



GREEN AUDIT REPORT




PAVANATMA COLLEGE MURICKASSERY

Executed by



2023


OTTOTRACTIONS
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GREEN AUDIT REPORT

PAVANATMA COLLEGE

MURICKASSERY





Green Audit Report
Pavanatma College, Murickassery
Report No: EA 1066/GA
2023-September

About OTTOTRACTIONS

OTTOTRACTIONS established in 2005, is an organization with proven track record and knowledge in the field of energy, engineering, and environmental services. They are the first Accredited Energy Auditor from Kerala for conducting Mandatory Energy Audits in Designated Consumers as per Energy Conservation Act-2001. Government of Kerala recognized and appreciated OTTOTRACTIONS by presenting its prestigious “The Kerala State Energy Conservation Award 2009” for the best performance as an Energy Auditor. Ottotractions is an ISO 9001-2015, ISO 17020-2012 and ISO 14001-2015 Certified organization, which ensures the quality of its services.

Acknowledgment

We were privileged to work together with the administration and staff of Pavanatma College, Murickassery. We are grateful to them for the timely help extended to complete the audit and bringing out this report.

With gratitude, we acknowledge the diligent effort and commitments of all those who have helped to bring out this report.

We also take this opportunity to thank the bona-fide efforts of audit team for unstinted support in carrying out this audit.

We thank our consultants, engineers and backup staff for their dedication to bring this report.

Thank you.

B V Suresh Babu
Accredited Energy Auditor
AEA 33, Bureau of Energy Efficiency
Government of India

Preface

Educational institutions always had an important leadership role in society in demonstrating types of changes that used to occur with respect to the prime issues of the time. All around the world, educational institutions are taking steps to declare themselves the next carbon neutral school as a part of the global trend of becoming sustainable. In 2007, Victoria University School of Architecture and Design declared themselves the first carbon neutral campus in the world through the purchase of carbon credits. This concept is not a sustainable model as it does not guarantee the capture of carbon forever and also it is expensive.

The potential for any academic institution- (may be a school in a remote village or a university in an urban setting) - to become the driver for change is huge. Its role of practicing leadership in its community can be utilized to encourage and influence carbon neutral living.

The biggest factors that contribute towards emission are Energy, Transportation and Waste. Any reduction in the carbon emission by the above sectors, starts with the behavioral changes (Low cost) and/or technological investments (High cost). In order to make these changes, the students are to be educated properly on the concept of carbon neutral campuses and methods to reduce it.

In India, the concept of carbon neutral campuses is gaining momentum. Green Audit in Campuses measures the amount of Green House Gases (GHG) emissions produced as a result of its operations through an accounting like inventory of all the sources of GHGs and carbon sequestration in the school campus. Based on this, the total carbon footprint is estimated. Measures are recommended to bring down the carbon footprint of the campus and to make it a carbon neutral campus.

B Zachariah

Director, OTTOTRACTIONS

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Introduction



Background

All across the developed countries, educational institutions are now moving to a sustainable future by becoming carbon neutral and greener spaces. They are taking responsibility for their environmental impact and are working to neutralize those effects. To become carbon neutral, institutions are working to reduce their emissions of greenhouse gases, cut their use of energy, use energy efficient equipment, use more renewable energy, plant and protect green cover and emphasize the importance of sustainable energy sources. Institutions that have committed to becoming carbon neutral have recognized the threat of global warming and are therefore committing to reverse the trend. Studies on this line has not struck roots in most of the developing countries-especially among students.

The Sustainable Development Goals (SDGs), launched by the United Nations in 2015, are an excellent vehicle for driving this change. They represent an action plan for the planet and society to thrive by 2030. The SDGs provide a window of opportunity for creating multidimensional operational approaches for climate change adaptation. They address poverty, hunger and climate change, among other issues central to human progress and sustainable development, such as gender equality, clean water and sanitation, and responsible consumption and production.



SUSTAINABLE DEVELOPMENT GOALS



The Green Audit of **Pavanatma College, Murickassery** aims to assist campus to reduce their carbon footprint and educate tomorrow's leaders about strategies for carbon mitigation using their campus as a model. Also, this audit covers institutes responses towards SDGs by covering SDG 3,6,7,11,13,15. The green audit also aims to educate students and teachers on the concept of carbon footprint and to enable the students to collect data pertaining to the carbon emissions and carbon sequestration in their campus and to calculate the specific carbon footprint of the campus.

The project also suggests plans to make the campus carbon neutral or even carbon negative by implementing carbon mitigation strategies in areas such as,

- a. Energy
- b. Transportation
- c. Waste minimisation
- d. Carbon Sequestration etc.

The major objectives of the audit are:

- To make aware students and teachers on the concept of carbon footprint.
- To calculate the specific carbon footprint of the campus and classify it as carbon negative, neutral or positive.
- To create carbon mitigation plans to reduce their footprint based on the data generated.

PAVANATMA COLLEGE, MURICKASSERY

Nestled on a hillock, **Pavanatma College**, the beacon of knowledge, evokes mingled feelings of pride and hope in the passers-by. Surrounded by hills and foregrounded by coconut trees, the college affords a picturesque view, beckoning young minds to make intellectual pursuits by utilizing its tranquil ambience..

NAAC Reaccredited A Grade College, located at Murickassery, about 15 kms away from Idukki en route to Thopramkudy, in Vathikudy Panchayath,

Udumbanchola Taluk, Idukki District. Pavanatma is affiliated to Mahatma Gandhi University, Kottayam. It was established in 1982

The Management was transferred to the Diocese of Idukki in the year 2005 followed by the bifurcation of the Kothamangalam Diocese. At present His Excellency Mar. John Nellikunnel, Bishop of Idukki is the Patron of the College. Under the efficient guidance of the corporate Educational Agency, Idukki, the College marches forward along the path of progress with 9 UG and 5 PG Programmes

Occupancy Details	
Particulars	2022-23
Total Students	997
Staffs	84
Total Occupancy of the college	1081

For calculating per capita carbon emission estimation, only the student strength is taken into account.

BASELINE DATA SHEET FOR GREEN AUDIT							
1	Name of the Organization	Pavanatma College Murickassery					
2	Address (include telephone, fax & e-mail)	Pavanatma College Murickassery, 685604 Idukki, Kerala , India pavanatmacollegem@gmail.com Ph. No 04868-263-235,04868-263-235					
2	Year of Establishment	1982					
3	Name of building and Total No. of Electrical Connections/building	Pavanatma College (7)					
4	Total Number of Students	Boys	494	Girls	503	Total 997	
5	Total Number of Staff	84					
6	Total Occupancy	1081					
7	Total area of green cover	70%					
8	Type of Electrical Connection	HT	0	LT	7		
9	Total Connected Load (kW)	189					
10	Average Maximum Demand (KVA)	-					
11	Total built up area of the building (M ²)	10357.03					
12	Number of Buildings	6					
13	Average system Power Factor	0.99					
14	Details of capacitors connected	Nil					
15	Transformer Details (Nos., kVA, Voltage ratio)	TR 1					
		0					
15	DG Set Details (kVA,)	DG1	DG2	DG3	DG4	DG5	Remarks
		62.5					
16	Details of motors	Rating		Nos.		Remarks	
		5 to 10					
		10 to 50		3			
		Above 50					
17	Brief write-up about the firm and the energy/environmental conservation activities already undertaken.	Installed biogas plant, Energy conservation projects, Installed 10kWp solar power plant. Rain water harvesting					
18	Contact Person & Telephone number	Dr. Mathew K Varghese					
		9447218333					

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METHODOLOGY



2.1. Sensitisation

Low Carbon campus initiatives are successful when everyone in the campus is engaged including students, teachers and staff. A team of students, teachers and staff were formed to participate in the audit. A sensitisation among students and teachers on the concept of carbon footprint was conducted.



During the audit the students and staffs were sensitised on the project and trained to be a part of the data collection team. This helped in conducting the survey in a participatory mode so that the awareness will penetrate to the grass root level. During the data collection field visit it was stressed that the team will spread these ideas to their homes and friends. This will help in a horizontal and vertical spread of the message to a wider group. It is assumed that through 1081 occupants of these campuses will reach same number of households. This message will spread to at least 4324 individuals approximately.

2.2 Estimation of carbon footprint

A carbon footprint is the amount of greenhouse gases—primarily carbon dioxide—released into the atmosphere by a particular human activity. A carbon footprint can be a broad measure or be applied to the actions of an individual, a family, an event, an organization, or even entire nation. It is usually measured as tons of CO₂ emitted

per year, a number that can be supplemented by tons of CO₂-equivalent gases, including methane, nitrous oxide, and other greenhouse gases.

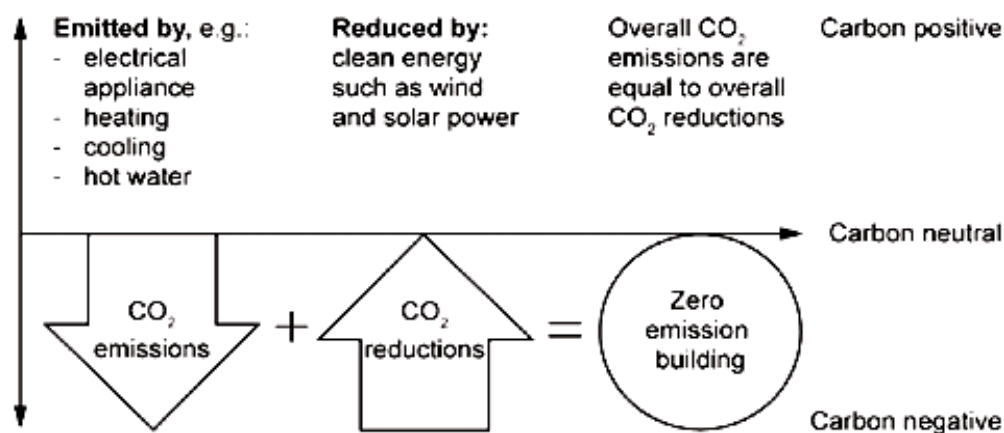
Global Warming Potential (GWP) is a measure of how much heat a greenhouse gas traps in the atmosphere up to a specific time horizon, relative to carbon dioxide. The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of one ton of a gas will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide (CO₂).

