



ENERGY AUDIT REPORT (2022 -23)



KHALISANI MAHAVIDYALAYA

College Road, Khalisani, Chandannagar,
Hooghly (W.B.) Pin : 712138

Internal Quality Assurance Cell (IQAC)



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Website : <https://www.khalisanicollege.ac.in>

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1. CONTEXT

Energy consumption in different forms has been continuously rising in almost all sectors including educational institutions. This has increased the dependency on fossil fuels and electricity. Energy efficiency improvement and possible energy conservation have become a necessary objective for energy consumers. Khalisani Mahavidyalaya, an educational institution in the Hooghly district of West Bengal, has taken the initiative to make a critical evaluation of the current scenario of energy consumption as per the different segments of the college. This evaluation can help reduce energy intensity, reducing dependency on fossil fuels and electricity in search of alternative sources of energy through conducting energy audits. An energy audit is largely used to reduce energy bills and improve energy efficiency based on step-wise processes as follows.

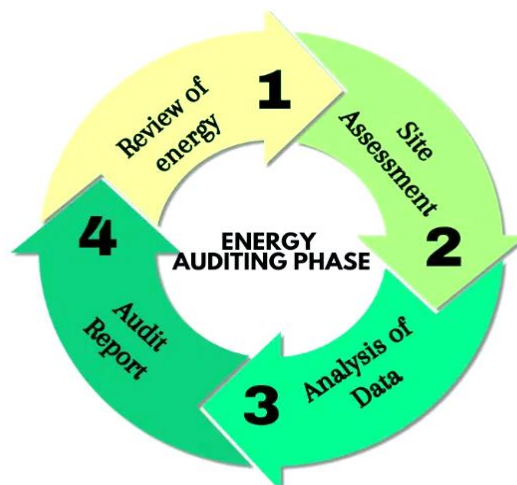


Figure 1: Phases of Energy Auditing

2. OBJECTIVES OF ENERGY AUDIT

The main objective of energy audit is to identify the end use of energy in building and its energy conservation opportunities; and as a feasibility study leading to implementation of an energy management programme. The audit procedures can be expanded as needed in the various phases of the energy programme, with the application of each succeeding phase yielding more information on energy use, and more opportunities for raising energy efficiency & its conservation. Energy Audit is the key for decision making in the area of energy management.

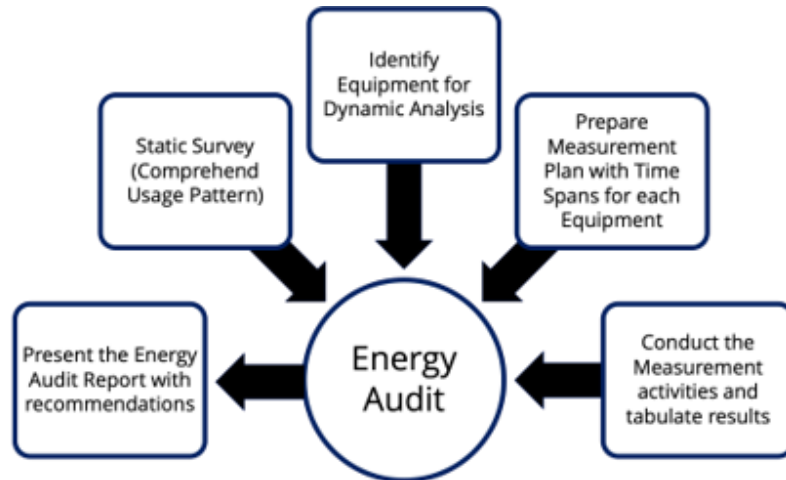


Figure 2: Procedure of Energy Audit

The primary objectives of Energy Audit are as following;

- To recommend steps to be taken by the management for improving the energy efficiency.
- Reducing the energy costs and improving the productivity without sacrificing quality.
- Manage the Standard of living or comforts and environmental balance.

3. METHODOLOGY ADOPTED FOR ENERGY AUDIT

Step 1: Interview with Key Facility Personnel

During the preliminary audit, a meeting is scheduled between the audit team and key operating personnel to start the assignment. The meeting agenda focuses on: audit objectives and scope of work, facility rules and regulations, roles and responsibilities of project team members, and description of scheduled project activities. During this meeting the team enlightened about operating characteristics of the facility, energy system specifications, operating and maintenance procedures.

Step 2: Facility Tour

After the initial meeting, a tour of the facility is arranged to observe the various operations, focusing on the major energy consuming systems identified during the interview, including the building structure, lighting and power, mechanical energy systems.

Step 3: Document Review

During the initial visit, available facility documentation like Electricity bills are reviewed with facility representatives. This documentation review includes all facility operation and maintenance procedures and logs – sheets/ registers for the previous years.

Step 4: Facility Inspection

After a thorough review of the construction and operating documentation, the major energy consuming processes in the facility are further investigated. Where appropriate, field measurements are collected to substantiate operating parameters.

Step 5: Utility Analysis

The utility analysis is a detailed review for the previous months. Data reviewed includes energy usage, energy demand and energy consumption pattern.

Step 6: Identify and Evaluate Feasible Energy Conservation Measure

Based upon a final review of all information and data gathered about the facility, and based on the measurements final energy consumption and conservation measures is developed by comparing Actual Energy Consumption and Estimated Energy Consumption by the institution.

Table 1: Estimated Wattage of Electric Appliances for Energy Consumption Estimation

Electric Appliances	Total Number	Wattage (Estimated)
Fans	574	60
Tube Lights	586	40
LED	246	22
Bulb	142	9
AC	28	1500*/8000**
Desktop	48	180
Printers	16	250
Photo copy Machines	3	1000
Water pump	4	500
Refrigerator	5	250
Projector	7	150
Sound System	4	300
Speaker	46	10
Water Purifier	7	60
Inverter	2	50
TV	2	100

Heater	7	1500
Treadmill	1	700
CCTVs	31	5
Laptops	13	60

* 1.5 Ton, **12 Ton

Step 7: Preparation of Report and Summarizing Energy Audit Findings

The results of our findings and recommendations are summarized in this report. The report includes a description of the facilities and their operation, a discussion of all major energy consuming systems with their specific energy impact. The report incorporates a summary of all the activities and effort performed throughout the project with specific conclusions and recommendations.

4. PRESENT ENERGY SCENARIO

The college has three electric connections (M1, M2, M3) from the West Bengal State Electricity Board (WBSEB), the data derived from such bills for the last years are showing the actual annual consumption of electricity. The total consumption for the period of 06.06.2023 to 07.06.2024 is about 26421 kW unit and for the energy consumption in the last quarter (07.03.2024 to 07.06.2024), the institution has paid a total amount of Rs. 62,707/- . As expected, the maximum consumption has been observed during summer period in compare to the winter season (06.12.2023 - 07.03.2024).

