in every respect. Details of the initiatives and practices undertaken during the stipulated period conform to the existential data found during verification.

#### Recommendations

1. Lights in the classrooms may be kept off during day time as there is sufficient lights during class hours.
2. Lights in the toilet area may be kept off during day time.
3. Installation of solar PV panel of capacity 10 kWh is highly recommended.

Date-26/08/2022.

  
26/08/2022  
(Mr. Saptarshi Jana)  
SDE,BSNL,Udharbond.  
Sub-Divisional Engineer  
BSNL (Group)  
Udharbond : 788030

**ENERGY AUDIT REPORT 2021-22**



**JAGANNATH SINGH COLLEGE  
UDHARBOND, CACHAR, ASSAM**

**PIN:788030.**

**AUDIT TEAM**

Mrs. Gitashree Deb, Convenor

Dr. Minhaj Uddin Barbhuiya, Member

Dr. Koushik Nath, Member

Dr. Santosh Kumar Chaturvedi, Member

**EXTERNAL MEMBER**

SDE BSNL

Udharbond, Cachar, Assam

*Sub. Div. Engr*  
*26/08/2022*  
Sub-Divisional Engineer  
**BSNL (Group)**  
Udharbond: 788030

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**1. Introduction:** Energy auditing is a routine procedure of monitoring power consumption of the institute performed on annual basis. As per the Energy Conservation Act, 2021, Energy Audit is defined as “the verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption”. For the successful implementation of an energy efficient campus, Jagannath Singh College has focused a lot on the enhancement and awareness among the students, teachers, and other members of the institution on Energy alternatives such as solar energy. As the issue of saving our environment has attained a global prominence in the contemporary time, Jagannath Singh College has also considered it extremely essential to work sincerely in the matter of environment consciousness along with green energy initiatives.

**2. Profile of the College: -**

1. **Name of the College:** Jagannath Singh College, Udharbond, Cachar, Assam-788030
2. **Campus area:** 61280.40 sq. mts.
3. **Build up area:** 1428 sq. mts.
4. **Date of establishment:** 19-04-1998.

**3. Brief History :** Jagannath Singh College a pioneer Institution of higher education, is located about 10 kms from the district headquarter of Cachar. It is the first and the only institution of higher education in the Udharbond L.A. constituency , established in the year 1998 with the permission fro Assam University , Silchar.The College offering a large number of subjects in Arts stream in the Under Graduate level and has been able to attract students from the different parts of the district.

**4. Energy Auditing:** Energy auditing is a routine procedure of monitoring power consumption of the institute performed on annual basis.As per the Energy Conservation Act, 2021, Energy Audit is defined as “the verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption”. For the successful implementation of an energy efficient campus, Jagannath Singh College has focused a lot on the enhancement and awareness among the students, teachers, and other members of the institution on Energy alternatives such as solar energy. As the issue of saving our environment has attained a global prominence in the contemporary time, Jagannath Singh College has also considered it extremely

essential to work sincerely in the matter of environment consciousness along with green energy initiatives. In it strive for a clean, green and energy efficient campus, every possible step is taken by every member or cell of the institution to create a sense of responsibility among the students pertinent to the sustenance of healthy environment in the form of various programmes and project works.

**5. Energy Consumption Data:** The electricity supply for Jagannath Singh College is provided by Assam Power Distribution Company Limited. The connected load is 9 KW.

Energy is mainly used for the following purposes:

- 1) Lighting's load.
- 2) Airconditioners.
- 3) Fans.
- 4) Operation of Water Pump.
- 5) Computers.
- 6) ICT tools in classroom.

## **6. Energy Audit Report**

Data collection of energy audit of the Jagannath Singh College, Udharbond was conceded for the period from August, 2021 to July, 2022. The audit was over sighted to inquire about convenience to progress the energy competence of the campus. To drop off energy utilisation whilst cultivating humanising comfort, health, and safety are prime objective. All data are collected from each classrooms, staff rooms, office, library etc. The work is completed by considering how much tube lights, fans, AC's and other electrical instruments are installed and participation of each component in total electricity consumption.