Global Warming Potentials (IPCC Second Assessment Report)					
Species	Chemical formula	Lifetime (years)	Global Warming		
			20 years	100 years	500 years
Carbon dioxide	CO ₂	variable §	1	1	1
Methane *	CH ₄	12±3	56	21	6.5
Nitrous oxide	N ₂ O	120	280	310	170
HFC-23	CHF ₃	264	9100	11700	9800
HFC-32	CH ₂ F ₂	5.6	2100	650	200
HFC-41	CH ₃ F	3.7	490	150	45
HFC-43-10mee	C ₅ H ₂ F ₁₀	17.1	3000	1300	400
HFC-125	C ₂ H ₂ F ₅	32.6	4600	2800	920
HFC-134	C ₂ H ₂ F ₄	10.6	2900	1000	310
HFC-134a	CH ₂ FCF ₃	14.6	3400	1300	420
HFC-152a	C ₂ H ₄ F ₂	1.5	460	140	42
HFC-143	C ₂ H ₃ F ₃	3.8	1000	300	94
HFC-143a	C ₂ H ₃ F ₃	48.3	5000	3800	1400
HFC-227ea	C ₃ H ₂ F ₇	36.5	4300	2900	950
HFC-236fa	C ₃ H ₂ F ₆	209	5100	6300	4700
HFC-245ca	C ₃ H ₃ F ₅	6.6	1800	560	170
Sulphur hexafluoride	SF ₆	3200	16300	23900	34900
Perfluoromethane	CF ₄	50000	4400	6500	10000
Perfluoroethane	C ₂ F ₆	10000	6200	9200	14000
Perfluoropropane	C ₃ F ₈	2600	4800	7000	10100
Perfluorobutane	C ₄ F ₁₀	2600	4800	7000	10100
Perfluorocyclobutane	c-C ₄ F ₈	3200	6000	8700	12700
Perfluoropentane	C ₅ F ₁₂	4100	5100	7500	11000
Perfluorohexane	C ₆ F ₁₄	3200	5000	7400	10700

The methodology for carbon footprint calculations are still evolving and it is emerging as an important tool for green house management. In the present study carbon emission data from the campus is estimated under four categories viz.

- a. Energy
- b. Transportation
- c. Waste minimisation
- d. Carbon Sequestration

Carbon neutrality refers to achieving net zero GHG emission by balancing the measured amount of carbon released into atmosphere due to human activities, with an equal amount sequestered in carbon sinks. It is crucial to restrict atmospheric concentrations of GHGs released from various socio-economic, developmental and life style activities using biological or natural processes. It is recognized that addressing climate change is not as simple as switching to renewable energy or offsetting GHG emissions. Rather, providing an opportunity for innovation in new developmental activities for viable and effective approach to address the problem.



Energy

In the campus carbon emission from energy consumption is categorised under two headings viz. energy from Electrical and Thermal. Energy used for transportation is calculated under transportation sector.



A detailed energy audit is conducted to understand the energy consumption of the campus. Information on total connected loads, their duration of usage and documents like electricity bills are evaluated. Connected loads are calculated by conducting a survey on electrical equipment on each location. Duration of usage was found out by surveying the users. The survey of equipment was conducted in a participatory mode.

The fuel consumption for cooking, like LPG, was studied by analysing the annual fuel bills and usage schedules during the study. Discussions were carried out with the concerned individuals who actually operate the cooking system.

Transportation

Carbon emission from transportation to be calculated by using the following formula:

Carbon Emission = Number of each type of vehicles × Avg. fuel consumed per year
× Emission factors (based on the fuel used by the vehicle)

Waste Minimisation

The waste generated from the campus is also responsible for the greenhouse gas emission. So, in order to calculate the total carbon foot print of the campus it is necessary to estimate the greenhouse gas emission from the waste generated in the campus by the activity of the students, teachers and staffs.

The calculation of the waste generated has been conducted by keeping measuring buckets for collecting the waste generated in a day. This waste so generated was calculated by weighing it.



Carbon Sequestration

Carbon sequestration is the process involved in the long-term storage of atmospheric carbon dioxide. Trees remove carbon dioxide from the atmosphere through the natural process of photosynthesis and store the carbon in their leaves, branches, stems, bark, and roots.

Carbon sequestered by a tree can be found out by using different methods. Since this study is employed the volumetric approach, the calculation consists of five processes.

- Determining the total weight of the tree
- Determining the dry weight of the tree
- Determining the weight of carbon in the tree
- Determining the weight of CO₂ sequestered in the tree
- Determining the weight of CO₂ sequestered in the tree per year

Detailed calculations and results are given below.

Step 1: Determine the total green weight of the tree

The green weight is the weight of the tree when it is alive. First, you have to calculate the green weight of the above-ground weight as follows:

$W_{\text{above-ground}} = 0.25 D^2 H$ (for trees with $D < 11$)

$W_{\text{above-ground}} = 0.15 D^2 H$ (for trees with $D > 11$)

$W_{\text{above-ground}}$ = Above-ground weight in pounds

D = Diameter of the trunk in inches

H = Height of the tree in feet

The root system weight is about 20% of the above-ground weight. Therefore, to determine the total green weight of the tree, multiply the above-ground weight by 1.2:

$W_{\text{total green weight}} = 1.2 * W_{\text{above-ground}}$

Step 2: Determine the dry weight of the tree

The average tree is 72.5% dry matter and 27.5% moisture. Therefore, to determine the dry weight of the tree, multiply the total green weight of the tree by 72.5%.

$$W_{\text{dry weight}} = 0.725 * W_{\text{total green weight}}$$

Step 3: Determine the weight of carbon in the tree

The average carbon content is generally 50% of the tree's dry weight total volume. Therefore, in determining the weight of carbon in the tree, multiply the dry weight of the tree by 50%.

$$W_{\text{carbon}} = 0.5 * W_{\text{dry weight}}$$

Step 4: Determine the weight of carbon dioxide sequestered in the tree

CO₂ has one molecule of Carbon and 2 molecules of Oxygen. The atomic weight of Carbon is 12 (u) and the atomic weight of Oxygen is 16 (u). The weight of CO₂ in trees is determined by the ratio of CO₂ to C is 44/12 = 3.67. Therefore, to determine the weight of carbon dioxide sequestered in the tree, multiply the weight of carbon in the tree by 3.67. $W_{\text{carbon-dioxide}} = 3.67 * W_{\text{carbon}}$



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RESULTS AND DISCUSSIONS



3.1 CARBON FOOTPRINT ESTIMATION

3.1.1 ENERGY

a. Electricity

Electricity is purchased from KSEB under 7 LT Connections, the details are given below.

Electricity Connection Details		
Pavanatma College Murickassery		
1	Name of the Consumer	Pavanatma College Murickassery
2	Tariff	LT-6A/Three, LT-7A/Three, LT-6A/Three, LT-6A/Single, LT-6A Ndom, LT-6B/single, LT-6F/Three
3	Consumer Numbers	1157110000001, 1157117010513 1157112015364, 1157110004561, 1166393000082, 1157114004596, 1157119013930
4	Connected Load Total (kW)	189
5	Annual Electricity Consumption (kWh)	36233

Electricity Bill Analysis

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE, MURICKASSERY				
Connected Load (kW)		89	Consumer no		1157117010513	
Tariff		LT-7A/Three		Section		
				Murickassery		
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
May-22	493	2520	3648	365	30	6568
Jul-22	535	2682	3983	398	30	7099
Sep-22	678	2880	5526	431	30	8994
Nov-22	602	2880	4906	491	30	8312
Jan-23	680	2880	5542	554	30	9012
Mar-23	728	2880	5933	593	30	9500

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE,MURICKASSERY				
Connected Load (kW)		46	Consumer no		1157110000001	
Tariff		LT-6A/Three		Section		Murickassery
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
Apr-22	1364	2990	8866	887	15	12760
May-22	989	2990	6429	643	15	10079
Jun-22	781	2990	5077	508	15	8592
Jul-22	1027	3036	6706	671	15	10431
Aug-22	1082	3220	7195	720	15	11153
Sep-22	1123	3220	7468	747	15	11452
Oct-22	1034	3220	6876	688	15	10801
Nov-22	1187	3220	7894	789	15	11921
Dec-22	1268	3220	8432	843	15	12513
Jan-23	1198	3220	7967	797	15	12001
Feb-23	1057	3220	7029	703	15	10973
Mar-23	873	3220	5805	581	15	9702

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE,MURICKASSERY				
Connected Load (kW)		30	Consumer no		1157112015364	
Tariff		LT-6A/Three		Section		Murickassery
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
Apr-22			0	0		0
Jun-22			0	0		0
Aug-22			0	0		0
Oct-22			0	0		0
Nov-22	0	261.33	0	0	30	278
Jan-23	217	560	1259	126	30	1980
Mar-23	0	560	0	0	30	595

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE, MURICKASSERY				
Connected Load (kW)		1	Consumer no		1157110004561	
Tariff		LT-6A/Single		Section		Murickassery
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
May-22	0	130	0	0	12	144
Jul-22	0	134.5	0	0	12	149
Sep-22	0	140	0	0	12	154
Nov-22	0	140	0	0	12	154
Jan-23	55	140	319	32	12	505
Mar-23	59	140	342	34	12	535

