



Dr.T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Estd. 1986) Oorgaum, Kolar Gold Fields, Karnataka – 563120

(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)

7.1.6 Quality audits on environment and energy are regularly undertaken by the institution

Index

Sl. No	Content	Page No.
1	Audit report from Aadhyapana	2-14
2	Audit report from BESCOM	15-21


PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.



AADHYAPANA

**Green Audit report for
Dr. T. Thimmaiah Institute of
Technology. KGF AY-2020-21**

**Audit Date : 14-16 July 2021
GEAR. Pr.21 2020-21/August 10,2021**

GREEN & ENERGY AUDIT

Report for Academic year 2020-21



**Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY
OORGAUM POST
KOLAR GOLD FIELDS -563120**

15/1/22
PRINCIPAL

Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

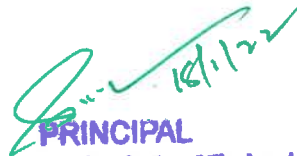
ACKNOWLEDGEMENT

AAdhyapana thank the management of Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY,KGF for providing the opportunity to conduct Green & Energy Audit. We appreciate the cooperation and guidance extended to AAdhyapana execution team for the completion of the audit.

We are also thankful to the teaching and non- teaching staff members of the Green & Energy Audit team, who were actively involved and supported us while collecting the data and conducting field survey.

Team AADHYAPANA




PRINCIPAL

Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

Green & Energy Audit Report

Contents

Acknowledgement	1
1. Audit Objective and Scope	
1.1 Audit Objective	3
1.2 Audit scope and Boundary	3
2. Methodology	3
3. Study Team	3
4. Observations & Recommendations	5
4.1 Roof Top Solar Power Plant	5
4.2 Boys Hostel	5
4.3 Bio Diesel Plant	5
4.4 Rain Water Harvesting	5
4.5 Bio gas	7
5. GRI indicators & Gap Analysis	7
5.1. Waste	7
5.2. Carbon Footprint	7
5.3. Biodiversity	11
6. Reference Standards & Regulations	12

List of Tables

Table1. CO2 emissions from Diesel consumption	7
Table2. CO2 Emissions from LPG consumption in Boys' Hostel	8
Table3. CO2 Emissions from LPG consumption in A & D Blocks and Girls' Hostel	8
Table4. Scope 2 CO ₂ Emissions	10
Table5. Total CO ₂ e Emissions	11

List of Figures

Figure 1. Breakup of Scope 1 Direct Emissions	9
Figure 2. Total electricity Consumption Trend in Different Months	10
Figure 3. Percentage Breakup of Scope 1 & Scope 2 Emissions	11


18/1/22

PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

1. Audit Objective and Scope

1.1. Audit Objective

Dr.T.Thimmaiah Institute of Technology is an Engineering College in KGF, India started in the year 1986. It is affiliated to Visvesvaraya Technological university (VTU), Belagavi and approved by the All India Council for Technical Education. The collage is located at Oorgaum, KGF in 30 acres of land, huge lung space and with good infrastructure.

The college ensures the use of sustainable practices to mitigate climate change and works towards carbon neutrality in the coming years and complying with environmental regulation and ensure the best practices to be green and safe Institute for higher learning.

So as an institute with more emphasis on higher learning, they want to practice and impart the sustainable culture to all the stakeholders including their students and enable them to apply it in their day to day activities.

In the mean time they wanted to have Green & Energy Audit in line with their environmental goals and the indented objective is to have continual improvement and adopt best practices by identifying the gaps through a third party study.

The study is based on the information made available to AAdhyapana.

1.2. Audit Scope and Boundary

The Scope of work includes gap analysis of the college campus as per applicable regulations and standards relating to water consumption, waste water disposal, electricity consumption, waste handling, biodiversity assessment.



PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

The assessment boundary includes the following building infrastructure:

- Class Rooms
- Administrative Block
- Girls Hostel and Boys Hostel
- Open Space and Garden

2. Methodology

The study team verified all applicable environmental aspects as per the GRI (Global Reporting Initiative) Sustainability Reporting Standards for the entire campus to evaluate institution's intent towards the sustainability and EHS safety in combating climate change as well as them towards carbon neutrality. GHG mitigation measures, communications to stakeholders and their concerns.

The detailed study was conducted and the gaps (findings) are presented in the table format. The team visited the campus and reviewed the findings and related supporting evidence and records to arrive at the conclusions.

3. Study Team


The audit and inspection were carried out by AAdhyapana, #130 Dwarakamaayi, Royale Township Nagrur Colony Nelamangala 562123, service provider for sustainability assessor Team. The audit was carried by qualified personnel for carrying out green & energy audit.

The study was conducted form 14/07/2021 to 16/07/2021.




PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

4. Observations and Recommendations


4.1. Roof Top Solar Power Plant

Sl.No.	Photo	Observation	Recommendation
1		1.5 KW Roof Top Solar Power plant is installed.	-

4.2 Boys Hostel




Sl.No.	Photo	Observation	Recommendation
1		200 litre electric water heater is used for heating purpose.	Electric water heater can be replaced with solar water heater.
2		Liquid and dry waste is dumped separately in the dustbins.	-

4.3 Bio Diesel Plant

Sl.No.	Photo	Observation	Recommendation
1		200 litres of bio diesel is produced per year from Bio Diesel Plant installed in the campus.	-

2			
3			


4.4 Rain Water Harvesting

Sl.No.	Photo	Observation	Recommendation
1		<p>Rain water harvesting unit has been constructed near college academic main block. Water from the unit is used for gardening and other purpose.</p>	
2			
3			

[Handwritten Signature]
 18/1/22

PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
 Oorgaum, K.G.F. - 563 120.

4.5 Bio gas

Sl.No.	Photo	Observation	Recommendation
1		Bio gas plant of capacity 1 kg per day is installed in the campus.	

5. GRI indicators and Gap Analysis

5.1 Economic benefits of using biogas

- 1 KG of food waste slurry can generate up to 0.08m³ of biogas
- 1m³ biogas is equivalent to 0.456 kg of LPG due to the difference in the CV
- Hence 1 kg of food waste slurry has the potential to replace 0.0364 kg of LPG
- Since, 50% water is added to the food waste to prepare food waste slurry.
- 1 kg of canteen food waste has the potential to replace 0.0728 kg of LPG.
- 40-50 kg of food waste per day can be obtained by collecting food waste from canteen, boy's hostel.

5.2 Carbon Footprint

Scope 1 and Scope 2 emissions are determined as per the GHG protocol Scope 1 emissions include direct emission produced by burning of fuels and scope 2 emissions include indirect emissions generated by the electricity consumed.

Table 1: CO₂ emissions from Diesel consumption

Diesel Source	Diesel Consumption (Litres)	CO ₂ EF (g CO ₂ /litre)	CH ₄ EF (g CO ₂ /litre)	100 Year GWP	N ₂ O EF (g CO ₂ /litre)	100 Year GWP	CO ₂ e (grams)
Bus	9105	2676.32	0.004985	28	0.004592	265	24380244.17
Genset	3005	2676.32	0.004985	28	0.004592	265	8046417.762
Total	12110						32426661.93

Taking 5% uncertainty into consideration, CO₂ emissions from diesel consumption can be arrived at 34047.995 kg CO₂e.

Table 2: CO₂ Emissions from LPG consumption in Boys' Hostel

Month	No. of Cylinder	Wt. of each cylinder	LPG Consumption (kg)	Emission Factor (kg CO ₂ e/kg combusted)	Gross Emission(kg CO ₂ e)	Uncertainty (5%)	Net Emission (kg CO ₂ e)
Jul-20	25	19	475	3.03	1439.25	71.9625	1511.2125
Aug-20	25	19	475	3.03	1439.25	71.9625	1511.2125
Sep-20	25	19	475	3.03	1439.25	71.9625	1511.2125
Oct-20	25	19	475	3.03	1439.25	71.9625	1511.2125
Nov-20	25	19	475	3.03	1439.25	71.9625	1511.2125
Dec-20	25	19	475	3.03	1439.25	71.9625	1511.2125
Jan-21	25	19	475	3.03	1439.25	71.9625	1511.2125
Feb-21	25	19	475	3.03	1439.25	71.9625	1511.2125
Mar-21	25	19	475	3.03	1439.25	71.9625	1511.2125
Apr-21	25	19	475	3.03	1439.25	71.9625	1511.2125
May-21	25	19	475	3.03	1439.25	71.9625	1511.2125
Jun-21	25	19	475	3.03	1439.25	71.9625	1511.2125
Total	300	228	5700	36.36	17271	863.55	18134.55

Table 3: CO₂ Emissions from LPG consumption in A & D Blocks and Girls' Hostel

Month	No. of Cylinder	Wt. of each cylinder	LPG Consumption (kg)	Emission Factor (kg CO ₂ e/kg combusted)	Gross Emission(kg CO ₂ e)	Uncertainty (5%)	Net Emission (kg CO ₂ e)
Jul-20	10	14.2	142	3.03	430.26	21.513	451.773
Aug-20	10	14.2	142	3.03	430.26	21.513	451.773
Sep-20	7	14.2	99.4	3.03	301.182	15.0591	316.2411

Oct-20	8	14.2	113.6	3.03	344.208	17.2104	361.4184
Nov-20	10	14.2	142	3.03	430.26	21.513	451.773
Dec-20	10	14.2	142	3.03	430.26	21.513	451.773
Jan-21	6	14.2	85.2	3.03	258.156	12.9078	271.0638
Feb-21	10	14.2	142	3.03	430.26	21.513	451.773
Mar-21	10	14.2	142	3.03	430.26	21.513	451.773
Apr-21	10	14.2	142	3.03	430.26	21.513	451.773
May-21	10	14.2	142	3.03	430.26	21.513	451.773
Jun-21	10	14.2	142	3.03	430.26	21.513	451.773
Total	111	170.4	1576.2	36.36	4775.886	238.7943	5014.6803

As seen from the table 2 & 3, CO₂ emissions from LPG consumption can be arrived at (18134.55 + 5014.6803) or 23149.2303 kg CO₂e.