Table 2: Actual energy consumption by college during a year as per WBSEDCL

Billing Period	M1_163009217 (kW)	M2_163009215 (kW)	M3_502255283 (kW)	Total (kW)
06.06.2023 - 07.09.2023	7273	679	1042	8994
07.09.2023 - 06.12.2023	4718	515	610	5843
06.12.2023 - 07.03.2024	3481	312	702	4495
07.03.2024 - 07.06.2024	5360	594	1135	7089
Total	20832	2100	3489	26421

Source: Bills of WBSEDCL, Govt. of West Bengal (Appendix)

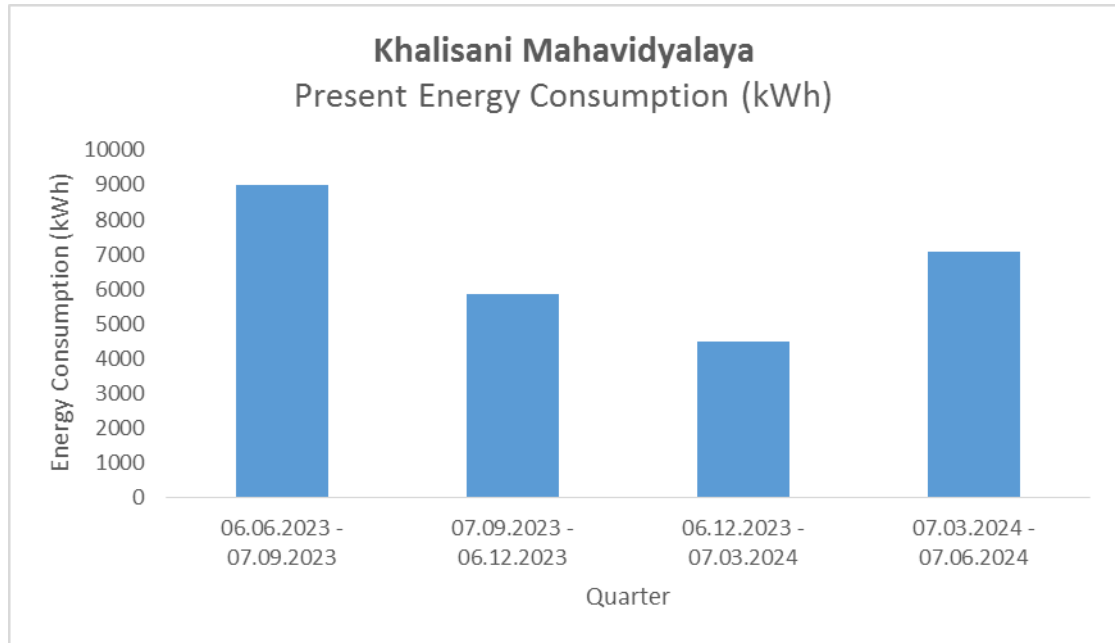


Figure 3: Present Energy Consumption by Khalisani Mahavidyalaya

5. ASSESSMENT OF ENERGY CONSUMPTION

5.1 *As per the Academic and Administrative Segments of College*

The administrative and academic are two major segments of any college. In terms of the energy consumption profound difference has been also observed within these two segments. The different heads of academic segment are mainly classrooms, laboratory, washrooms for students, common room for girls and boys, while, the major heads of the administrative segment are Principal Room, Office rooms, IQAC room, Canteen, NSS Room, Auditorium, Staff Quarters, and grounds. The total annual estimated energy consumption of college is about 36,071 kW, of which about 50.79% (~18,320 kW) energy consumed by academic section and about 49.21% (~17,750 kW) energy consumed by administrative segments.

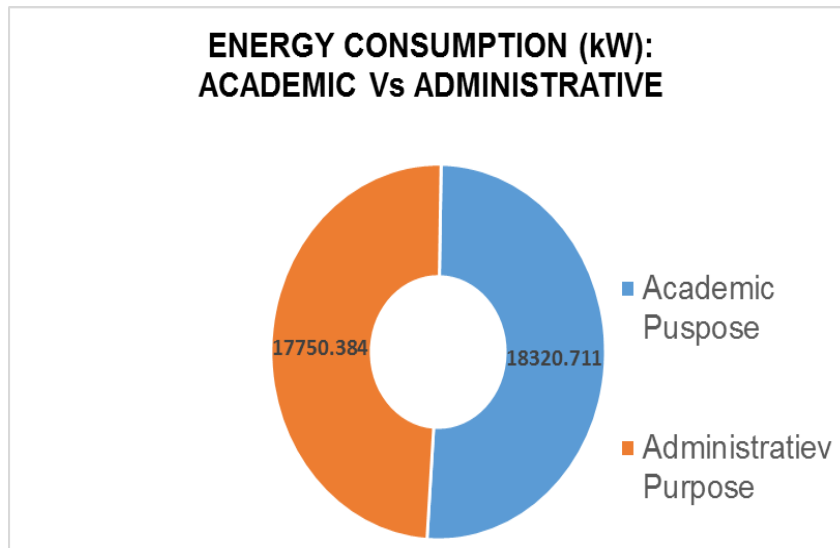


Figure 4: Distribution of Energy Consumption between Academic and Administrative Purpose

Table 3: Detailed Distribution of Energy Consumption between Academic and Administrative Purpose

Category	Consumption (kW)	Category	Consumption (kW)
ADMINISTRATIVE UNITS		ACADEMIC UNITS	
Auditorium	762.6	Boys and Girls Common Room	690.36
Canteen	342	BA Gen	2145.6
Guard Room	128	Bengali	705.6
Gymnasium	299	Botany	361.56
IQAC Room	730	Chemistry	2144.264
Lawn	1615.205	Commerce	1699.224
Washroom	314.976	Economics	147.84
Library	2463.364	Education	369.6
Lobby	2444.664	English	837.6
NSS	25.55	Geography	1630.436
Teacher's room	2299.58	History	732
Principal Room	809.852	Math	747.044
Office	4715.2	Philosophy	591.36
Student Union Room	397.22	Physics	3265.244
Staff Quarter	973.5	Political Science	517.44
		Sanskrit	396
		Sanskrit	369.6
		Zoology	399.612
TOTAL	18320.711	TOTAL	17750.384