The major activities carried out during the audit are as follows: -

- Collection of college's records regarding Electricity Power Consumption.
- Analysis of the Electrical Distribution System.
- Data collection of major consuming equipments such as fans, lightening, pumps etc.
- Recommendations of various methods and bringing forth the various potential of or rectification.



## I. Energy Consumption

A structured questionnaire has been prepared for collecting energy consumption data for the purpose of the audit is given in Annexure-I.

Records of monthly energy consumption in Kwh (units) and energy bill in Rupees.

Consumer No :15000008837			
Sl. No.	Month	Energy consumption in Kwh (units) Consumed	Energy bill in Rupees
1	10/07/2021 to 02/08/2021	311 (Units)	Rs. 2,574/-
2	03/08/2021 to 03/09/2021	415 (Units)	Rs. 3,435/-
3	04/09/2021 to 06/10/2021	428 (Units)	Rs. 3,453/-
4	07/10/2021 to 07/11/2021	415 (Units)	Rs. 3,348/-
5	08/11/2021 to 08/12/2021	402 (Units)	Rs. 3,243/-
6	09/12/2021 to 08/01/2022	402 (Units)	Rs. 3,243/-
7	09/01/2022 to 05/02/2022	363 (Units)	Rs. 2,928/-
8	06/02/2022 to 12/03/2022	454 (Units)	Rs. 3,662/-
9	13/03/2022 to 02/04/2022	272 (Units)	Rs. 2,203/-
10	03/04/2022 to 11/05/2022	506 (Units)	Rs. 4,415/-
11	12/05/2022 to 09/06/2022	376 (Units)	Rs. 3,262/-
12	10/06/2022 to 11/07/2022	415 (Units)	Rs. 3,600/-
13	12/07/2022 to 10/08/2022	389 (Units)	Rs. 3,375/-
		<b>Grand Total:-</b>	<b>Rs.42,741/-</b>
Consumer No : 150000029940			
Sl. No.	Month	Energy consumption in Kwh (units) Consumed	Energy bill in Rupees
1	10/07/2021 to 02/08/2021	95 (Units)	Rs. 1,004/-
2	03/08/2021 to 03/09/2021	93 (Units)	Rs. 1,098/-
3	04/09/2021 to 06/10/2021	108 (Units)	Rs. 1,196/-
4	07/10/2021 to 07/11/2021	107 (Units)	Rs. 1,176/-
5	08/11/2021 to 08/12/2021	169 (Units)	Rs. 1,621/-
6	09/12/2021 to 08/01/2022	81 (Units)	Rs. 981/-
7	12/02/2022 to 12/03/2022	46 (Units)	Rs. 658/-
8	13/03/2022 to 02/04/2022	33 (Units)	Rs. 515/-
9	03/04/2022 to 11/05/2022	191 (Units)	Rs. 2,090/-
10	10/06/2022 to 11/07/2022	89 (Units)	Rs. 1,170/-
11	12/07/2022 to 10/08/2022	86 (Units)	Rs. 1,117/-
		<b>Grand Total:-</b>	<b>Rs.12,626/-</b>