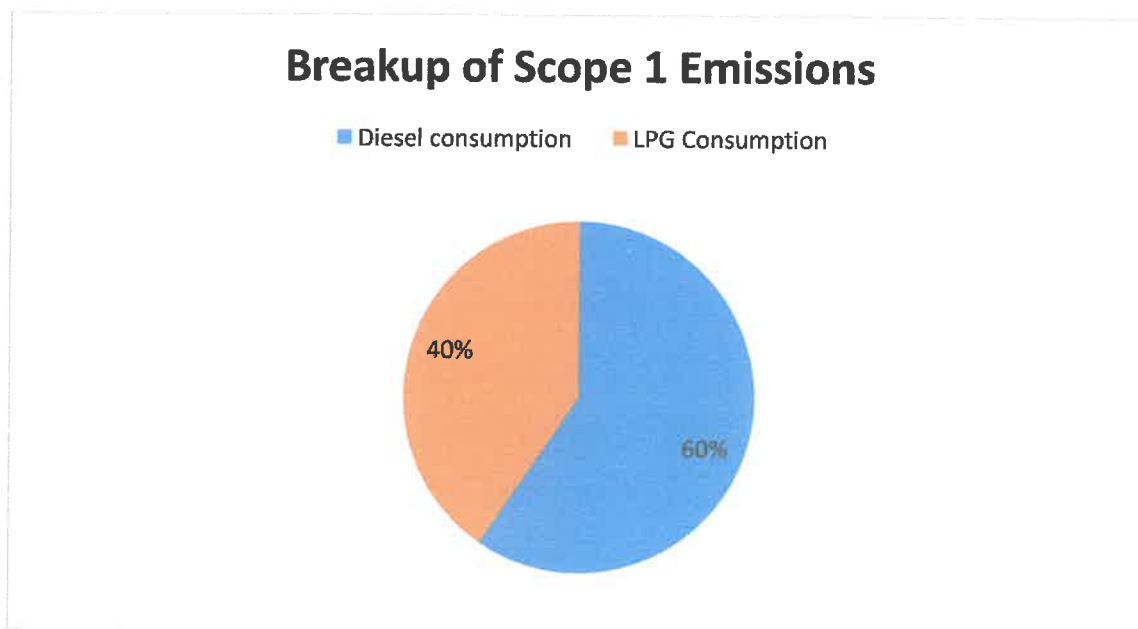


Figure1. Breakup of scope 1 Direct Emissions


PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaam, K.G.F. - 563 120.

Table 4: Scope 2 CO₂ Emissions

Month	Total Electricity Consumption (Kwh)	Emission Factor (kg CO ₂ e/Kwh)	Gross Emission (kg CO ₂ e)	Uncertainty (5%)	Net Emission (Kg CO ₂ e)
Jul-20	11082.00	0.138	1529.316	76.4658	1605.7818
Aug-20	16056.00	0.138	2215.728	110.7864	2326.5144
Sep-20	15000.00	0.138	2070	103.5	2173.5
Oct-20	15806.00	0.138	2181.228	109.0614	2290.2894
Nov-20	12076.00	0.138	1666.488	83.3244	1749.8124
Dec-20	17509.00	0.138	2416.242	120.8121	2537.0541
Jan-21	19319.00	0.138	2666.022	133.3011	2799.3231
Feb-21	20250.00	0.138	2794.5	139.725	2934.225
Mar-21	21830.60	0.138	3012.6228	150.63114	3163.25394
Apr-21	17800.40	0.138	2456.4552	122.82276	2579.27796
May-21	9617.00	0.138	1327.146	66.3573	1393.5033
Jun-21	9752.60	0.138	1345.8588	67.29294	1413.15174
Total	186098.60	1.656	25681.6068	1284.08034	26965.68714

The total scope 2 indirect emissions from the generation of purchased electricity consumed by the organisation is 26965.68714 kg CO₂e