5.2 As per the Departments of College

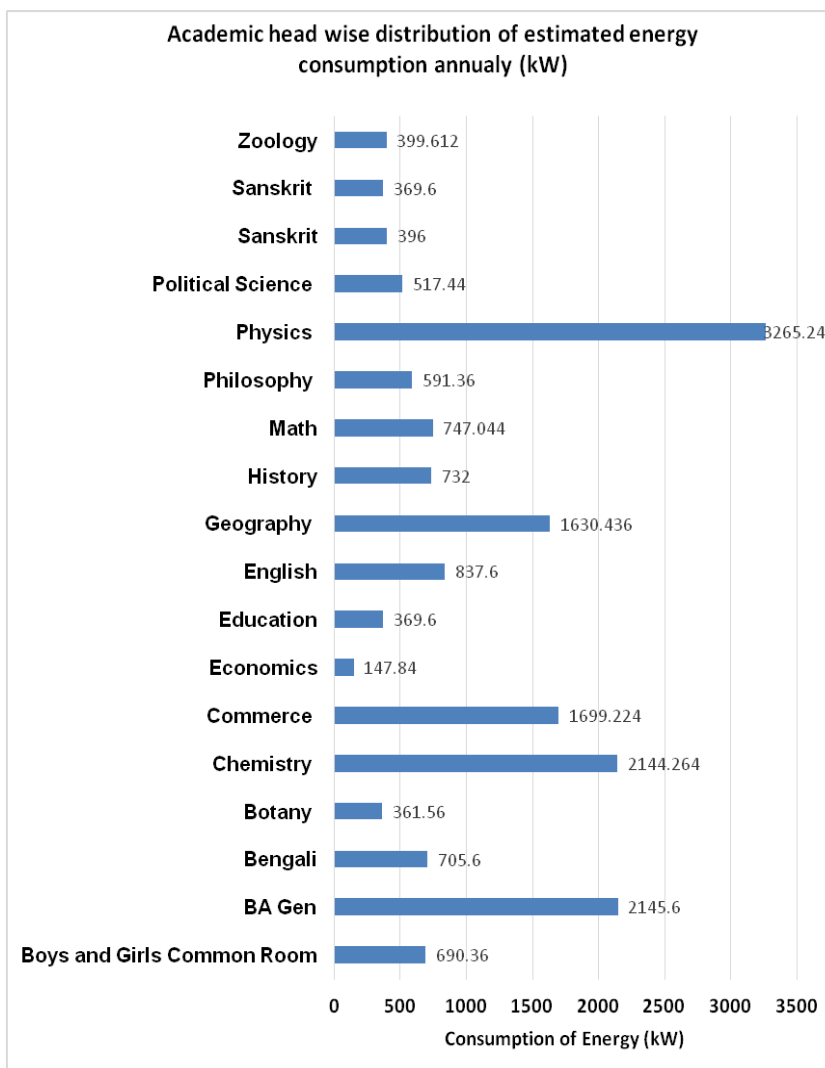


Figure 5: Department wise distribution of estimated annual energy consumption (kW)

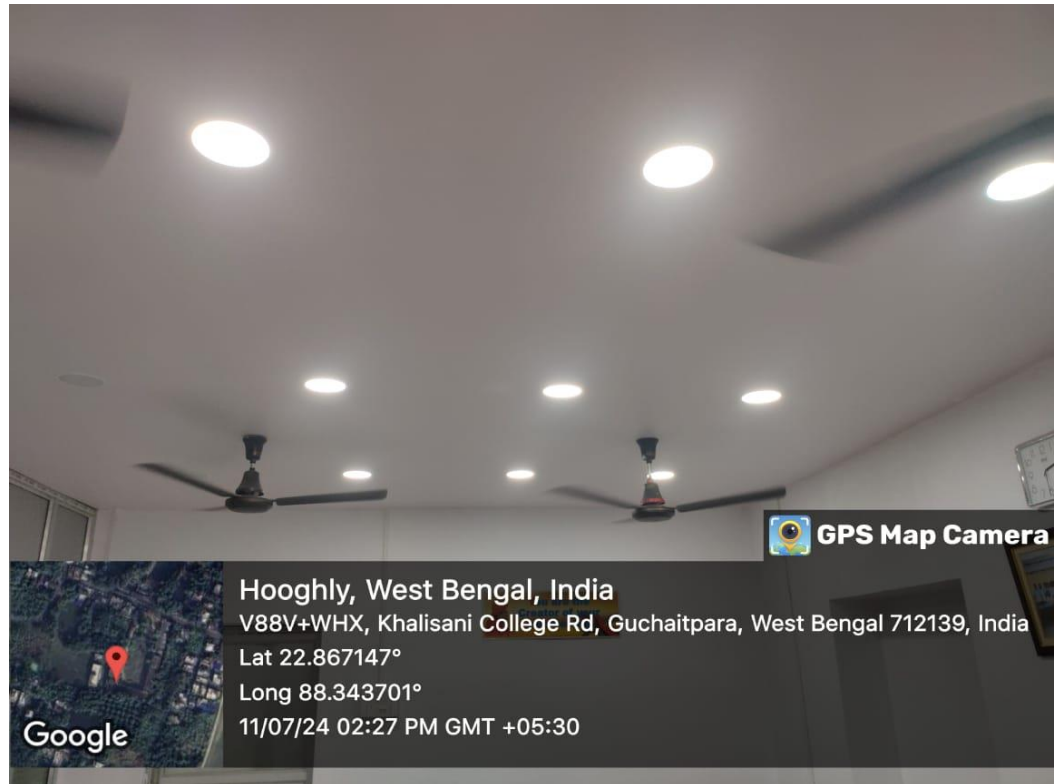
Within the total estimated energy consumption by the academic heads (~18,320 kW), Department of Physics consumes maximum energy units, which is about 17.82% (3,265.24 kW) due to usages of large number of electric scientific instruments for their laboratory classes. In terms of total estimated annual energy consumption, the Dept. of Physics is followed by the following departments; B.A. General (2,145.6 kW), Department of Chemistry (2,144.264 kW), Dept. of Commerce (1,699.224 kW), Dept. of Geography (1,630.436 kW) are the major energy consuming departments in this institution.