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE, MURICKASSERY				
Connected Load (kW)		2	Consumer no		1166393000082	
Tariff		LT-6A Ndom		Section		Murickassery
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
Apr-22	0	120	0	0	17.7	138
Jun-22	1	120	5	1	17.7	143
Aug-22	0	120	0	0	17.7	138
Oct-22	0	120	0	0	17.7	138
Dec-22	0	120	0	0	17.7	138
Feb-23	0	120	0	0	17.7	138

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE, MURICKASSERY				
Connected Load (kW)		5	Consumer no		1157114004596	
Tariff		LT-6B/Single		Section		Murickassery
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
May-22	1086	800	7602	760	12	9176
Jul-22	939	845	6000	600	12	7459
Sep-22	1061	900	7586	759	12	9259
Nov-22	1125	900	8044	804	12	9762
Jan-23	1218	900	8709	871	12	10494
Mar-23	1476	900	10553	1055	12	12640

Electricity Bill Details (2022-23)						
Name of the Consumer		PAVANATMA COLLEGE, MURICKASSERY				
Connected Load (kW)		16	Consumer no		1157119013930	
Tariff		LT-6F/Three		Section		Murickassery
Month	kWh	Fixed charge (Rs)	Energy charge (Rs)	Duty (Rs)	Meter rent (Rs)	Total amount to be paid (Rs)
Apr-22	1334	2380	12006	1201	15	15604
May-22	1123	2380	10107	1011	15	10107
Jun-22	760	2380	6840	684	15	9922
Jul-22	994	2482	8996	900	15	12395
Aug-22	1016	2890	9398	940	15	13246
Sep-22	1055	2890	9759	976	15	13642
Oct-22	958	2890	8862	886	15	12655
Nov-22	1281	2890	11849	1185	15	15942
Dec-22	1331	2890	12312	1231	15	16451
Jan-23	1890	2890	17483	1748	15	22138
Feb-23	1076	2890	9953	995	15	13859
Mar-23	805	2890	7446	745	15	11171

Annual Electricity Consumption (kWh)		
Consumer No	2022-23	Connected Load (kW)
1166396000079	12983	46
1166396000080	3716	89
1166393001873	72	30
1166394001043	19	1
1166393000082	1	2
1166390009225	5819	5
1166390015190	13623	16
Total	36233	189

b. Diesel

Diesel Consumption Details				
	Transportation	Generator	Total	cost
	in L	in L	in L	in Rs
22-23	0	63.67	64	6187

c. LPG

LPG Consumption Details	
	2022-23
No Cylinders	216
Canteen/Lab LPG Consumption in kg	4104.0
Total in kg	4104.0

Base Line Energy Data		
Pavanatma College, Murickassery		
		2022-23
1	Electricity KSEB (kWh)	36233
2	Electricity DG (kWh)	191
3	Electricity Solar, Off grid (kWh)	3833
4	Electricity (KSEB + DG + Off grid) kWh	40257
5	Electricity Grid Tied (kWh)	12775
6	Diesel (L)	63.7
7	LPG (kg)	4104.00
8	Biogas generated/year (kg)	330.00

Energy Consumption Profile		
SI No	Fuel	2022-23
		kCal
1	Electricity	34620879
2	Diesel	668511
3	LPG	49248000
4	Biogas	1540000
	Total	86077390

Thermal Fuel Consumption	
Pavanatma College, Murickassery	
	2022-23
Annual LPG consumption in kg	4104.0
Annual Diesel consumption in L	63.7
Annual petrol consumption in L	0
Annual Biogas consumption in kg	330.00

3.1.2 Renewable Energy



10kWp Solar Power plant

The installation of a 12kWp off-grid solar power plant in the campus and hostel is an exemplary initiative and one of the best practices adopted by the college. This solar power plant efficiently harnesses the abundant solar energy available, ensuring sustainable electricity generation. With an annual electricity generation capacity of 15330 units, this solar power plant not only meets a significant portion of the campus's energy needs but also helps in reducing the institution's carbon footprint. By mitigating approximately 10.48 tons of CO₂ emissions per year, the solar power plant plays a crucial role in promoting clean energy and environmental conservation within the college. It stands as a shining example of the college's commitment to renewable energy and serves as an inspiration for other institutions to follow suit.

Solar Power Plant		
Location	Capacity (kWp)	2022-23
		Annual generation (kWh)
College Campus	10	12775
Ladies Hostel 1	1	1278
Ladies Hostel 2	1	1278
Total kWh		15330

3.2. Specific Energy Consumption

OTTOTRACTIONS- ENERGY AUDIT		
PAVANATMA COLLEGE ,Murickassery		
Energy Performance Index (EPI)		
SI No	Particulars	2022-23
1	Total building area (m ²)	10357.03
2	Annual Energy Consumption (kCal)	86077390
3	Annual Energy Consumption (kWh)	100090
4	Total Energy in Toe	8.61
5	Specific Energy Consumption kWh/m ²	9.66

The specific energy consumption in 2022-23 may be taken as benchmark.

3.3. Waste Generation total

The major concern of waste management will be focused on the solid waste produced by the campus. Solid wastes produced in the campus are mainly of three types, food waste, paper waste, and plastic waste. Food wastes produced in the campus are mainly by two means. The vegetable wastes produced in the kitchen during the food preparation. The food waste produced by the students and staffs of the campus after the consumption of meals.



Degradable Waste

Degradable Waste Generation	
Pavanatma College, Murickassery	
Particulars	2022-23
Total Occupancy	1081
Waste generated in kg /day	21.62
Waste generated in kg /Yr	4756.4

Non-Degradable waste

Solid non degradable Waste Generation	
Pavanatma College, Murickassery	
Particulars	2022-23
Total Occupancy	1081
Waste paper generated in kg /day	0.2162
Waste plastic generated in kg /day	0.3243
Waste paper generated in kg /Yr	47.56
Waste plastic generated in kg /Yr	71.35

3.4. Transportation

The college have no vehicles for logistics

Carbon Emission Profile (2022-23)

Carbon emissions in the campus due to the day-to-day activities are calculated and are discussed below. The emission factors considered for estimation and its units are given.

Emission Factors		
Item	Factor	Unit
Electricity	0.00082	tCo2e/kWh
Diesel	0.0032	tCo2e/kg
LPG	0.0015	tCo2e/kg
Biogas	0.0014	tCo2e/kg
Petrol	0.0031	tCo2e/kg
Food Waste	0.00063	tCo2e/kg
Paper Waste	0.00056	tCo2e/kg

Carbon Foot Print 2022-23

Carbon Foot Print			
Sl. No.	Particulars	2022-23	tCO2e
1	Electricity (kWh)	40257	33.01
2	Diesel (L)	64	0.20
3	LPG (kg)	4104.00	6.16
4	Biogas (kg)	330.00	0.462
5	Degradable Waste in kg/yr.	4756.4	3.00
6	Paper Waste in kg/yr	47.56	0.03
Total Carbon Foot Print tCO2e/yr			42.86

3.5. CARBON SEQUESTRATION

All the activities including energy consumption and waste management have their equivalent carbon emission and they positively contribute to the carbon footprint of the campus. Carbon sequestration is the reverse process, at which the emitted carbon dioxide will get sequestered according to the type of carbon sequestration employed. Even though there are many natural sequestration processes are involved in a campus, the major type of sequestration among them is the carbon sequestration by trees.

Carbon Sequestration	
Particulars	2022-23
Total No of Trees	595
Carbon sequestered by trees in the campus (tCO ₂ e)	20.82

Trees sequester carbon dioxide through the biochemical process of photosynthesis and it is stored as carbon in their trunk, branches, leaves and roots. The amount of carbon sequestered by a tree can be calculated by different methods. In this study, the volumetric approach was taken into account, thus the details including CBH (Circumference at Breast Height), height, average age, and total number of the trees, are required. Details of the trees in the campus compound are given in the Table. Detailed table is included in the technical supplement.

Carbon sequestered by a tree can be found out by using different methods. Since this study is employed the volumetric approach, the calculation consists of five processes.

- Determining the total weight of the tree
- Determining the dry weight of the tree
- Determining the weight of carbon in the tree
- Determining the weight of CO₂ sequestered in the tree
- Determining the weight of CO₂ sequestered in the tree per year

List of Trees in Campus

List of trees in campus		
Sl.No	Name of Trees	Number
1	Teak	11
2	Mango tree	24
3	Jackfruit tree	12
4	Bamboo	4
5	Guava	13
6	Coconut tree	22
7	Vaka tree	1

8	Athi	3
9	Magnolia	1
10	Njaval tree	5
11	Manchiyam	2
12	Almond tree	3
13	Jathi tree	1
14	Champa tree	3
15	Cypress	15
16	Ramputtan	1
17	Cempakam	1
18	Anjili	4
19	Eucalyptus	1
20	Tamarind	2
21	Ilannji tree	1
22	Spruce tree	2
23	Lakshmitharu	1
24	Yukkali	1
25	Magnolia	1
26	Chaukka	38
27	Rubber	10
28	Unrecognized trees	412
Total		595

CARBON FOOTPRINT OF THE CAMPUS (2022-23)

Various carbon emitting activities such as consumption of energy, transportation and waste generation leads to the total emission of **42.86tCO₂e** per year by the campus. The total carbon sequestration by trees in the campus compound is **20.82tCO₂e**. Thus, the current carbon footprint of the campus will be the difference of total carbon emission and total carbon sequestration/mitigation. The following table shows the carbon footprint level:

Specific CO₂ Footprint

Amount of Carbon to be mitigated for Low Carbon Campus		
SI No	Particulars	2022-23
1	Total carbon emission tCO ₂ e	42.86
2	Total carbon sequestration tCO ₂ e	20.82
3	Amount of carbon mitigated through renewable energy tCO ₂ e	10.94
4	To be mitigated tCO ₂ e	11.09
5	Total No of Students	1081
6	Specific Carbon Footprint kg CO ₂ e/Student/Yr	10.26

The total specific carbon footprint is estimated as **10.26** kg of CO₂e per student for the year 2022-23.