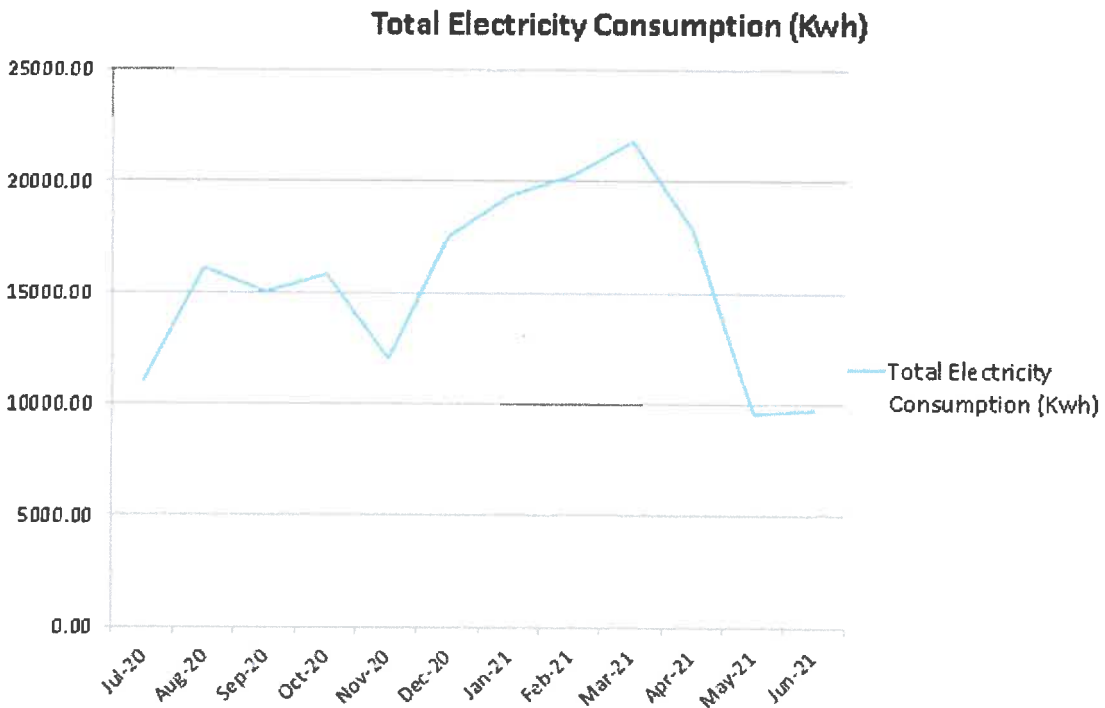


Figure 2: Total electricity Consumption Trend in Different Months

Table 5: Total CO₂e Emissions

Emission Category	kg CO ₂ e Emissions
Scope 1	57197.2253
Scope 2	26965.68714
Total	84162.9124

The total carbon emissions for the academic 2020-21 is 84162.9124 kg CO₂e

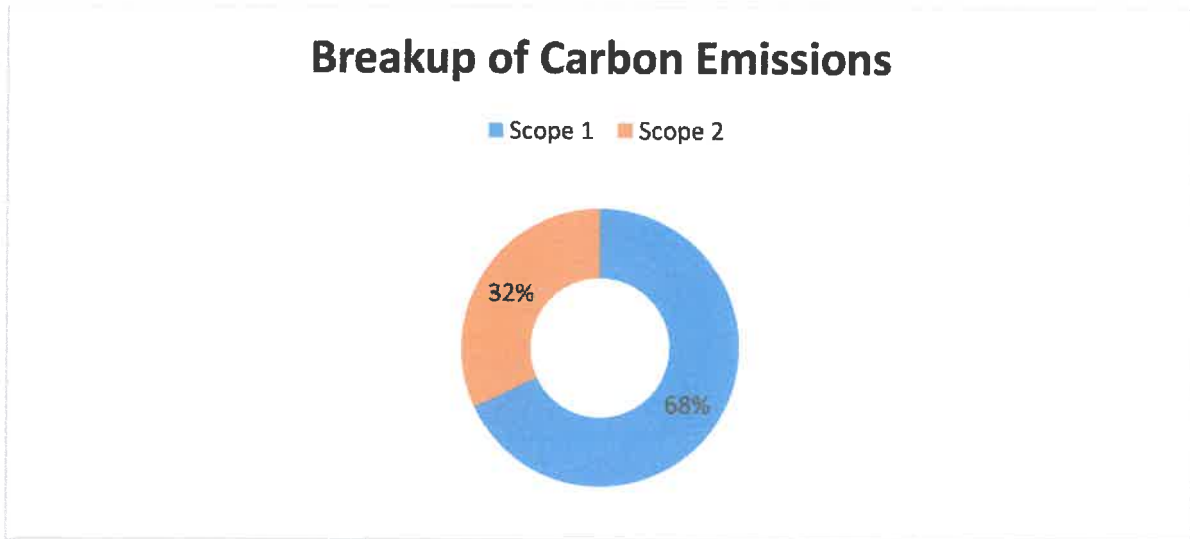


Figure 3: Percentage breakup of Scope 1 & Scope 2 Emissions

5.3 Biodiversity

Trees play an important ecological role within the campus environment, as well as support improved public health and provide aesthetic benefit to the institute's campus. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere, and release it as oxygen.