## II. Energy Consumption

Consumer's Room Description	Equipment	Quantity	Actual load in Watt
Principal's Office	Fan	6 Nos.	360 Watt.
	Tube Light	3 Nos.	60 Watt.
	LED Light	4 Nos.	78 Watt.
	AC	2 Nos.	2000 Watt.
	Printer/Scanner	1 Nos.	750 Watt.
	Computer	2 Nos.	110 Watt.
	CCTV/ Monitor	2 Nos.	110 Watt.
	Plug 6 AMP	5 Nos.	500 Watt.
	Plug 16 AMP	2 Nos.	2000 Watt.
Main Office	Fan	16 Nos.	960 Watt.
	Tube Light	5 Nos.	76 Watt.
	LED Light	20 Nos.	300 Watt.
	AC	NIL	NIL
	Printer/Scanner	1 No.	750 Watt.
	Xerox	1 No.	2000 Watt.
	Computer	7 Nos.	385 Watt.
	Water Pump (HP)	1 No.	750 Watt.
	Plug 6 AMP	7 Nos.	700 Watt.
	Plug 16 AMP	6 Nos.	6000 Watt.
IQAC Cell	Fan	1 No.	60 Watt.
	Tube Light	1 No.	20 Watt.
	LED Light	1 No.	15 Watt.
	AC	NIL	NIL
	Plug 6 AMP	1 No.	100 Watt.
	Plug 16 AMP	1 No.	1000 Watt.
	Printer/Scanner	NIL	NIL
	Computer	1 No.	55 Watt.
Examination Cell	Fan	1 No.	60 Watt.
	Tube Light	1 No.	20 Watt.
	LED Light	1 No.	15 Watt.
	AC	NIL	NIL
	Printer/Scanner	NIL	NIL
	Plug 6 AMP	1 No.	100 Watt.
	Plug 16 AMP	1 No.	1000 Watt.
	Computer	1 No.	55 Watt.
Auditorium	Fan	NIL	
	Tube Light		
	LED Light		
	AC		
	Printer/Scanner		
	Computer		

<b>Academic Building</b>			
Consumer's Room Description	Equipment	Quantity	Actual load in Watt
Class Room	Fan	52 Nos.	3120 Watt.
	Tube Light	31 Nos.	620 Watt.
	LED Light	35 Nos.	525 Watt.
	Plug 6 AMP	13 Nos.	1300 Watt.
	Plug 16 AMP	1 No.	1000 Watt.
Girls Common Room	Fan	3 Nos.	180 Watt.
	Tube Light	2 Nos.	40 Watt.
	LED Light	4 Nos.	60 Watt.
	Plug 6 AMP	1 No.	100 Watt.
	Plug 16 AMP	NIL	NIL
Canteen	LED Light	4 Nos.	60 Watt.
	Fan	1 No.	60 Watt.
	Plug 6 AMP	1 No.	100 Watt.
Teacher's Common Room	Fan	3 Nos.	180 Watt.
	Tube Light	1 No.	20 Watt.
	LED Light	4 Nos.	60 Watt.
	Computer	7 Nos.	385 Watt.
	Printer	NIL	NIL
	Plug 6 AMP	1 No.	100 Watt.
	Plug 16 AMP	1 No.	1000 Watt.
<b>Library</b>			
Consumer's Room Description	Equipment	Quantity	Actual load in Watt
Main Building	Tube Light	NIL	NIL
	LED Light	17 Nos.	340 Watt.
	Computer	16 Nos.	880 Watt.
	Bar Code Printer	1 No.	750 Watt.
	Bar Code Scanner	1 No.	750 Watt.
	CC Camera	10 Nos.	100 Watt.
	Xerox	1 No.	2000 Watt.
	Plug 6 AMP	8 Nos.	800 Watt.
	Plug 16 AMP	1 Nos.	1000 Watt.
	Inside the College Campus	Water Pump (HP)	2 Nos.
CC Camera		12 Nos.	120 Watt.

## Annexure-I

### Analysis of Electrical Distribution System

Sl. No.	Particulars	Observation	Remarks
1	Is distribution of load satisfactory	Yes	
2	Condition of electrical wiring	Good	
3	Type of wiring	Casing and capping wiring	
4	Whether electrical equipment are operating at specified voltage/current	Yes	
5	Rating of Fuses/Junction box as per standard	Yes	
6	Whether single isolating switch is available for the whole equipment	Yes	
7	Earth pits identified	Yes	
8	Condition of earthing	Fair	Needs to be improved
9	Voltage between neutral and earthing	0 V	
10	Cable laying condition	Good	
11	Cable terminators	Proper	
12	Meter and Main condition	Good	
13	LED lights and energy saving appliances	Fair	Needs to be improved
14	Rating of cable as per standards	Yes	

*Smt. Anjali Jena*  
26/08/2022  
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