4

Carbon Mitigation Plans



The total emission of the carbon dioxide per student is **42.86** kg per year (2022-2023). Emission reduction plans were prepared to bring the existing per capita carbon footprint to zero or below so as to bring the campus a carbon neutral or carbon negative campus.

This can be achieved in many ways but, every alternate plan must be in such a way that, it must fulfill the actual purpose of each activity that is considered.

Here, three major methods are taken in to account as the plans for reducing the carbon emission of the campus.

- Resource optimisation
- Energy efficiency
- Renewable energy

RESOURCE OPTIMISATION

The effective use of resources can limit its unnecessary wastage. Optimal usage of the resources (such as fuels) can save the fuel and can also reduce the carbon emission due to its consumption. This technique can be effectively implemented in the 'transportation' and 'waste' sectors of the campus.

WASTE MINIMISATION

Optimal utilisation of paper and plastic stationaries can reduce the frequency of purchase of items. This can reduce the unnecessary wastage of money as well as the excess production of waste. In the case of food, proper food habits and housekeeping practices can optimise its usage.

Currently, the campus is taking an appreciable effort to reduce the unnecessary production of wastes. But the campus still has opportunities to reduce the generation of waste and can improve much more. Resource optimisation can be effectively implemented in all type of waste generated in the campus and the campus can expect about 50% reduction the total waste produced.

ENERGY EFFICIENCY

Energy efficiency is the practice of reducing the energy requirements while achieving the required energy output. Energy efficiency can be effectively implemented in all the sectors of the campus.



FUELS FOR COOKING

The campus uses biogas and commercial LPG cylinders for its cooking purpose. The campus can install a biogas plant to treat food waste and the biogas thus generated can be used in kitchen. Installation of a solar water heater to rise the water temperature to a much higher level, then it has to consume only very less amount of thermal energy for preparing the same amount of food is another method. This can make a positive benefit to the campus by saving money, energy and can reduce the carbon emission of the campus due to thermal energy consumed for cooking.

TRANSPORTATION

Energy efficiency of the transportation sector is mainly depended on the fuel efficiency of the vehicles used. Here mileage of the vehicle (kmpl - Kilometres per Litre) is calculated to assess the fuel efficiency of the vehicle.

Percentage of closeness is the ratio of actual mileage of the vehicle to its expected mileage. If the percentage of closeness of mileages of each vehicle is greater than that of its average, then the efficiency status of the vehicle is considered as 'Above average' and else, it is considered as 'Below average'.

Carbon Mitigation Proposals

After analyzing the historical and measured data the following projects are proposed to make the campus carbon neutral. The projects are from energy efficiency and renewable energy. The further additions in the green cover increase will also give positive impact in the carbon mitigation.

Pavanatma College Murickassery						
Greenhouse Gas Mitigation through Major Energy Efficiency Projects						
Sl No	Projects proposed	Energy saved(Yearly)		Sustainability (Years)	First year ton of CO2 mitigated	Expected Tons of CO2 mitigated through out life cycle
		(kWh)	MWh	Years		
1	Energy Saving in Lighting by replacing existing 3 No's T8 (40W) Lamps to 18W LED Tube	63	0.06	10	0.05	0.46
2	Energy Saving in Lighting by replacing existing 3 No's CFL(15W) Lamps to 9W LED Bulb	13	0.01	10	0.01	0.09
3	Energy Saving by replacing existing 190 No's in-efficient ceiling fans with Energy Efficient Five star fans	3575	3.58	10	2.61	26.10
Total		3651	4	10	2.67	26.65

OTTOTRACTIONS- ENERGY AUDIT						
Pavanatma College Murickassery						
Greenhouse Gas Mitigation through Renewable Energy Projects						
Sl No	Projects	Energy saved (Yearly)		Sustainability (Years)	First year ton of CO2 mitigated	Expected Tons of CO2 mitigated through out life cycle
		(kWh)	MWh	Years		
1	Installation of 10kWp Solar Power Plant	13688	13.69	25	9.99	249.80

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal Code 1	
Energy Saving in Lighting by replacing existing 3 No's T8 (40W) Lamps to 18W LED Tube	
Existing Scenario	
3 numbers of T8(40 W) lamps were identified during the energy audit field survey in the facility. During discussion with officers it is observed that the average utility of these fittings are of 30%.	
Proposed System	
The existing T8 may be replaced to LED Tube of 18W in phased manner and the savings will be of 55% (inclusive of improved light output and reduced energy consumption)	
Financial Analysis	
Annual working hours (hr)	2400
No of fittings	3
Total load (kW)	0.12
Annual Energy Consumption (kWh)	115
Expected Annual Energy saving for replacing all fittings (kWh)	63
Cost of Power	12.26
Annual saving in Lakhs Rs (1st year)	0.01
Investment required for complete replacements [@Rs 300 per fittings](Lakhs Rs)	0.01
Simple Pay Back (in Months)	13.90

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal 2	
Energy Saving by replacing existing 190 No's in-efficient ceiling fans with Energy Efficient Five star fans	
Existing Scenario	
There are 190 numbers of ceiling fans installed in the facility with minimum 8 hrs a day operation. All are conventional type and most of them are very old.	
Proposed System	
There is an energy saving opportunity in replace the existing fans with new five star labelled fans. The five star labelled fans give a savings up to 30% with higher service value (air delivery/watt).	
Financial Analysis	
Annual working hours (hrs)	2400
Total numbers of ordinary fans	190
Total load (kW)	13.30
Annual Energy Consumption (kWh)	12768
Expected Annual Energy saving, for total replacement(kWh)	3575
Cost of Power (Rs)	12.26
Annual saving in Lakhs Rs (1st year)	0.44
Investment required for a total replacement (Lakhs Rs)[@3000 Rs per Fan with 50W at full speed]	5.70
Simple Pay Back (in Months)	156.06

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal 3	
Energy Saving in Lighting by replacing existing 3 No's CFL(15W) Lamps to 9W LED Bulb	
Existing Scenario	
24 numbers of CFL (15W) lamps were identified during the energy audit field survey in the facility. During discussion with officers it is observed that the average utility of these fittings are of 30%.	
Proposed System	
The existing CFL may be replaced to LED Bulb of 9W in phased manner and the savings will be of 40% (inclusive of improved light output and reduced energy consumption)	
Financial Analysis	
Annual working hours (hr)	2400
No of fittings	3
Total load (kW)	0.05
Annual Energy Consumption (kWh)	32
Expected Annual Energy saving for replacing all fittings (kWh)	13
Cost of Power	12.26
Annual saving in Lakhs Rs (1st year)	0.002
Investment required for complete replacements [@Rs 90 per fittings](Lakhs Rs)	0.003
Simple Pay Back (in Months)	20.39

Energy Saving Proposal	
Installation of 10kWp Solar Power Plant	
Existing Scenario	
There is a good potential of solar power electricity generation. The availability of sunlight is very high. There are some canopies available in the proposed site, but by having proper trimming of trees this may be avoided. If the SPVs are placed on the roof top it will help in improving RTTV (Roof Thermal Transmittance Value) of the building.	
Proposed System	
It is proposed to have a Solar Power Plant of 10kW at the beginning stage. The state and central government is pushing and giving good assistance to the installation. It can be installed as an internal grid connected system which is much cheaper than an off-grid system. Nowadays the technology provides a trouble-free grid interactive and connected system. The installation will provide 25 years of trouble-free generation with only 20% efficiency loss at the 25th year.	
Financial Analysis	
Proposed Solar installed Capacity (kW)	10
Total average kWh per day expected (3.5kWh/day average)	37.50
Total annual Generating Capacity (kWh)	13688
Cost of energy generated annually Lakhs Rs	1.82
Investment required (INR lakh)(Approx)	5.50
Simple Pay Back (in Months)	36.26
Life cycle in Yrs	25
Total Saving in Life Cycle (Approx) RS lakh	45.51

Consolidated Cost Benefit Analysis of Energy Efficiency Improvement Projects					
Pavanatma College Murickassery					
SI No	Projects	Investment	Cost saving	SPB	Energy saved
		(Lakhs Rs)	(Rs)/Yr	Months	kWh/Yr
1	Energy Saving in Lighting by replacing existing 3 No's T8 (40W) Lamps to 18W LED Tube	0.01	0.008	13.90	63
2	Energy Saving in Lighting by replacing existing 3 No's CFL(15W) Lamps to 9W LED Bulb	0.003	0.002	20.39	13
3	Energy Saving by replacing existing 190 No's in-efficient ceiling fans with Energy Efficient Five star fans	5.70	0.438	156.06	3575
4	Installation of 10kWp Solar Power Plant	5.50	1.820	36.26	13688
	Total	11.21	2.27	56.65	17339
(The saving are projected as per the assumed operation time observed based in the discussions with the plant officials. The data of saving percentages are taken from BEE guide books and field measurements.)					

5

CONCLUSION



The carbon emission from different sectors namely, Energy, Transportation and wastes were calculated using standard procedures. Carbon sequestration by the trees present in the campus was also estimated. From these the total carbon footprint of the campus was arrived at.