Around 1011 plants of 59 varieties have been grown around the campus for aesthetic economic, ornamental, shade fruits and medicinal purposes.

The campus is located in a 30 acres area in Oorgaum, KGF. There are nearby protected areas of forest and all the local regulations are complied with establishing the organization.

No IUCN Red List species and national conservation list species with habitats in areas affected by operation.


PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

Some recommendations to conserve and preserve biodiversity at the college are given below

- Developments of college nursery.
- Signboards could be displayed on plants in the campus area
- To develop forest cover using the methods of allelopathy, backbone of "Miyawaki Method" of afforestation.
- Indoor plants can be kept inside the classroom to improve the indoor air quality.

6. Reference Standards and Regulations

- GRI Standards
- GHG Protocol Cooperate Standard
- National Building Code 2016
- ISO 14064
- ISO 14040/44 Life Cycle Assessment
- True Rating Methodology for Waste Management
- Standards & Biodiversity by IISO
- IS5216- Guide for safety Procedures and Practices in Electrical Works.

Dr. Maya Salimath G
AAdhyapana



PRINCIPAL

Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
(Wholly owned Government of Karnataka undertaking)

No:AEE(E)/QS&S/KLR/21-22/5345
Encl:

Office of the,
Superintending Engineer (Ele),
O & M Circle BESCOM, Kolar.

Presentation of Data and information on energy consumption

Date: 11/01/2022

1. Energy Consumption:

1.1 Electricity bill Analysis for the period of July 2020 to June 2021

Consumer No: KGF HT 82

Traffic Code: HT2B1

Supply Voltage: 11KV

Contract Demand: 125 KVA

Type: Commercial HT2b

Month	Monthly Unit Consumption(KWH)	P.F	L.F. (%) KVA	Energy Charges (Rs)	Outstanding Amount (Rs)	Total Bill Amount(Rs)	Unit/ Rate(Rs)
July -2020	11082.00	0.92	106	98629.80	0.00	135546.00	8.90
Aug-2020	16056.00	0.93	106	142898.40	0.00	183798.00	8.90
Sep-2020	15000.00	0.93	106	133500.00	0.00	173965.00	8.90
Oct-2020	15806.00	0.93	106	140673.40	0.00	144806.00	8.90/9.15
Nov-2020	12076.00	0.93	106	110495.40	0.00	148138.00	9.15
Dec-2020	17509.00	0.96	106	160207.35	0.00	202527.00	9.15
Jan-2021	19319.00	0.95	106	176768.85	0.00	221061.00	9.15
Feb-2021	20250.00	0.95	106	185287.57	0.00	230183.00	9.15
Mar-2021	21830.60	0.95	106	199749.99	0.00	244681.00	9.15
Apr-2021	17800.40	0.95	106	162873.65	0.00	204521.00	9.15
May-2021	9617.00	0.93	106	87995.55	0.00	96194.00	9.15
June-2021	9752.60	0.93	106	90211.55	0.00	122311.00	9.15/9.25

PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

ಸಹಾಯಕ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಎ)
ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಿತ ಮತ್ತು ಸುರಕ್ಷತೆ,
ಜೀವಿತ ವತ. ಕೋಲಾರ.

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
(Wholly owned Government of Karnataka undertaking)

No:AEE(E)/QS&S/KLR/21-22/
Encl:

Office of the,
Superintending Engineer (Ele),
O & M Circle BESCO, Kolar.

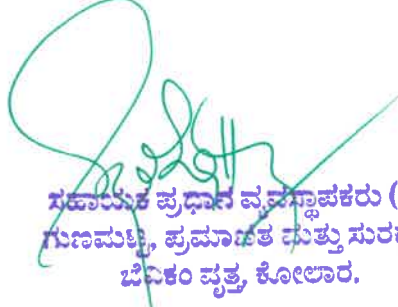
No. of Working days for the period: 274 Days

Horus of operation: 8.5 hours or 510 Mins/Day

1.2 Energy Performance Index (EPI)

Total Energy consumed by the Institute over a Year (KWH) /
Total Built Up area of the Institute Sq.Mts

$$186098.6 / 32979.31 = 5.64 \text{ KWH/Sq. Mt. /Year}$$


ಸಹಾಯಕ ಪ್ರಧಾನ ವಿದ್ಯಾರ್ಥಿಪತಿ (ವಿ)
ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣತೆ ಮತ್ತು ಸುರಕ್ಷತೆ,
ಬಿಡಿ ಕಂಪ್ಯೂಟರ್ ಕೋಲಾರ.


PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaam, K.G.F. - 563 120.

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
(Wholly owned Government of Karnataka undertaking)

No:AEE(E)/QS&S/KLR/21-22/
Encl:

Office of the,
Superintending Engineer (Ele),
O & M Circle BESCO, Kolar.

Presentation of Data and information on energy consumption

1. Energy Consumption:

1.1 Electricity bill Analysis for the period of July 2020 to June 2021

Consumer No: KGF HT 82
Traffic Code: HT2B1
Supply Voltage: 11KV
Contract Demand: 125 KVA
Type: Commercial HT2b

Month	Monthly Unit Consumption(KWH)	Diesel Per Month
July -2020	11082.00	100 Liters
Aug-2020	16056.00	175 Liters
Sep-2020	15000.00	100 Liters
Oct-2020	15806.00	100 Liters
Nov-2020	12076.00	00 Liters
Dec-2020	17509.00	200 Liters
Jan-2021	19319.00	400 Liters
Feb-2021	20250.00	400 Liters
Mar-2021	21830.60	550 Liters
Apr-2021	17800.40	780 Liters
May-2021	9617.00	100 Liters
June-2021	9752.60	100 Liters

No. of Working days for the period: 274 Days

Horus of operation: 8.5 hours or 510 Mins/Day

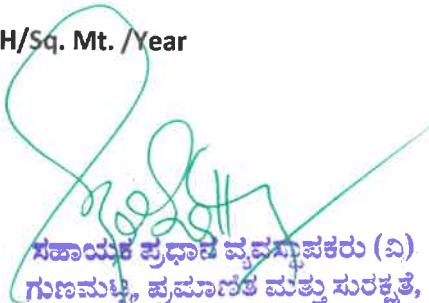
1.2 Energy Performance Index (EPI)

Total Energy consumed by the Institute over a Year (KWH) /

Total Built Up area of the Institute Sq.Mts

186098.6 / 32979.31 = 5.64 KWH/Sq. Mt. /Year


PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.


ಸಹಾಯಕ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಎ)
ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಿತ ಮತ್ತು ಸುರಕ್ಷತೆ,
ಬೆಂಗಳೂರು ವ್ಯಕ್ತ, ಕೋಲಾರ.

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
(Wholly owned Government of Karnataka undertaking)

No: AEE(E)/QS&S/KLR/21-22/
Encl:

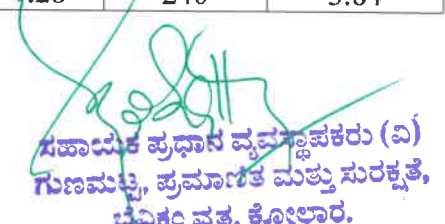
Office of the,
Superintending Engineer (Ele),
O & M Circle BESCOM, Kolar.

2. Connected Load Details:

Building	Type	Total Qty.	Loads(K W)/Unit	Daily Op.Hrs	Daily Kwh	Monthly Op.Hrs	Monthly (KWH)
Main Building	TubeLight-40W	401	0.032	7.5	9.6	180	230.4
	LED-9W	15	0.0012	7.5	1.35	180	32.4
	Ceiling Fans-100 W	251	0.02	7.5	20.08	180	480
	Projectors	10	0.3	3	9	72	22
	LED Lamps-12W	10	0.096	7.5	7.2	180	172.8
	LED lamps-40W	4	0.0032	7.5	0.96	180	23.04
	Exhaust Fan	3	0.144	7.5	3.24	180	77.76
	LED Tube light -18 W	34	0.027	7.5	6.8	180	163
	LED tube-20W	20	0.016	7.5	2.4	180	7.6
	TV LED-70W	1	0.056	7.5	0.42	180	10.08
	Water Pump-3HP	1	1.7	4	6.8	96	163.2
	Water Cooler -2HP	2	1.79	4	7.5	96	181.9
	Xerox -1.2KW	1	0.96	5	6.96	120	167.04
	Printer -500W	1	0.96	4	4.8	3.86	96
	Wall Mounting Fans=50W	3	2.23	5	33.45	100	669
LED TV-100W	1	0.8	7.5	6	180	144	
PG BLOCK	Slim tube light - 24W	85	1.63	7.5	12.24	180	293.76
	LED Tube Light-18W	10	0.144	7.5	1.08	180	25.92
	Ceiling Fan-100W	58	0.46	7.5	0.34	180	8.35
	Wall Bracket Fan-50W	4	0.16	7.5	1.2	180	28.8
	Exhaust Fan-15W	4	2.13	7.5	6.3	180	15.1
	LED Lamp 9W	4	0.02	7.5	0.6	180	14.4
	LED Lamp-40W	1	0.032	7.5	0.24	180	5.76
	LED Lamp-12W	5	0.48	7.5	0.36	180	8.64
	Projector-	4	3.2	3	38.4	60	115.2
	LED TV	1	1.25	6	7.5	56.25	150
	LIFT 7.5HP	1	6	2	90	40	180
	Water Heater-4KW	2	3.2	5	16	150	480
	TubeLight-40W	16	0.12	8	1.53	240	46.08
	LED Tube Light-18 W	20	0.14	8	0.115	240	3.45
	LED Light-20W	10	0.16	8	1.28	240	3.84