5.3 As per different Electric Appliances of College

Table 4: Estimated energy consumption by different electronic appliances

Category	No. of Units	Total Consumption (kW)	%
Fan (@60 Watts)	574	10831.44	30.03
Tubes (@40 Watts)	586	10268.8	28.47
LED (@22 Watts)	246	1792.824	4.97
BULB (@9 Watts)	142	1028.601	2.85
AC (@1500/8000 Watts)	28	2634	7.30
Desktop Computer (@180 Watts)	48	992.79	2.75
Laptop(@60 Watts)	13	280.8	0.78
Printers (@250 Watts)	16	200	0.55
Photocopy(@1000 Watts)	3	150	0.42
Water Pump(@500 Watts)	4	1088	3.02
Refrigerator (@250 Watts)	5	1200	3.33
Projector (@150 Watts)	7	339	0.94
Sound (@300 Watts)	4	480	1.33
Speaker(@10 Watts)	46	184	0.51
Water Purifier(@60 Watts)	7	504	1.40
Inverter (@50 Watts)	2	652.8	1.81
TV(@100 Watts)	2	300	0.83
Heater(@1500 Watts)	7	1050	2.91
Treadmill(@700 Watts)	1	35	0.10
CCTV (@5 Watts)	32	913.92	2.53
Special Instruments	115	1145.12	3.17
Sum		36071.095	100.00

Fans (~30%), Tube Lights (~28%), LED lamps (~05%), Bulbs and ACs (~07%) are found to be the major energy consuming electrical appliances followed by Special practical instruments used in different science laboratories specially Dept. of Physics and Chemistry. Refrigerators, Heaters in science laboratory, Desktops, Laptops, Water pumps etc, are found to be the other major energy consuming electrical appliances in this institution.



Picture 1: Example of using LED lights for reducing the energy consumption in office

5.4 Energy Consumption for Different Buildings

Apart from the all class-rooms, office is estimated to be the major energy consuming area followed by library, lobby, teacher's room, lawn, staff quarter, Principal sir's room,

Auditorium, IQAC room, Boy's and Girl's common room, canteen, wash rooms, Gymnasium, Guardroom and NSS room.

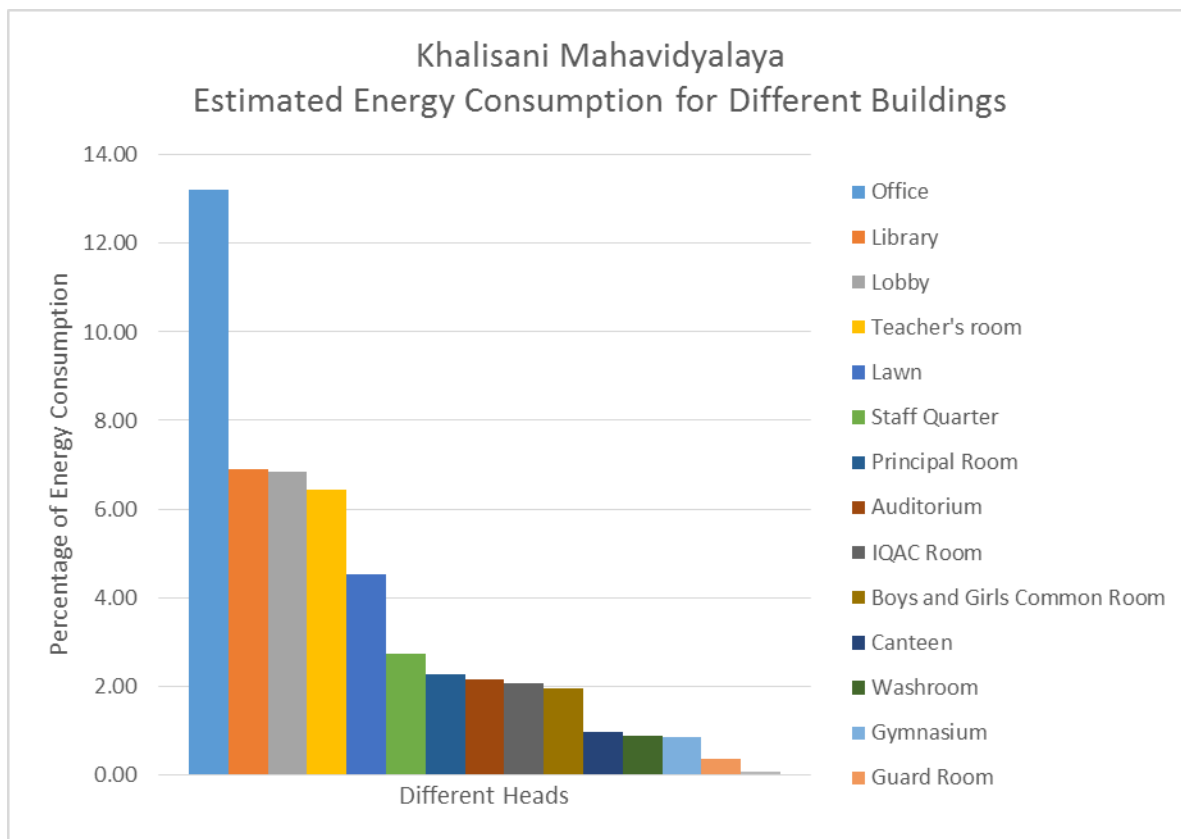
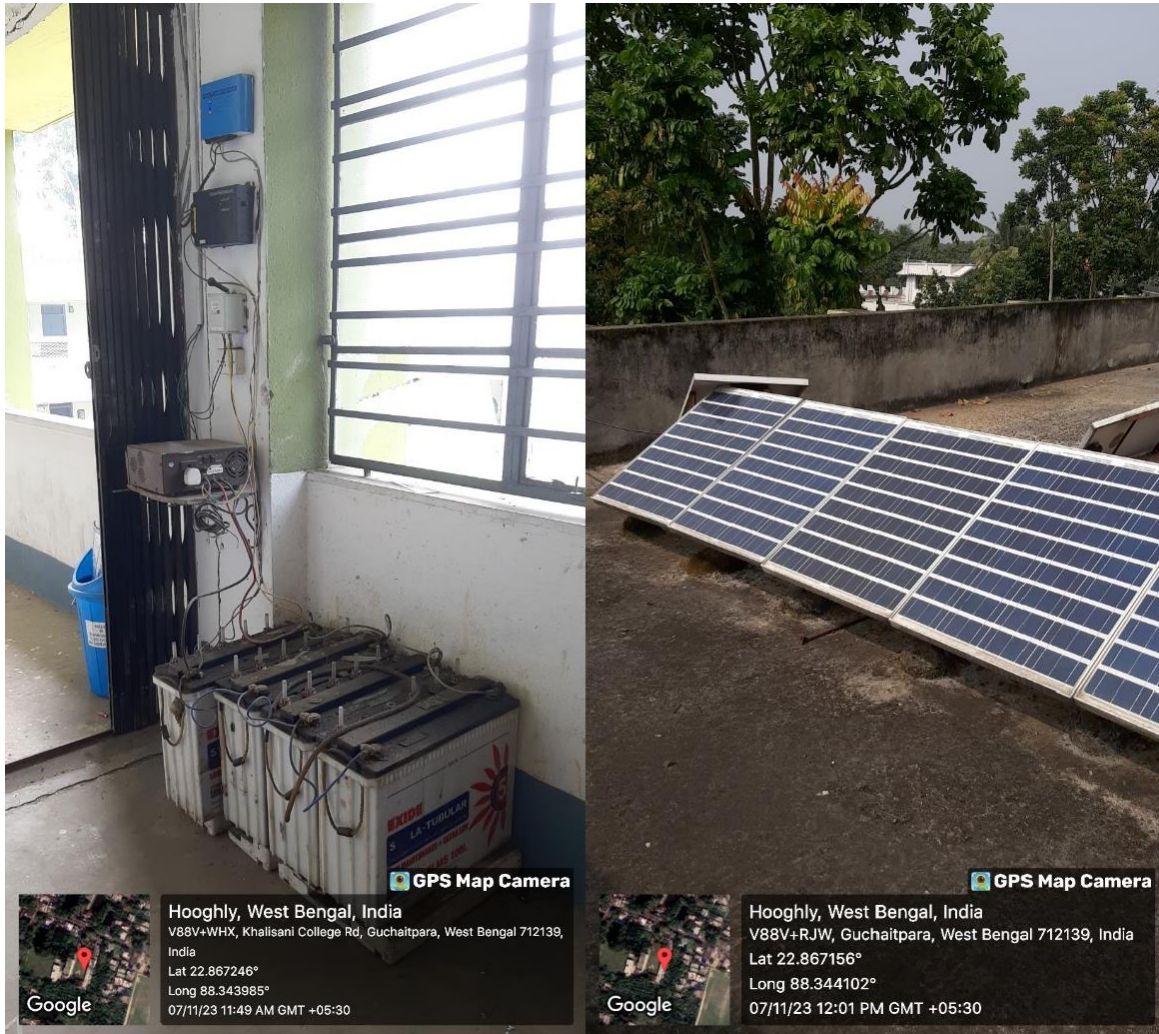