Net Carbon Emission after implementing Energy Efficiency projects and Renewable Energy Projects Proposed		
1	Total Carbon Foot Print tCO ₂ e/yr	42.86
2	Carbon Sequestered tCO ₂ e/yr	20.82
3	Carbon mitigated by Renewable Energy tCO ₂ e/yr (Installed)	10.94
4	Carbon mitigated by Renewable Energy tCO ₂ e/yr (Proposed)	9.99
5	Carbon mitigated by Energy Efficiency (Proposed) tCO ₂ e/yr	2.67
6	Effective Carbon footprint tCO ₂ e/yr	-1.56
7	Total No of Students	997
8	Specific Carbon Footprint kg CO ₂ e/Student/Yr	-1.57

From this study it was found that carbon footprint of the campus to be **-1.56kgCO₂e/ Student/ Year** in place of current footprint i.e., **42.96 kgCO₂e/ student/ Year**. To achieve this, an investment of **11.21Lakhs Rs** is required through energy efficiency and renewable energy projects proposed. It will be around **1125 Rs per student** to make the campus the carbon negative.

Cost to make the campus Carbon Negative		
1	Cost of implementation in Energy Efficiency Lakhs Rs	5.71
2	Cost of implementation in Renewable Energy Lakhs Rs	5.50
3	Total Lakhs Rs	11.21
4	Total number of students	997
5	Cost per student to make the campus carbon negative Rs/ Student	1125

REFERENCES

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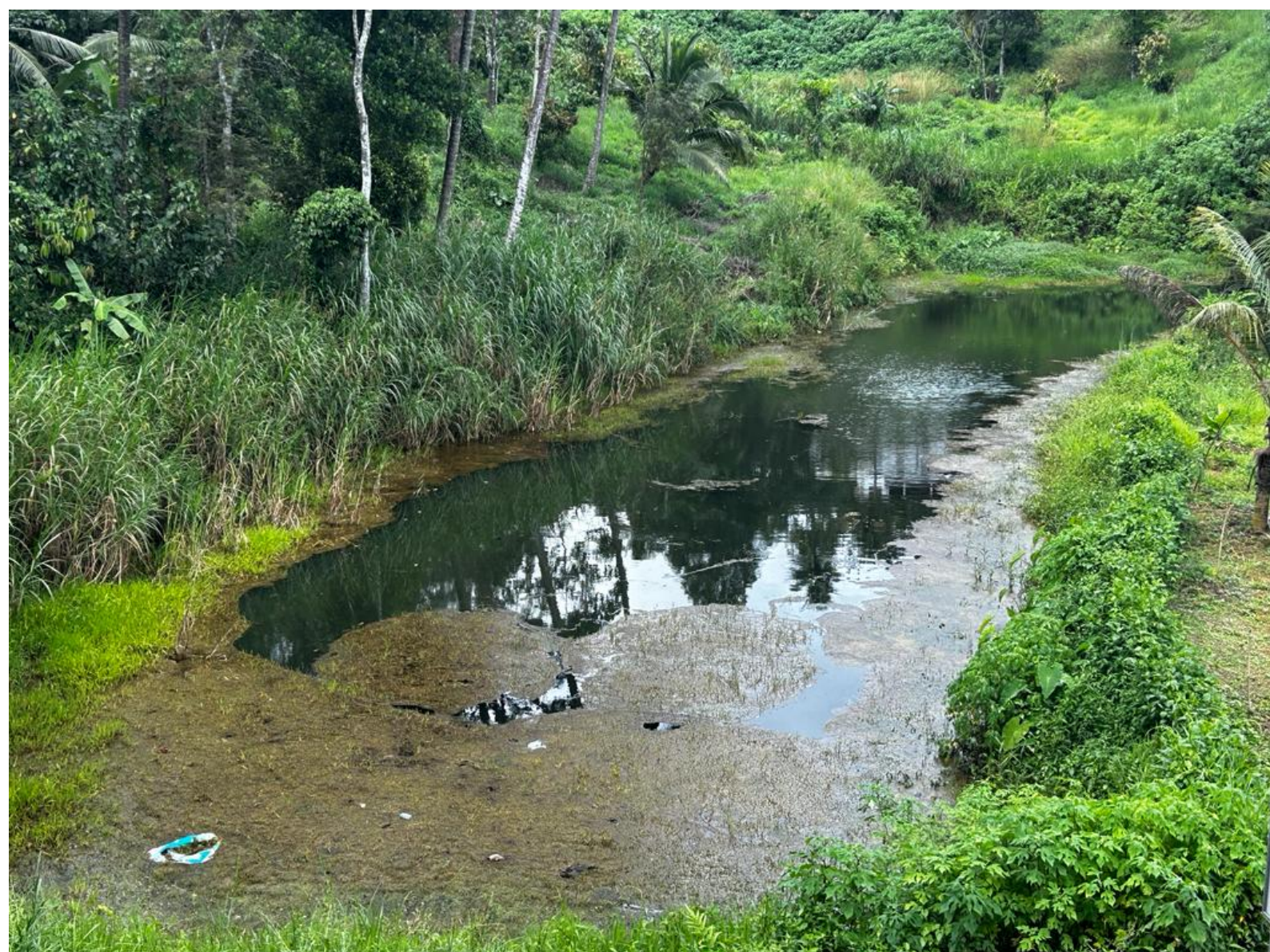
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6

TECHNICAL SUPPLEMENT



Pavanatma College Murickassery																																			
Sl. No	Building	Location	Lights								Fans				IT			UPS				A C	Others												
			LED-T	LED-T 2Ft	LED-B	LED-B (20W)	LED-B (5W)	LED-SQ	LED(200W)	LED(300W)	T8	CFL	CF	WF	EF	PF	Printer	Photostat	Projector	PC	4kVA		3kVA	2.5kVA	3.6kVA	1 TR	PA	Water Dispenser	OVEN	TV	Fridge	MIXER	Grinder	Electric Kettle	
1	Rusa Funded Building	Animation And Graphics Design-1	1	5							1	2																3							
2		Office		1											1			1																	
3		Corridor	6																							1									
4		Corridor	3				1	2																											
5		Lab	3								3	1																							
6		Hall-1	1	2							1	2					1																		
7		Toilet	2																																
8	Ladies Hostel-1	Office			1						1							1																	
9		Corridor			8																														
10		Kitchen	1		2	1					2																			1					
11		Dining Hall			1						8																			1					
12		Room*20			4						2	0																							
13		Study Hall	3		2						2																								
14		Corridor	2		2																						1								
15	Ladies Hostel-2	Dining Hall	1		4					3																1	1	1							
16		Kitchen	1		5																						1		1		1				
17		Room*7			1						1																								

42	B Com-2			1						2				1																											
43	B Com-1			1						2																															
44	Department Of English			2						1		1		1																										1	
45	English-1	1								2																															
46	English-2	1								2																															
47	English-3			1						3																															
48	Class	1		1						2																															
49	Malayalam Department			4						1		1		2																											
50	Malayalam -1	1								2			1																												
51	Malayalam -2			1						2																															
52	Malayalam -3			1						2																															
53	Department Of History	3										3		3																										1	
54	History-1	1								2			1																												
55	History-2	1								2			1																												
56	History-3	1								2			1																												
57	Iqac												1													1															
58	Malayalam-1	2							1	1																															
59	M Com-1	1								1			1																												
60	Ma History			2						2																															
61	B Voc Accountancy 3									1																															
62	Ma History-2			1						1																															
63	Msc Maths-1			2						1																															
64	Ma Malayalam-2			1						1			1																												
65	Media Room			3						2			1																												
66	Department Of Bvoc									1																															
67	Bvoc Accounting-1			2						1																															
68	Hall							5																																	2

						0						1																						
69	Auditorium	5						1 2	1 3			1 4																						
70	Fitness Centre	4																											1					
71	Quarters*5	5										5																						
72	Library			4				5 2				6		1	1	1	1	1	1 2		1													
73	Physics Lab	1 2		1								4	2		1		1	1	1 2		1													
74	Physics-1			1								2																		1				
75	Physics-2											1																		1				
76	Physics-3											2						1																
77	Msc Chemistry*3			1 2																														
78	Chemistry-1	2		2								2							1															
79	Visitor's Room	2																																
	Total	1 5 3	1	1 4 5	3	6 2	6 0	1 2	1 3	3	3	1 9 0	2 6	1 1	2	1 3	5	1 9	6 7	1	1	1	2	2	2	3	2	1 3	5	1	1	4		

KERALA STATE ELECTRICITY BOARD LIMITED
DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