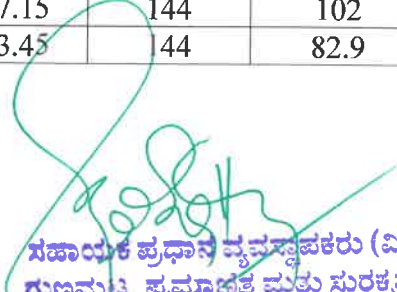

PRINCIPAL

Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.


ಸಹಾಯಕ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಎ)
ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಿತ ಮತ್ತು ಸುರಕ್ಷತೆ,
ಬೆಂಗಳೂರು ವಲಯ, ಕೋಲಾರ.

B. BLOCK	LED lamp-9W	4	0.02	8	0.64	240	2.13
	LED Lamp-12W	2	0.019	8	0.15	240	4.60
	Celling Fan-100W	32	0.025	8	0.20	240	6.14
	LED TV-40W	1	0.32	5	0.16	150	4.8
	RO Plant	1	0.59	5	2.49	150	88.5
	Water Cooler	1	0.5	5	2.5	150	75
C-Block Boys Hostel /Mess/Gym/Substation	Exhaust fan-50W	2	0.08	7.5	1.2	144	360
	LED Tube-18W	170	0.136	8	184.9	240	1479
	Motor-30HP	2	1.19	8	19.04	240	152.3
	LED Lights-9W	6	0.04	8	1.92	240	57.6
	Tube Light-40W	6	0.19	8	9.12	240	273.6
	LED Lights-12W	5	0.048	8	1.92	240	57.6
	LED Street Light-36W	18	0.518	8	74.59	240	2237
	LED Street light-100W	3	0.24	8	5.76	240	172.8
	LED Street Light-50W	3	0.12	8	2.88	240	86.4
	LED Light -24W	2	0.03	8	0.48	240	14.4
	Ceiling Fan-100W	82	6.56	8	4.303	240	34.42
	Water Cooler	3	1.79	5	26.8	150	8.04
	RO Plant	1	0.59	5	2.95	150	88.8
	Water Heater-2KW	4	12.8	5	64	150	1920
	LED TV-40W	1	0.32	5	0.16	150	4.8
	Wet Grinder-2HP	2	1.192	4	4.768	48	57.21
1st Year Block	Xerox Machine-1.7KW	1	1.36	5	6.8	120	163.2
	TubeLight-40W	100	0.08	7.5	0.6	180	14.1
	LED 9W	4	0.02	7.5	1.6	180	38.4
	LED Lamp-40W	1	0.032	7.5	0.24	180	5.76
	LED Lamp 12W	6	0.057	7.5	0.43	180	10.36
	LED Tube Light-18W	16	0.23	7.5	1.72	180	41.47
	LED Tube-20W	9	0.14	7.5	1.08	180	25.92
	Ceiling Fan-100W	54	4.2	7.5	3.24	180	77.76
	LED TV-40W	1	0.032	5	2.95	150	88.5
	Water Cooler	1	0.5	5	2.5	150	75
	Water Geyser	1	0.8	3	2.4	24	19.2
	Oven	2	1.6	5	8	75	120
	Wall Mounting Fan	1	0.04	5	0.24	75	3.6
	Exhaust Fan-15W	4	0.048	7.5	0.36	180	8.64
	Xerox Machine-1.2KW	1	0.96	5	4.8	120	115.2
	Tube Light-40W	25	0.02	6	0.12	90	1.8
	Water Pump-2HP	1	1.19	6	7.15	144	102
	Tube Light-36W	20	0.57	6	3.45	144	82.9


PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaam, K.G.F. - 563 120.


 ಸಹಾಯಕ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಎ)
 ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಕ ಮತ್ತು ಸುರಕ್ಷತೆ,
 ಜಿ.ಎ.ಕೆ.ಎ.ಕೆ. ಕೋಲಾರ.