Figure 6: Energy Consumption for Different Buildings

6. ALTERNATIVE SOURCE OF ENERGY

College will explore all means of utilizing alternative source of energy like solar power generation with its time to time survey and up gradation. The college has started utilizing alternative source of energy in the form of solar energy since 2008. The capacity was increased through minor renovation in the year 2015. The college management is contemplating to upgrade the solar power generation system to substantiate the electrical energy consumption. As a result, college was processed to upgrade the solar power facility with new 'Solar Hybrid Power Plant System' facilitated with a total nine (09) units of 12 Volt/75 WP (Poly Crystalline Silicon SPV Module). The system was capable to generate 5 kW solar energy. Unfortunately, the system was damaged due to the sudden cyclone 'Amphan' in May 2020.



Picture 2: Right: Battery Unit of Installed Solar Power (currently inactive); Left: Damaged Solar Pane on the rooftop of college building

7. SUMMARY

The college constantly endeavours to work for the benefit in the area of energy conservation. The institution recognizes that different areas have different needs of energy consumption and these differences should be identified and addressed. This may include reduce wastage of energy consumption, timely maintenance of electrical equipment, general awareness among students and all the stakeholders regarding energy conservation, minimum use of artificial lights specially during day time, switching off lights and fans after classes getting over etc . The college not only tries to organize different

activities to make aware about energy conservation. Further it has been observed that seasonal energy conservation varies due to over usages during summer season. Mr. Srikanta Das has been appointed as an Electrician cum Caretaker for the proper maintenance and all over vigilance of the electric equipment and timely operation of water pumps. Mr. Srikanta Das plays a crucial role during power cuts as he operates diesel powered Generator.



Picture 3: Diesel Generator in College Campus

8. OBSERVATIONS AND RECOMMENDATION

8.1 OBSERVATIONS

- Since the campus consists of multiple numbers of buildings with energy consuming equipment, therefore it is recommended to install separate submeter for each building to identify the energy consumption of each building. This will help the management to take energy conservation measures as well as it will help to do the performance assessment of electrical uses.
- At present the total installed load of the campus include lighting load, cooling load etc. Out of these, most of the loads are used on occasional basis, except some areas where energy uses are in regular basis.

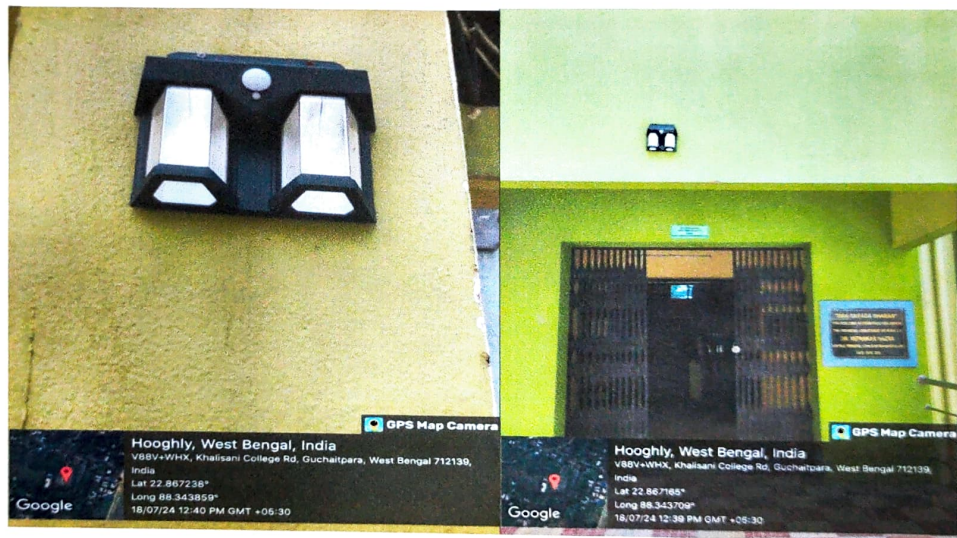
- Management may take initiative to record in the log book for future performance assessment of energy profile of the systems as well as preventive and regular maintenance work.
- Since educational institutes are working mainly on day time, therefore illumination study was carried out during day time only and it is observed that if and curtains are kept open, the working area or the study area covers adequate illumination level.
- It is also observed that, some part of the study area in library and class room there is not adequate day lighting which leads to dependence on artificial lighting. This will increase the use of energy and operating cost to meet up the standard illumination level.