Section	[5711]-Electrical Section Murikkassery	Phone#	0486-8263820	Customer Care	1912	
Consumer#	1157110000001	Reg. Mob# 701xxxx107	Regular CC Bill	KSEBL GSTIN: 32AAECK2277NBZ1		
Name & Mailing Address		For redressing complaints/grievance approach the concerned CGRF				
FR MATHEW THECKAKARA PAVANATHMA COLLEGE, MURICKASSERY, MURICKASSERY		South: Chairperson,CGRF(South),KSEBL,Vydyuthi Bhavanam, Kottarakkara-691506, Ph:0474-2451300				
Y		Central: Chairperson,CGRF(Central),KSEBL,220KV SubStation,Kalamassery-683503,Ph:0484-2556500				
		North: Chairperson,CGRF(North),KSEBL,Vydyuthi Bhavanam,Gandhi Rd.,Kozhikode-673011,Ph:0495-2367820				
		State Electricity Ombudsman,D.H.Rd & Foreshore Rd Jn.,Near GandhiSquare,Ernakulam-682016,Ph:0484-2346488				
Bill#	5711230300043	Bill Area	M01/1	DTR	MURICKASSERY ALPHONSA	
Billing Period	3/2023[Monthly]	Tariff/Phase	LT-6A/Three	Pole#	(TR.4)	
Bill Date	01-03-2023	Due Date	13-03-2023	DC Date	28-03-2023	
Contract Demand	(Nil) VA [75% : 0KV, 130% : 0KV]	Connected Load	45750 Watts	Security Deposit	Rs.46000.00	
Meter#	L&T005180018288972	Average consumption(Monthly)				
Meter Digits	6.2	Power Unit/Zone	CUMULATIVE			
Meter Type/Owner	TOD/KSEB	KWH	1174			
Last Billed Rdg. Date	Prev. Rdg. Date	Prev. Meter Rdg. Status	Prst. Rdg. Date	Prst. Meter Rdg. Status		
01-02-2023	01-02-2023	Working	01-03-2023	Working		
Power Unit	Zone	Trading	Initial Reading(IR)	Final Reading(FR)	OMF	Units*
KWH	Cumulative	Import	63082.00	63955.00	1	873
Remarks :			Bill Details			
Fuel Surcharge[FS] @9 Ps./Unit (Vide Order dt. 25-01-2023)			[INR] Amount(Rs.)			
Last Paid Amount - Rs.9474.00			a) Fixed Charges	Fixed Charge[FC]	3220.00	
Last Payment Date - 07-09-2023				Sub Total	3220.00	
Payable amt.(excluding ACD) as on 2023-03-01 20:01:57:Rs.9702/-			b) Energy Charges	Energy Charge[EC]	5805.45	
				Fuel Surcharge[FS]	78.57	
				Sub Total	5884.02	
			c) Other Charges	Electricity Duty[ED]	580.55	
				Meter Rent[MR]	15.00	
				Sub Total	595.55	
			d) GST	MR-CGST	1.35	
				MR-SGST	1.35	
				Sub Total	2.70	
			e) Round Off		-0.27	
			e) Total Amt.(Bill#5711230300043)	(a+b+c+d+e)	9702.00	
			f) Surcharge		0.00	
			g) Reconnection Fee		0.00	
			h) Interim Bills		0.00	
			i) Arrears		0.00	
			j) Less paid/adj.		-9702.00	
			k) Less Advance		-0.00	
			Net Payable(e+f+g+h+i-j-k)		0.00	
Demand for 3/2023 is Rupees Nine Thousand Seven Hundred and Two Only						

E&OE Payment Options: Cash,Cheque,DD,MO. Online: www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH

KERALA STATE ELECTRICITY BOARD LIMITED
DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

Section	[5711]-Electrical Section Murikkassery	Phone#	0486-8263820	Customer Care	1912	
Consumer#	1157110004561	Reg. Mob# 701xxxx107	Regular CC Bill	KSEBL GSTIN: 32AAECK2277NBZ1		
Name & Mailing Address		For redressing complaints/grievance approach the concerned CGRF				
FR. VICAR PAVANATHMA CHURCH, MURIKASSERY		South: Chairperson,CGRF(South),KSEBL,Vydyuthi Bhavanam, Kottarakkara-691506, Ph:0474-2451300 Central: Chairperson,CGRF(Central),KSEBL,220KV SubStation,Kalamassery-683503,Ph:0484-2556500 North: Chairperson,CGRF(North),KSEBL,Vydyuthi Bhavanam,Gandhi Rd.,Kozhikode-673011,Ph:0495-2367820 State Electricity Ombudsman,D.H.Rd & Foreshore Rd Jn.,Near GandhiSquare,Ernakulam-682016,Ph:0484-2346488				
Bill#	5711230310039	Bill Area	A04/18	DTR	THIRD BLOCK	
Billing Period	3/2023[Bi-Monthly]	Tariff/Phase	LT-6A/Single	Pole#	12	
Bill Date	25-03-2023	Due Date	04-04-2023	DC Date	19-04-2023	
Contract Demand	(Nil) VA [75% : 0KV, 130% : 0KV]	Connected Load	980 Watts	Security Deposit	Rs.444.00	
Meter#	L&T10/170071395495	Average consumption(Monthly)				
Meter Digits	6.2	Power Unit/Zone	CUMULATIVE			
Meter Type/Owner	LCD/KSEB	KWH	9			
Last Billed Rdg. Date	Prev. Rdg. Date	Prev. Meter Rdg. Status	Prst. Rdg. Date	Prst. Meter Rdg. Status		
20-01-2023	20-01-2023	Working	25-03-2023	Working		
Power Unit	Zone	Trading	Initial Reading(IR)	Final Reading(FR)	OMF	Units*
KWH	Cumulative	Import	1047.00	1106.00	1	59
Remarks :			Bill Details			
Fuel Surcharge[FS] @9 Ps./Unit (Vide Order dt. 25-01-2023) Last Paid Amount - Rs.469.00 Last Payment Date - 09-08-2023 Payable amt.(excluding ACD) as on 2023-03-25 01:38:30:Rs.539/-			[INR] Amount(Rs.)			
			a)	Fixed Charges	Fixed Charge[FC]	140.00
					Sub Total	140.00
			b)	Energy Charges	Energy Charge[EC]	342.20
					Fuel Surcharge[FS]	4.69
					Sub Total	346.89
			c)	Other Charges	Electricity Duty[ED]	34.22
					Meter Rent[MR]	12.00
					Sub Total	46.22
			d)	GST	MR-CGST	1.08
					MR-SGST	1.08
					Sub Total	2.16
			e)	Round Off		-0.27
			e)	Total Amt.(Bill#5711230310039) (a+b+c+d+e)		535.00
			f)	Surcharge		4.00
			g)	Reconnection Fee		0.00
			h)	Interim Bills		0.00
			i)	Arrears		0.00
			j)	Less paid/adj.		-539.00
			k)	Less Advance		-0.00
				Net Payable(e+f+g+h+i-j-k)		0.00
			Demand for 3/2023 is Rupees Five Hundred and Thirty Five Only			

E&OE **Payment Options:** Cash,Cheque,DD,MO. **Online:** www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH

KERALA STATE ELECTRICITY BOARD LIMITED
DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

Section	[5711]-Electrical Section Murikkassery	Phone#	0486-8263820	Customer Care	1912																																																																																			
Consumer#	1157114004596	Reg. Mob# 701xxxx107	Regular CC Bill	KSEBL GSTIN: 32AAECK2277NBZ1																																																																																				
Name & Mailing Address		For redressing complaints/grievance approach the concerned CGRF																																																																																						
THE MANAGER PAVANATHMA COLLEGE, MURICKASSERY		South: Chairperson,CGRF(South),KSEBL,Vydyuthi Bhavanam, Kottarakkara-691506, Ph:0474-2451300 Central: Chairperson,CGRF(Central),KSEBL,220KV SubStation,Kalamassery-683503,Ph:0484-2556500 North: Chairperson,CGRF(North),KSEBL,Vydyuthi Bhavanam,Gandhi Rd.,Kozhikode-673011,Ph:0495-2367820 State Electricity Ombudsman,D.H.Rd & Foreshore Rd Jn.,Near GandhiSquare,Ernakulam-682016,Ph:0484-2346488																																																																																						
Bill#	5711230310056	Bill Area	A04/18	DTR	THIRD BLOCK																																																																																			
Billing Period	3/2023[Bi-Monthly]	Tariff/Phase	LT-6B/Single	Pole#	12																																																																																			
Bill Date	25-03-2023	Due Date	04-04-2023	DC Date	19-04-2023																																																																																			
Contract Demand	(Nil) VA [75% : 0KV, 130% : 0KV]	Connected Load	5000 Watts	Security Deposit	Rs.15279.00																																																																																			
Meter#	L&T5711M0045751429	Average consumption(Monthly)																																																																																						
Meter Digits	5.1	Power Unit/Zone	CUMULATIVE																																																																																					
Meter Type/Owner	Static/KSEB	KWH	567																																																																																					
Last Billed Rdg. Date	Prev. Rdg. Date	Prev. Meter Rdg. Status	Prst. Rdg. Date	Prst. Meter Rdg. Status																																																																																				
20-01-2023	20-01-2023	Working	25-03-2023	Working																																																																																				
Power Unit	Zone	Trading	Initial Reading(IR)	Final Reading(FR)	OMF	Units*																																																																																		
KWH	Cumulative	Import	34551.00	36027.00	1	1476																																																																																		
Remarks :			Bill Details																																																																																					
Fuel Surcharge[FS] @9 Ps./Unit (Vide Order dt. 25-01-2023) Last Paid Amount - Rs.8584.00 Last Payment Date - 05-08-2023 Payable amt.(excluding ACD) as on 2023-03-25 01:38:21:Rs.12636/-			<table border="1"> <tr> <td></td> <td></td> <td>[INR] Amount(Rs.)</td> </tr> <tr> <td>a)</td> <td>Fixed Charges</td> <td>Fixed Charge[FC]</td> <td>900.00</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>900.00</td> </tr> <tr> <td>b)</td> <td>Energy Charges</td> <td>Energy Charge[EC]</td> <td>10553.40</td> </tr> <tr> <td></td> <td></td> <td>Fuel Surcharge[FS]</td> <td>117.34</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>10670.74</td> </tr> <tr> <td>c)</td> <td>Other Charges</td> <td>Electricity Duty[ED]</td> <td>1055.34</td> </tr> <tr> <td></td> <td></td> <td>Meter Rent[MR]</td> <td>12.00</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>1067.34</td> </tr> <tr> <td>d)</td> <td>GST</td> <td>MR-CGST</td> <td>1.08</td> </tr> <tr> <td></td> <td></td> <td>MR-SGST</td> <td>1.08</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>2.16</td> </tr> <tr> <td>e)</td> <td>Round Off</td> <td></td> <td>-0.24</td> </tr> <tr> <td>e)</td> <td>Total Amt.(Bill#5711230310056)</td> <td><i>(a+b+c+d+e)</i></td> <td>12640.00</td> </tr> <tr> <td>f)</td> <td>Surcharge</td> <td></td> <td>0.00</td> </tr> <tr> <td>g)</td> <td>Reconnection Fee</td> <td></td> <td>0.00</td> </tr> <tr> <td>h)</td> <td>Interim Bills</td> <td></td> <td>0.00</td> </tr> <tr> <td>i)</td> <td>Arrears</td> <td></td> <td>0.00</td> </tr> <tr> <td>j)</td> <td>Less paid/adj.</td> <td></td> <td>-12640.00</td> </tr> <tr> <td>k)</td> <td>Less Advance</td> <td></td> <td>-0.00</td> </tr> <tr> <td></td> <td>Net Payable(e+f+g+h+i-j-k)</td> <td></td> <td>0.00</td> </tr> </table>					[INR] Amount(Rs.)	a)	Fixed Charges	Fixed Charge[FC]	900.00			Sub Total	900.00	b)	Energy Charges	Energy Charge[EC]	10553.40			Fuel Surcharge[FS]	117.34			Sub Total	10670.74	c)	Other Charges	Electricity Duty[ED]	1055.34			Meter Rent[MR]	12.00			Sub Total	1067.34	d)	GST	MR-CGST	1.08			MR-SGST	1.08			Sub Total	2.16	e)	Round Off		-0.24	e)	Total Amt.(Bill#5711230310056)	<i>(a+b+c+d+e)</i>	12640.00	f)	Surcharge		0.00	g)	Reconnection Fee		0.00	h)	Interim Bills		0.00	i)	Arrears		0.00	j)	Less paid/adj.		-12640.00	k)	Less Advance		-0.00		Net Payable(e+f+g+h+i-j-k)		0.00
		[INR] Amount(Rs.)																																																																																						
a)	Fixed Charges	Fixed Charge[FC]	900.00																																																																																					
		Sub Total	900.00																																																																																					
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f)	Surcharge		0.00																																																																																					
g)	Reconnection Fee		0.00																																																																																					
h)	Interim Bills		0.00																																																																																					
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j)	Less paid/adj.		-12640.00																																																																																					
k)	Less Advance		-0.00																																																																																					
	Net Payable(e+f+g+h+i-j-k)		0.00																																																																																					
Demand for 3/2023 is Rupees Twelve Thousand Six Hundred and Forty Only																																																																																								