Students Center	LED Tube Light-18W	6	0.86	6	0.518	90	7.7
	LED Tube Light-20W	5	0.08	6	0.48	144	11.52
	LED Lamp-9W	2	0.014	6	0.08	144	2.07
	LED Lamp 12W	2	0.019	6	0.115	144	2.76
	Ceiling Fan-100W	10	0.8	2	1.6	30	24
	Projector	2	0.3	3	1.8	60	36
	Exhaust Fan-15W	3	0.03	6	0.21	144	5.18
	Wall Mounting Fan	2	0.09	3	0.28	30	2.88
	Water Cooler	1	0.75	3	2.25	60	45
	Speaker Box	8	0.18	3	0.432	60	8.64
	Amplifier	1	0.05	3	0.15	60	3
Medical Center/Estimate Office / Central workshop	Slim Tube -24W	6	0.115	8	0.921	192	22.1
	LED tube-18W	4	0.05	8	0.46	192	11.04
	Tube Light-40W	16	0.51	8	4.09	192	98.3
	LED Lights-9W	10	0.072	8	0.57	192	13.82
	Ceiling Fan	18	1.44	8	11.52	192	272.4
	BTH Coil-12KW	6	0.019	4	0.76	80	152
	Oven -2KW	2	3.2	4	12.8	60	192
Central Library	Slim Tube Light-24W	137	2.63	7.5	19.7	96	473.4
	Ceiling Fan-100w	62	4.96	7.5	37.2	96	892.8
	LED Lamps-9W	10	0.072	7.5	0.54	96	12.96
	Water Pump-1HP	1	0.59	4	2.38	96	57.29
Labs EE/ME/MI/CV/ Central workshop	Tube Light-40W	40	0.32	4	0.128	96	3.07
	LED Tube Light-18W	12	0.17	4	0.691	96	16.58
	LED Lights 12 W	18	0.014	4	0.057	96	1.382
	Ceiling Fan-100W	30	0.024	4	0.096	96	230
	Wall mounting Fans	4	1.64	4	6.4	96	153.6
	Oven2KW	3	2.4	4	9.6	80	15.3
	LED -50W	2	1.6	2	3.2	20	32
Motors -220HP(all)	220HP	131.144	4	524.48	80	10486.9	
President Residence/Guest House/ Security Room/ATM	LED tube Light-18W	10	0.144	6	0.864	144	20.73
	LED-9W	20	0.016	6	0.096	144	2.304
	LED 12-W	6	0.05	6	0.34	144	8.29
	LED-3W	60	0.048	2	0.096	20	0.96
	Water Cooler	1	1.5	5	2.5	150	75
	Exhaust Watts	5	0.06	3	0.18	30	1.8
	AC 1 TON 1.5	7	1.75	5	61.25	100	1225
	Geysers-2KW	10	0.016	4	0.64	40	0.64
	LED 50W	9	0.36	8	2.88	240	86.4
	LED 2ft	8	0.057	8	3.64	240	109.4
	Ceiling fan	10	0.08	7	5.6	70	56

PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.

ಸಹಾಯಕ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಎ)
ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಿತ ಮತ್ತು ಸುರಕ್ಷತೆ,
ಜೀವಕಂಪ್ಯೂಟರ್, ಕೋಲಾರ.

	Water Pump- 2Hp	1	1.19	7	8.34	70	83.4
	Water Pump-1HP	1	0.59	8	4.76	192	114.4

3. Solar Power Generation:

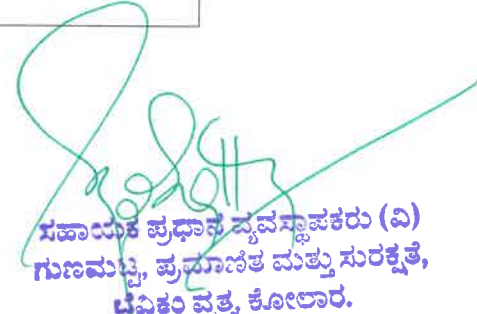
College as installed solar power Generation of 1KW and 1.5KW. It is used to supply Street lights during night, Used for EEE lab computer systems during Day Time & Mining UG and Mining Lab during Day Time

Total Lad Generation : 2.5 KW
Total Load (Night) : 1600 Watts
Total Load (Day) : 2.2KW

4. UPS Load Distribution:

Department	Capacity in KVA
IS lab & Survey	10+10
Mechanical	6
Students Center	3.5
Library	20
EC CAED LAB	5
EC	10
CS	20
DH1 CS	10
DH2 Mechanical	20
Electrical Lab	6
EDSAT	2
Mechanical	1.5
PG Block	20
Accounts Dept.& 1 st year block	20
EC Staff	1
Sports Room	1
Electrical Staff Room	1
Total	167 KVA


PRINCIPAL
 Dr. T. Thimmaiah Institute of Technology
 Oorgaum, K.G.F. - 563 120.


 ಸಹಾಯಕ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಎ)
 ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಿತ ಮತ್ತು ಸುರಕ್ಷತೆ,
 ಜಿಎಕಂ ವ್ಯಕ್ತ ಕೋಲಾರ.