8.2 RECOMMENDATION

- Inculcate discipline and sense of participation in the energy conservation movement, any unnecessary lighting during day period should be avoided through awareness programmes.
- Intensive monitoring/inspection in order to ensure the minimum use of artificial light.
- It is recommended that all luminaries should be converted to energy efficient LED as an energy conservation measures.
- Area specific use of task lighting specifically where the back ground illumination is not required.
- Installation of master switches outside in each room which will help to switch off all electrical appliances during non-working hour.
- Tubular daylight devices to maximize the use of daylight which will reduce the energy consumption.
- Installation of occupancy sensors so that the lighting systems are controlled by this smart occupancy sensor.

9. FUTURE PROSPECT

- College is going to re-install the damaged solar power facility with an upgraded form. The Institution appealed to the West Bengal Renewable Energy Development Agency (An Organization of Dept. of NRES, Govt. of West Bengal) for setting up of Grid connected Rooftop Solar PV system. We are fortunate to receive the approval from the above-mentioned government approved agency. 10KWp Grid Connected Rooftop SPV Power Plant will be installed in the near future.
- To reduce the dependency on electricity during night, College has installed numbers of sensor based solar lights in different part of the college including lawn, lobby, and also decided to increase the number of these lights.



Picture 4: Sensor based solar lights for lawn and lobby of the college

Achakrajanti
Coordinator, IQAC
Khalisani Mahavidyalaya

Coordinator
IQAC
KHALISANI MAHAVIDYALAYA
Khalisani, Chandannagar
Hooghly, W.B., Pin:712138

Authorising Signature :

Name :

Designation :

Seal :

Srikanta Das
Sub-Asstt. Engineer (Elec.)
Chandernagore Municipal
Corporation

Pranajee
Principal

Khalisani Mahavidyalaya

Principal
KHALISANI MAHAVIDYALAYA
Khalisani, Chandannagar
Hooghly, W.B., Pin:712138

Appendix

Appendix 1: Invoice of Outdoor Solar Wall Lamp



Tax Invoice/Bill of Supply/Cash Memo
(Original for Recipient)

Sold By :
ALLINPRO INDUSTRIES PRIVATE LIMITED
* Building No 38, Block -C, Sector -63, NOIDA,
Gautam Buddha Nagar
Noida, Uttar Pradesh, 201301
IN

PAN No: AAVCA4115A
GST Registration No: 09AAVCA4115A1ZV

FSSAI License No.
10020051003793

Order Number: 406-7002232-5701149
Order Date: 11.12.2023

Billing Address :
Principal Dr Arghya Bandyopadhyay
Khalisani Mahavidyalaya (college), Khalisani
CHANDANNAGAR, WEST BENGAL, 712138
IN
State/UT Code: 19

Shipping Address :
Principal Dr Arghya Bandyopadhyay
Principal Dr Arghya Bandyopadhyay
Khalisani Mahavidyalaya (college), Khalisani
CHANDANNAGAR, WEST BENGAL, 712138
IN
State/UT Code: 19

Place of supply: WEST BENGAL
Place of delivery: WEST BENGAL

Invoice Number : QNCB-51333
Invoice Details : UP-QNCB-144441331-2324
Invoice Date : 11.12.2023

Sl. No	Description	Unit Price	Qty	Net Amount	Tax Rate	Tax Type	Tax Amount	Total Amount
1	GIGAWATTS Outdoor Solar Wall Lamp Dual Core Wireless Dusk to Dawn Motion Sensor Sconce Light IP65 Waterproof for Exterior Front Porch Patio Fence Garage Decorative (Pack of 2) B0CNT858TB (GW-CL228-02) HSN:94055040	₹1,016.10	1	₹1,016.10	18%	IGST	₹182.90	₹1,199.00
TOTAL:							₹182.90	₹1,199.00

Amount in Words:
One Thousand One Hundred Ninety-nine only

For ALLINPRO INDUSTRIES PRIVATE LIMITED:

Authorized Signatory

Whether tax is payable under reverse charge - No

Payment Transaction ID: Blsixqg6uzXa72Y95kJ2qK3BpoyCLvaFV1y	Date & Time: 11/12/2023, 16:51:35 hrs	Invoice Value: 1,199.00	Mode of Payment: UPI
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All the above documents
are digitally signed below by the Principal

ARGHYA BANDYOPADHYAY Digitally signed by ARGHYA BANDYOPADHYAY
Date: 2024.07.04 15:26:05 +05'30'

*ASSPL-Amazon Seller Services Pvt. Ltd., ARIPL-Amazon Retail India Pvt. Ltd. (only where Amazon Retail India Pvt. Ltd. fulfillment center is co-located)

Customers desirous of availing input GST credit are requested to create a Business account and purchase on Amazon.in/business from Business eligible offers

Please note that this invoice is not a demand for payment

Page 1 of 1

Appendix 3: Sample copies of electric bill by WBSEDCL and payment methods

A/C PAYEE ICICI Bank
 Kolkata - Chandan Nagar Branch
 13C/10B, Shrihari Apartment, Bagbazar More, GI Road, Chandannagar, Hooghly, Kolkata, WB-711138
 RTGS/NEFT/IFS Code: ICIC000485

Pay W.P.S.E.D.C.L

Rupees Twelve thousand five hundred eighty three only.
 ₹ 12583/-

A/c No. 040501005272

SBTAS CBS
 WEALTH MANAGEMENT - SAVINGS ACCOUNT
 Payable at par at all branches of ICICI Bank Limited in India

22/2/24
 01050
 01050
 2010

FOR KHALISANI MAHA VIDYALAYA FEE COLLECTION
 Anghya Guadyopadhyay
 Principal
 KHALISANI MAHAVIDYALAYA
 Khalisani, Hooghly, WB
 AUTHORIZED SIGNATORY
 Please sign above

VALID FOR THREE MONTHS ONLY
 11062024
 D D M M Y Y Y Y

OR ORDER

0010731 700229022: 0052721* 31

Category	Unit consumed	Max. De
02875011 N	10700.00	10947.00
S005730 N	7405.00	8293.00
111 Month		
Amount due after due date (Rs.)		4280.00
Due dates to avail Monthly Rebates	24.06.2024	23.07.2024
Monthly Rebates (Rs.)	-42.21	-42.22
Amount due within due dates (Rs.)	4238.00	4230.00
Special Rebate (Rs.)	-113.50	
Total Amount Payable at a time within 1st Due date* (Rs.)		12,583
Amount payable at a time through e-Payment within 1st Due date		12,459
Breakup of Charges		
Category		
Energy Charge (Rs.)		
Fixed/Demand Charge (Rs.)		783
Meter Rent (Rs.)		480
PSC Charges (Rs.)##		15
Gross Amount (Rs.)		
Adjustments**		1283

Payment may be made using RTGS/NEFT in your exclusive a/c no: WBB5022552830
 with IFSC ICIC0000104 or SBIN0004266
 Users of PFMS portal shall replace first three characters of the a/c no. by
 WPB in place of "WBB" and pay using IFSC ICIC0000104 only
 as per order of WBERC dated 06.03.2024 & Subsidy from West Bengal Govt
 Outstandings: Rs.0.00
 Last Payment Details: Amount (Rs.): 4204.00 Payment date: 28.03.2024
 Normal meter T02875011 was replaced
 Electricity duty is exempted for this consumer from period 08.09.2023 -
 1.12.9999



West Bengal State Electricity Distribution Company Ltd.

(A Government of West Bengal Enterprise)
BILL (For Quarterly billing consumers)

HOURS OF PAYMENT MONDAY TO FRIDAY : 9.30 A.M. TO 1.30 P.M. & SATURDAY : 9.30 A.M. TO 12.30 P.M. * CHEQUES WILL NOT BE ACCEPTED AFTER DUE DATE
 AVAIL ADDITIONAL REBATE @ SPKWH BY PAYING WITHIN 1st DUE DATE AT A TIME. *AVAIL 1% ADDITIONAL REBATE AS PER TARIFF ORDER FOR E-PAYMENT WITHIN DUE DATE
 PLEASE REGISTER YOUR MESSLE NO AND E MAIL ID AT WEBSITE OR PORTAL OR ANDHROM TO YOUR ACO TO AVAIL DIFFERENT VALUE ADDED SERVICES

KHALISANI CUSTOMER CARE CENTER, PHONE NO - 2462-463
 KHALISANI BOWBAZAR, CALL CENTER PHONE NO - 191211(TOLL FREE), TAN: CALM050530
 THE PRINCIPAL KHALISANI MAHAVIDYALAYA
 O/O-NEPANKAR HAZRA KHALISANI COLAGE
 ROAD KHALISANI, HOOGHLY.
 Pin - 712138
 Consumer Id : 502255283
 Tariff Class : A(CH-PU)
 Installation No : 22490449
 Latitude : N/A
 Longitude : N/A
 Invoice No- : 424017527933
 Prev. Reading Date : 07.03.2024
 Present Reading Date : 07.06.2024
 Billing Date : 11.06.2024
 Next Reading Date : 08.2024-22.08.2024
 Connected Load : 16.11 KVA
 Solar PV Capacity :
 Meter Reading unit : 088030MR
 PAN of consumer(s) :

Meter No	Time	Previous Reading	Present Reading	MF	Unit consumed	Max Demand (KVA)
02875011	N	10700.00	10947.00	1.00	247.00	
5005730	N	7405.00	8293.00	1.00	688.00	

Bill Month	JUN, 2024	JUL, 2024	AUG, 2024
Amount due after due date(Rs.)	4280.00	4272.00	4272.00
Due dates to avail Monthly Rebates	24.06.2024	23.07.2024	22.08.2024
Monthly Rebates(Rs.)	-42.31	-42.22	-42.22
Amount due within due dates(Rs.)	4238.00	4230.00	4230.00
Special Rebate(Rs.)	-113.50		
Total Amount Payable at a time within 1st Due date* (Rs.)			12,583.00
Amount payable at a time through e-Payment within 1st Due date			12,459.00

Breakup of Charges Category	Total
Energy Charge(Rs.)	7831.50
Fixed/Demand Charge(Rs.)	4833.00
Meter Rent(Rs.)	150.00
PSC Charges(Rs.)**	8.77
Gross Amount(Rs.)	12823.27
Adjustments**	-0.62

Payment may be made using RTGS/NEFT in your exclusive a/c no WBBS022552830447
 with IFSC ICIC0000104 or SBIN0004266
 Users of PFMS portal shall replace first three characters of the a/c no. by
 "WPB" in place of "WBE" and pay using IFSC ICIC0000104 only
 per order of WBERC dated 06.03.2024 & Subsidy from West Bengal Govt
 Outstandings: Rs.0.00
 Next Payment Details: Amount(Rs.): 16204.00 Payment date: 28.03.2024
 Normal meter T02875011 was replaced
 Electricity duty is exempted for this consumer from period 03.09.2023
 1.12.9999
****PAYMENT CAN NOT BE ACCEPTED BY CHEQUE DUE TO CHEQUE DISHONOUR****
 Interest Rs. 1134.17 , TDS Rs. 0 & Nat Int. Rs. 1134.17 on Security Deposit
 on 31.03.2024
 Security Deposit: Rs. 54959.36

বিদ্যুৎ বিতরণ
 কালিসানী
 কালিসানী
 কালিসানী

For queries log into West Bengal Call Centre at 03-11-24-050530 (TAN) or visit the website www.wbseidcl.com (WBSEIDCL) or visit the website www.wbseidcl.com (WBSEIDCL) or visit the website www.wbseidcl.com (WBSEIDCL)

A/C PA TEE **ICICI Bank**
 KOLKATA - Chandan Nagar Branch
 15th Floor, Shrihari Apartment, Bagbazar More, GI Road, Chandannagar, Hooghly, Kolkata, WB-712138
 RTGS / NEFT / IFSC Code : ICIC0000405

VALID FOR THREE MONTHS ONLY
 1 4 0 6 2 0 2 4
 D D M M Y Y Y Y

Pay W. B. S. E. D. C. L OR ORDER

Rupees Forty Six thousand five hundred forty nine only.
 ₹ 46549/-

BENEFICIARY (M)/CTS - 2010

A/c No. 040501005272

22/2/24 SBTAS CBS
 WEALTH MANAGEMENT : SAVINGS ACCOUNT
 Payable at par at all branches of ICICI Bank Limited in India

FOR KHALISANI MAHA VIDYALAYA FEE COLLECTION



Subrata Kumar Rana
 Member
 Governing Body
 KHALISANI MAHAVIDYALAYA
 Khalisani, Hooghly

Arghya Bandyopadhyaya
 Principal
 KHALISANI MAHAVIDYALAYA
 Khalisani, Hooghly, W.B.
 AUTHORIZED SIGNATORY
 Please sign above

⑈001072⑈ 700229022⑈ 005272⑈ 31

* Payment subject to realisation of cheque.