E&OE **Payment Options:** Cash,Cheque,DD,MO. **Online:** www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH

KERALA STATE ELECTRICITY BOARD LIMITED
DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

Section	[5711]-Electrical Section Muriikkassery	Phone#	0486-8263820	Customer Care	1912																																																																																			
Consumer#	1157117010513	Reg. Mob# 830xxxx968	Regular CC Bill	KSEBL GSTIN: 32AAECK2277NBZ1																																																																																				
Name & Mailing Address		For redressing complaints/grievance approach the concerned CGRF																																																																																						
THE DIRECTOR PAVANATHMA COLLEGE, MURIKASSERY P O, MURIKKA SEERY		South: Chairperson,CGRF(South),KSEBL,Vydyuthi Bhavanam, Kottarakkara-691506, Ph:0474-2451300 Central: Chairperson,CGRF(Central),KSEBL,220KV SubStation,Kalamassery-683503,Ph:0484-2556500 North: Chairperson,CGRF(North),KSEBL,Vydyuthi Bhavanam,Gandhi Rd.,Kozhikode-673011,Ph:0495-2367820 State Electricity Ombudsman,D.H.Rd & Foreshore Rd Jn.,Near GandhiSquare,Ernakulam-682016,Ph:0484-2346488																																																																																						
Bill#	5711230310055	Bill Area	A04/18	DTR	THIRD BLOCK																																																																																			
Billing Period	3/2023[Bi-Monthly]	Tariff/Phase	LT-7A/Three	Pole#	12																																																																																			
Bill Date	25-03-2023	Due Date	04-04-2023	DC Date	19-04-2023																																																																																			
Contract Demand	(Nil) VA [75% : 0KV, 130% : 0KV]	Connected Load	8975 Watts	Security Deposit	Rs.13131.00																																																																																			
Meter#	GOE000014227286***	Average consumption(Monthly)																																																																																						
Meter Digits	6.2	Power Unit/Zone	CUMULATIVE																																																																																					
Meter Type/Owner	TOD/KSEB	KWH	327																																																																																					
Last Billed Rdg. Date	Prev. Rdg. Date	Prev. Meter Rdg. Status	Prst. Rdg. Date	Prst. Meter Rdg. Status																																																																																				
20-01-2023	20-01-2023	Working	25-03-2023	Working																																																																																				
Power Unit	Zone	Trading	Initial Reading(IR)	Final Reading(FR)	OMF	Units*																																																																																		
KWH	Cumulative	Import	17922.00	18650.00	1	728																																																																																		
Remarks :			Bill Details																																																																																					
Fuel Surcharge[FS] @9 Ps./Unit (Vide Order dt. 25-01-2023) Last Paid Amount - Rs.9377.00 Last Payment Date - 16-08-2023 Payable amt.(excluding ACD) as on 2023-03-25 01:38:22:Rs.9500/-			<table border="1"> <tr> <td></td> <td></td> <td>[INR] Amount(Rs.)</td> </tr> <tr> <td>a)</td> <td>Fixed Charges</td> <td>Fixed Charge[FC]</td> <td>2880.00</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>2880.00</td> </tr> <tr> <td>b)</td> <td>Energy Charges</td> <td>Energy Charge[EC]</td> <td>5933.20</td> </tr> <tr> <td></td> <td></td> <td>Fuel Surcharge[FS]</td> <td>57.88</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>5991.08</td> </tr> <tr> <td>c)</td> <td>Other Charges</td> <td>Electricity Duty[ED]</td> <td>593.32</td> </tr> <tr> <td></td> <td></td> <td>Meter Rent[MR]</td> <td>30.00</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>623.32</td> </tr> <tr> <td>d)</td> <td>GST</td> <td>MR-CGST</td> <td>2.70</td> </tr> <tr> <td></td> <td></td> <td>MR-SGST</td> <td>2.70</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> <td>5.40</td> </tr> <tr> <td>e)</td> <td>Round Off</td> <td></td> <td>0.20</td> </tr> <tr> <td>f)</td> <td>Total Amt.(Bill#5711230310055)</td> <td><i>(a+b+c+d+e)</i></td> <td>9500.00</td> </tr> <tr> <td>g)</td> <td>Surcharge</td> <td></td> <td>0.00</td> </tr> <tr> <td>h)</td> <td>Reconnection Fee</td> <td></td> <td>0.00</td> </tr> <tr> <td>i)</td> <td>Interim Bills</td> <td></td> <td>0.00</td> </tr> <tr> <td>j)</td> <td>Arrears</td> <td></td> <td>0.00</td> </tr> <tr> <td>k)</td> <td>Less paid/adj.</td> <td></td> <td>-9500.00</td> </tr> <tr> <td>l)</td> <td>Less Advance</td> <td></td> <td>-0.00</td> </tr> <tr> <td></td> <td>Net Payable(f+g+h+i+j-k-l)</td> <td></td> <td>0.00</td> </tr> </table>					[INR] Amount(Rs.)	a)	Fixed Charges	Fixed Charge[FC]	2880.00			Sub Total	2880.00	b)	Energy Charges	Energy Charge[EC]	5933.20			Fuel Surcharge[FS]	57.88			Sub Total	5991.08	c)	Other Charges	Electricity Duty[ED]	593.32			Meter Rent[MR]	30.00			Sub Total	623.32	d)	GST	MR-CGST	2.70			MR-SGST	2.70			Sub Total	5.40	e)	Round Off		0.20	f)	Total Amt.(Bill#5711230310055)	<i>(a+b+c+d+e)</i>	9500.00	g)	Surcharge		0.00	h)	Reconnection Fee		0.00	i)	Interim Bills		0.00	j)	Arrears		0.00	k)	Less paid/adj.		-9500.00	l)	Less Advance		-0.00		Net Payable(f+g+h+i+j-k-l)		0.00
		[INR] Amount(Rs.)																																																																																						
a)	Fixed Charges	Fixed Charge[FC]	2880.00																																																																																					
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		Sub Total	5991.08																																																																																					
c)	Other Charges	Electricity Duty[ED]	593.32																																																																																					
		Meter Rent[MR]	30.00																																																																																					
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d)	GST	MR-CGST	2.70																																																																																					
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		Sub Total	5.40																																																																																					
e)	Round Off		0.20																																																																																					
f)	Total Amt.(Bill#5711230310055)	<i>(a+b+c+d+e)</i>	9500.00																																																																																					
g)	Surcharge		0.00																																																																																					
h)	Reconnection Fee		0.00																																																																																					
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j)	Arrears		0.00																																																																																					
k)	Less paid/adj.		-9500.00																																																																																					
l)	Less Advance		-0.00																																																																																					
	Net Payable(f+g+h+i+j-k-l)		0.00																																																																																					
Demand for 3/2023 is Rupees Nine Thousand Four Hundred and Ninety Nine Only																																																																																								

E&OE **Payment Options:** Cash,Cheque,DD,MO. **Online:** www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH

KERALA STATE ELECTRICITY BOARD LIMITED
DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