Thank You

Bill No : 006734
 Bill Period : Jun'24 - Aug'24
 Bill Date : 07/06/24
 Meter No : SF026621 PH-3 M.F. : 1

Period	Reading Date	Units (KWH)
Previous	07/03/24	52925
Present	07/06/24	58285
Adjustment		0
Total Unit		5360

Bill Due Dt	Ant befr Due Dt (With Rebate)	Ant after Due Dt (Without Rebate)	Remark
0/06/2024	15695.00	15853.00	
0/07/2024	15696.00	15854.00	
6/08/2024	15696.00	15854.00	

Special Rebate : -536.00
 Total Ant Payable at a time within 10/06/2024 : 46549.00
 Others Unpaid Bill Amount : 0.00

Total Amount Payable at a time through E-Payment :
 after allowing 1% Addl Rebate within 10/06/2024 : 46085.00

Payment may be made through RTGS/NEFT in your exclusive account number 4001630092170578 using IFSC code ICIC0000104
 users of PFMS portal shall replace first three characters of '4001630092170578' with '4001630092170578'

Appendix 4: Supporting documents for the on-going pre-installation of solar panel in college campus

WEST BENGAL RENEWABLE ENERGY DEVELOPMENT AGENCY
(An Organisation of Deptt. of NRES, Govt. of West Bengal)
Bikalpa Shakti Bhawan, Plot no. 11/10, EP & GP Block, Sector-V,
Electronics Complex Salt Lake, Kolkata - 700091
Phone: 033-23575038 / 23575348 / 23576568, Telex: 033-23575037/6359

Memo No. WBREDA/60/2024/52

Dated: 18-04-2024

To WHOM IT MAY CONCERN

Government of West Bengal has assigned a project to West Bengal Renewable Energy Development Agency (WBREDA) for setting up of Grid Connected Rooftop Solar PV (GRTSPV) System at 900 schools and 50 colleges each of capacity 10 kWp and 2X10 kWp respectively at various locations of West Bengal.

The executing Agency, M/s Sunshine Power Product Pvt. Ltd., 130/9, Bakrahat Road, Hanspukur Green Park, P.O.-Joka, Kolkata -700104, West Bengal, has been entrusted vide LoA no. WBREDA/56/2024/878 dated 06/03/2024 for installation of about 160 nos. of such Grid Connected Rooftop Solar PV Systems in the districts of Howrah, Hooghly and Paschim Bardhaman.

Initially the executing agency will conduct technical feasibility at the shortlisted schools/colleges to proceed further with the project.

WBREDA shall thereafter intimate the schools, which are found to be technically feasible, about the project at further action needs to be taken up by them.

After technical feasibility study, WBREDA shall formally confirm to the respective schools with the details of the project for installation of GRTSPV system if the site will be found technically feasible for proposed capacity of GRTSPV System.

The schools/colleges authorities are hereby requested to allow the representative of the executing agency to carry out the technical feasibility survey and also co-operate with them by providing necessary information, documents and to complete the technical feasibility survey.

set

Divisional Engineer

Memo No: WBREDA/60/2024/52 (L)

Dated: 18-04-2024

Copy to:

✓ M/s Sunshine Power Product Pvt. Ltd., 130/9, Bakrahat Road, Hanspukur Green Park,
P.O.-Joka, Kolkata - 700104

Ambar
Divisional Engineer

Declaration of the Vendor:

I Confirm that I have conducted a site survey at Khalisani Mahavidyalaya
[School/College Name] on 03.07.24 [date] and found that the site is
.....[Feasible /Not Feasible] for the installation of 10 kWp
Grid Connected PV power plant.

Site survey done by:

Name Soumyadeep Manna.

Designation J.B.

Mobile No: 9748265857

Signature with Seal of the vendor [Signature]

Declaration of the school / Institutions

1. We have no objection for installation of Grid connected PV power plant at the roof top of our School/ College
2. The school/college authority will provide the suitable indoor space nearer to the PV array for installation of Inverter and accessories.
3. The enrolment of Student in my school/college is ... 2482 ... Nos in the year 2023-24
4. We shall apply to DISCOM (WBSEDCL/CESC) for phase conversion and load enhancement (if required) installation of Net Billing /Net metering arrangement
5. We confirm that the representative of M/S. SUNSHINE Power Products Pvt. Ltd. [Vendor Name] visited our site on 03.07.24 [date] for technical survey for installation of Grid Connected roof top Solar PV Power Plant
6. There have no planning of augmentation /vertical extension / demolition of proposed building for installation of GRTSPV system in future
7. The identified building for the proposed GRTSPV installation will not be changed at the time of installation.

Name: Dr. Arghya Bandyopadhyay

Designation: Principal

Mobile No: 9674263678

Signature with Seal of Authorized person of the
School /College

[Stamp /Seal is mandatory]

Arghya Bandyopadhyay
Principal 03/7/24

KHALISANI MAHAVIDYALAYA
Khalisani, Chandannagar
Hooghly, W.B., Pin:712138



Document Verified by
[Authorized person of the Vendor]

SUNSHINE POWER PRODUCTS PVT LTD

Pre-Installation of Site Survey

Project Name: **WBREDA 160 x10kWp Project**

Sl. No	Description	Information
1.	Name & Details Address of the School/ College / Institution	
2.	Distance from Array field to proposed Control Room (in mm)	Proposed Control Room From Nearest end : $\frac{\text{Root 1}}{18m}$ $\frac{\text{Root 2}}{15m}$ From far end : $\frac{\text{Root 1}}{40m}$ $\frac{\text{Root 2}}{28m}$
3.	Distance of proposed Control Room to User DB / Meter Room	$\frac{R.1}{20m}$ $\frac{R.2}{50m}$ - Underground A.C.
4.	Total Area available for proposed Control Room (Minimum Area require: 1300 mm x 1300 mm for Kiosk)	$\frac{R.1}{\text{Ground floor}}$ $\frac{R.2}{\text{Top floor}}$
5.	Earthing System Tentative Cable route or earth strip diagram (Distance between Earth Pit 1 & 2 : 6Mtr.)	i. Proposed array field to Earth Pit 1 : $\frac{R.1}{30m}$ $\frac{R.2}{20m}$ ii. Proposed Control Room to Earth Pit 2 : $\frac{R.1}{15m}$ $\frac{R.2}{15m}$
6.	Details of Internet facility availability at Site	Vodafone / Airtel / BSNL / JIO
7.	Location of the School	Approx. distance from main road (Bus Route) : 1.5km Width of Sub Road (Main Road to School Gate) : 10m
8.	Lock & Key Storage facility of the school	Yes / No
9.	Availability of the nearest Hotel / Lodge	If Yes (Details of Hotel / Lodge) yes

 03.07.24
 Signature of Survey Person with Date

THANK YOU