Section	[5711]-Electrical Section Murikkassery	Phone#	0486-8263820	Customer Care	1912																																																																																																																								
Consumer#	1157119013930	Reg. Mob# 701xxxx107	Regular CC Bill	KSEBL GSTIN: 32AAECK2277NBZ1																																																																																																																									
Name & Mailing Address		For redressing complaints/grievance approach the concerned CGRF																																																																																																																											
DIRECTOR PAVANATMA COLLEGE, 3RD BLOCK, MURICKASSERY.P. O		South: Chairperson,CGRF(South),KSEBL,Vydyuthi Bhavanam, Kottarakkara-691506, Ph:0474-2451300 Central: Chairperson,CGRF(Central),KSEBL,220KV SubStation,Kalamassery-683503,Ph:0484-2556500 North: Chairperson,CGRF(North),KSEBL,Vydyuthi Bhavanam,Gandhi Rd.,Kozhikode-673011,Ph:0495-2367820 State Electricity Ombudsman,D.H.Rd & Foreshore Rd Jn.,Near GandhiSquare,Ernakulam-682016,Ph:0484-2346488																																																																																																																											
Bill#	5711230300042	Bill Area	M01/1	DTR	THIRD BLOCK																																																																																																																								
Billing Period	3/2023[Monthly]	Tariff/Phase	LT-6F/Three	Pole#	12																																																																																																																								
Bill Date	01-03-2023	Due Date	13-03-2023	DC Date	28-03-2023																																																																																																																								
Contract Demand	(Nil) VA [75% : 0KV, 130% : 0KV]	Connected Load	16100 Watts	Security Deposit	Rs.28770.00																																																																																																																								
Meter#	L&T005180018288966	Average consumption(Monthly)																																																																																																																											
Meter Digits	6.2	Power Unit/Zone	CUMULATIVE																																																																																																																										
Meter Type/Owner	TOD/KSEB	KWH	1432																																																																																																																										
Last Billed Rdg. Date	Prev. Rdg. Date	Prev. Meter Rdg. Status	Prst. Rdg. Date	Prst. Meter Rdg. Status																																																																																																																									
01-02-2023	01-02-2023	Working	01-03-2023	Working																																																																																																																									
Power Unit	Zone	Trading	Initial Reading(IR)	Final Reading(FR)	OMF	Units*																																																																																																																							
KWH	Cumulative	Import	45621.00	46426.00	1	805																																																																																																																							
Remarks :			Bill Details																																																																																																																										
Fuel Surcharge[FS] @9 Ps./Unit (Vide Order dt. 25-01-2023) Last Paid Amount - Rs.9230.00 Last Payment Date - 07-09-2023 Payable amt.(excluding ACD) as on 2023-03-01 20:01:58:Rs.11171/-			<table border="1"> <tr> <td></td> <td></td> <td>[INR] Amount(Rs.)</td> </tr> <tr> <td>a)</td> <td>Fixed Charges</td> <td>Fixed Charge[FC]</td> </tr> <tr> <td></td> <td></td> <td>2890.00</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> </tr> <tr> <td></td> <td></td> <td>2890.00</td> </tr> <tr> <td>b)</td> <td>Energy Charges</td> <td>Energy Charge[EC]</td> </tr> <tr> <td></td> <td></td> <td>7446.25</td> </tr> <tr> <td></td> <td></td> <td>Fuel Surcharge[FS]</td> </tr> <tr> <td></td> <td></td> <td>72.45</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> </tr> <tr> <td></td> <td></td> <td>7518.70</td> </tr> <tr> <td>c)</td> <td>Other Charges</td> <td>Electricity Duty[ED]</td> </tr> <tr> <td></td> <td></td> <td>744.63</td> </tr> <tr> <td></td> <td></td> <td>Meter Rent[MR]</td> </tr> <tr> <td></td> <td></td> <td>15.00</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> </tr> <tr> <td></td> <td></td> <td>759.63</td> </tr> <tr> <td>d)</td> <td>GST</td> <td>MR-CGST</td> </tr> <tr> <td></td> <td></td> <td>1.35</td> </tr> <tr> <td></td> <td></td> <td>MR-SGST</td> </tr> <tr> <td></td> <td></td> <td>1.35</td> </tr> <tr> <td></td> <td></td> <td>Sub Total</td> </tr> <tr> <td></td> <td></td> <td>2.70</td> </tr> <tr> <td>e)</td> <td>Round Off</td> <td></td> </tr> <tr> <td></td> <td></td> <td>-0.03</td> </tr> <tr> <td>e)</td> <td>Total Amt.(Bill#5711230300042)</td> <td>(a+b+c+d+e)</td> </tr> <tr> <td></td> <td></td> <td>11171.00</td> </tr> <tr> <td>f)</td> <td>Surcharge</td> <td></td> </tr> <tr> <td></td> <td></td> <td>0.00</td> </tr> <tr> <td>g)</td> <td>Reconnection Fee</td> <td></td> </tr> <tr> <td></td> <td></td> <td>0.00</td> </tr> <tr> <td>h)</td> <td>Interim Bills</td> <td></td> </tr> <tr> <td></td> <td></td> <td>0.00</td> </tr> <tr> <td>i)</td> <td>Arrears</td> <td></td> </tr> <tr> <td></td> <td></td> <td>0.00</td> </tr> <tr> <td>j)</td> <td>Less paid/adj.</td> <td></td> </tr> <tr> <td></td> <td></td> <td>-11171.00</td> </tr> <tr> <td>k)</td> <td>Less Advance</td> <td></td> </tr> <tr> <td></td> <td></td> <td>-0.00</td> </tr> <tr> <td></td> <td>Net Payable(e+f+g+h+i-j-k)</td> <td>0.00</td> </tr> </table>					[INR] Amount(Rs.)	a)	Fixed Charges	Fixed Charge[FC]			2890.00			Sub Total			2890.00	b)	Energy Charges	Energy Charge[EC]			7446.25			Fuel Surcharge[FS]			72.45			Sub Total			7518.70	c)	Other Charges	Electricity Duty[ED]			744.63			Meter Rent[MR]			15.00			Sub Total			759.63	d)	GST	MR-CGST			1.35			MR-SGST			1.35			Sub Total			2.70	e)	Round Off				-0.03	e)	Total Amt.(Bill#5711230300042)	(a+b+c+d+e)			11171.00	f)	Surcharge				0.00	g)	Reconnection Fee				0.00	h)	Interim Bills				0.00	i)	Arrears				0.00	j)	Less paid/adj.				-11171.00	k)	Less Advance				-0.00		Net Payable(e+f+g+h+i-j-k)	0.00
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E&OE **Payment Options:** Cash,Cheque,DD,MO. **Online:** www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH

KERALA STATE ELECTRICITY BOARD LIMITED
DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

Section	[5711]-Electrical Section Murikkassery	Phone#	0486-8263820	Customer Care	1912	
Consumer#	1157112015364	Reg. Mob# 701xxxx107	Regular CC Bill	KSEBL GSTIN: 32AAECK2277NBZ1		
Name & Mailing Address		For redressing complaints/grievance approach the concerned CGRF				
BURSAR PAVANATMA COLLEGE, MURIKASSERY		South: Chairperson,CGRF(South),KSEBL,Vydyuthi Bhavanam, Kottarakkara-691506, Ph:0474-2451300 Central: Chairperson,CGRF(Central),KSEBL,220KV SubStation,Kalamassery-683503,Ph:0484-2556500 North: Chairperson,CGRF(North),KSEBL,Vydyuthi Bhavanam,Gandhi Rd.,Kozhikode-673011,Ph:0495-2367820 State Electricity Ombudsman,D.H.Rd & Foreshore Rd Jn.,Near GandhiSquare,Ernakulam-682016,Ph:0484-2346488				
Bill#	5711230309855	Bill Area	A04/18	DTR	THIRD BLOCK	
Billing Period	3/2023[Bi-Monthly]	Tariff/Phase	LT-6A/Three	Pole#	12	
Bill Date	25-03-2023	Due Date	04-04-2023	DC Date	19-04-2023	
Contract Demand	(Nil) VA [75% : 0KV, 130% : 0KV]	Connected Load	3010 Watts	Security Deposit	Rs.4000.00	
Meter#	SEI084090021331552	Average consumption(Monthly)				
Meter Digits	6.2	Power Unit/Zone	CUMULATIVE			
Meter Type/Owner	TOD/KSEB	KWH	54			
Last Billed Rdg. Date	Prev. Rdg. Date	Prev. Meter Rdg. Status	Prst. Rdg. Date	Prst. Meter Rdg. Status		
20-01-2023	20-01-2023	Working	25-03-2023	Working		
Power Unit	Zone	Trading	Initial Reading(IR)	Final Reading(FR)	OMF	Units*
KWH	Cumulative	Import	217.00	217.00	1	0
Remarks :			Bill Details			
Fuel Surcharge[FS] @9 Ps./Unit (Vide Order dt. 25-01-2023) Last Paid Amount - Rs.1369.00 Last Payment Date - 05-08-2023 Payable amt.(excluding ACD) as on 2023-03-25 01:40:44:Rs.595/-			a) Fixed Charges		Fixed Charge[FC]	560.00
					Sub Total	560.00
					Sub Total	0.00
			c) Other Charges		Meter Rent[MR]	30.00
					Sub Total	30.00
			d) GST		MR-CGST	2.70
					MR-SGST	2.70
					Sub Total	5.40
			e) Round Off			-0.40
			e) Total Amt.(Bill#5711230309855)		(a+c+d+e)	595.00
			f) Surcharge			0.00
			g) Reconnection Fee			0.00
			h) Interim Bills			0.00
			i) Arrears			0.00
j) Less paid/adj.			-595.00			
k) Less Advance			-0.00			
		Net Payable(e+f+g+h+i-j-k)	0.00			
Demand for 3/2023 is Rupees Five Hundred and Ninety Five Only						

E&OE **Payment Options:** Cash,Cheque,DD,MO. **Online:** www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH