

# ENERGY AUDIT REPORT

## ST. FRANCIS DE SALES COLLEGE

### BENGALURU

Executed by



2023

  
**OTTOTRACTIONS**  
Energy - Engineering - Environment  
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Bureau of Energy Efficiency,  
Government of India.

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EMC (Energy Management Centre-Kerala)

**ENERGY AUDIT REPORT**  
**ST. FRANCIS DE SALES COLLEGE**  
**BENGALURU**

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Energy Audit Report  
St. Francis De Sales College, Bengaluru  
Report No: EA 1087  
2023 December



Empaneled Accredited Energy Auditor, AEA 33  
Bureau of Energy Efficiency  
Government of India



Empaneled Energy Auditor, EMCEEA-0211F,  
Energy Management Centre  
Government of Kerala.



Authorized Energy Auditor, GEDA/ENC/EAC: Autho/2014/8/103/2316,  
Gujarat Energy Development Agency  
Government of Gujarat



Empaneled Energy Auditor, India SME Technology Services Ltd  
A joint Venture of SIDBI, SBI, Indian Bank, Oriental Bank of Commerce  
& Indian Overseas Bank

## 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” 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 St. Francis De Sales College, Bengaluru. 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.

For OTTOTRACTIONS

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

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# ***Certification***

## **This is to certify that**

The data collection has been carried out diligently and truthfully;

All data monitoring devices are in good working condition and have been calibrated or certified by approved agencies authorised and no tampering of such devices has occurred;

All reasonable professional skill, care and diligence had been taken in preparing the energy audit report and the contents thereof are a true representation of the facts;

Adequate training provided to personnel involved in daily operations after implementation of recommendations; and

The energy audit has been carried out in accordance with the Bureau of Energy Efficiency (Manner and Intervals of Time for the Conduct of Energy Audit) Regulations, 2010.

SURESH BABU B V  
ACCREDITED ENERGY AUDITOR (AEA 33)  
BUREAU OF ENERGY EFFICIENCY  
GOVERNMENT OF INDIA

Executive Summary					
Consolidated Cost Benefit Analysis of Energy Efficiency Improvement Projects					
St. Francis De Sales College, Bengaluru					
SI No	Projects	Investment	Cost saving	SPB	Energy saved
		(Lakhs Rs)	(Rs)/Yr	Months	kWh/Yr
1	Energy Saving in Lighting by replacing existing 287 No's T8 (40W) Lamps to 18W LED Tube	0.86	0.651	15.86	6061
2	Energy Saving by replacing existing 347 No's in-efficient ceiling fans with Energy Efficient Five star fans	10.41	0.702	178.03	6529
3	Installation of 15kWp Solar Power Plant	8.25	2.731	36.26	20531
	<b>Total</b>	<b>19.52</b>	<b>4.08</b>	<b>76.72</b>	<b>33122</b>
(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.)					

# 1

## Introduction

A detailed energy audit has been carried out at St. Francis De Sales College, Bengaluru by OTTOTRACTIONS in December 2023. During the energy audit energy saving opportunities has been identified to help improving energy efficiency of the facility. OTTOTRACTIONS is an Accredited Energy Auditor of Bureau of Energy Efficiency and Empaneled Energy Auditor of Energy Management Centre, Government of Kerala.

This energy audit report complies with the clauses in *Energy Conservation Act, 2001* on mandatory energy audit (**Form 4** [refer regulation 6(2)] guidelines for preparation of energy audit report) and complies with the G.O (Rt) No.2/2011/PD dated 01.01.2011 issued by Government of Kerala on mandatory energy audit.

### 1.1. General Building details and descriptions

St. Francis de Sales College is manned by the Missionaries of St. Francis de Sales (MSFS) of South West India Province, who firmly believe that 'the education of the heart is the heart of education' hailed by its founder Fr. Peter Marie Mermier. The MSFS Fathers have nearly two centuries of experience and expertise in imparting quality higher education in every continent of the world. The MSFS Fathers are optimistically committed to forming the 'Future world citizens' through more than 160 quality educational institutions in India.



St. Francis de Sales College is a minority institution with a secular outlook. Fr. Jose Parappillil MSFS, the Provincial along with his Council in 2003 envisioned to begin a College at Hebbagodi, Electronics City, Bangalore, which can cater to the people of Anekal, a SC constituency. The Council took this decision taking into consideration that the MSFS Congregation had about 45 years of its presence in Hebbagodi. This area held high potential for an educational institution of higher learning. The Core Committee presented its findings at the meeting of the Planning cum Organizing Committee held on 17 August 2003 at Mermier Bhavan. After much discussion and deliberation the Committee recommended to go ahead with St. Francis de Sales College to be started in June 2004 with the motto Excellence, Transformation and Efficiency. The College was affiliated to Bangalore University, one of the largest State Universities in India.

<b>Occupancy Details</b>	
Particulars	2022-23
Total Students	2460
Staffs	120
Total Occupancy of the college	2580

For calculating specific energy consumption, the total built-up area is taken into account.

### **Energy audit team**

The Energy Audit team is listed below. Besides this list various domine experts also participated in this project.

1. Suresh Babu B V, Accredited Energy Auditor, AEA 33
2. B. Zachariah, Chief Technical Consultant
3. Abin Baby, Project Engineer
4. Jomon J S, Project Engineer
5. Vishnu S S, Project Engineer
6. Amrutha A M, Data Analyst
7. Anjana B S, Project Assistant

# 2

## Process description

The energy audit has been carried out St. Francis De Sales College, Bengaluru. The following is the baseline data of this building.

BASELINE DATA SHEET FOR GREEN AUDIT							
1	Name of the Organisation	St. Francis De Sales College, Bengaluru					
2	Address (include telephone, fax & e-mail)	St Francis de Sales College (SFS COLLEGE) Electronics City Post, Bengaluru,Karnataka – 560 100, India e mail-pro@sfscollege.in					
3	Year of Establishment	2004					
4	Name of building and Total No. of Electrical Connections/building	SFS College (2)					
5	Total Number of Students	Boys		Girls		Total	2460
6	Total Number of Staff	120					
7	Total Occupancy	2580					
8	Total area of green cover	50%					
9	Type of Electrical Connection	HT	0	LT		2	
10	Total Connected Load (kW)	30					
11	Average Maximum Demand (KVA)	-					
12	Total built up area of the building (M <sup>2</sup> )	12450					
13	Number of Buildings	1					
14	Average system Power Factor	0.99					
15	Details of capacitors connected	Nil					
16	Transformer Details (Nos., kVA, Voltage ratio)	TR 1					
		0					
17	DG Set Details (kVA)	DG1	DG2	DG3	DG4	DG5	Remarks
		62.5					
18	Details of motors	Rating		Nos.		Remarks	
		5 to 10		2			
		10 to 50					
		Above 50					

# 3

## Energy and utility system description

### 3.1.1 Electricity

Electricity is purchased from BESCO under Two LT Connections, the details are given below. A 62.5 kVA Diesel Generator are in operation at this campus

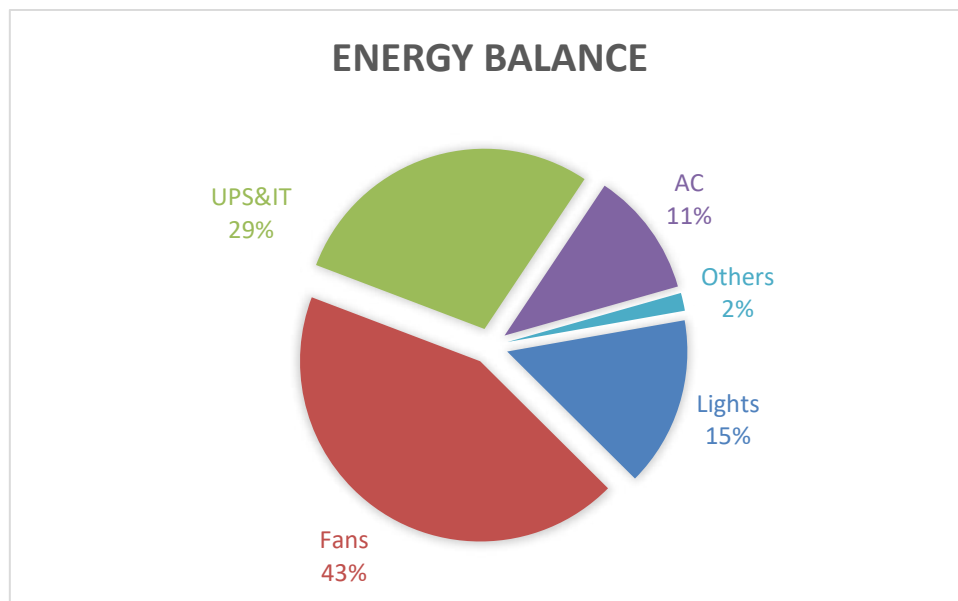
Electricity Connection Details		
St. Francis De Sales College, Bengaluru		
1	Name of the Consumer	St. Francis De Sales College, Bengaluru
2	Tariff	LT-6B Ndom
3	Consumer Numbers	1954504, 1988407
4	Connected Load Total (kW)	30
5	Annual Electricity Consumption (kWh)	26805

### 3.2. Thermal Energy / Transportation

No bus is operated from college for transportation. LPG is used for cooking in the canteen and diesel is used to operate Diesel Generators.

# 4

## Energy Balance



43 % of the total energy consumed in this facility is used to operate Fans. Lighting uses 15% UPS and IT Uses 29%. Others uses 2% and 11% AC.

# 5

## Performance evaluation of major utilities and process equipment's /systems.

### 5.1. List of equipment and process where performance testing was done.

5.1.1. Electrical System

5.1.2. Lighting & Fans

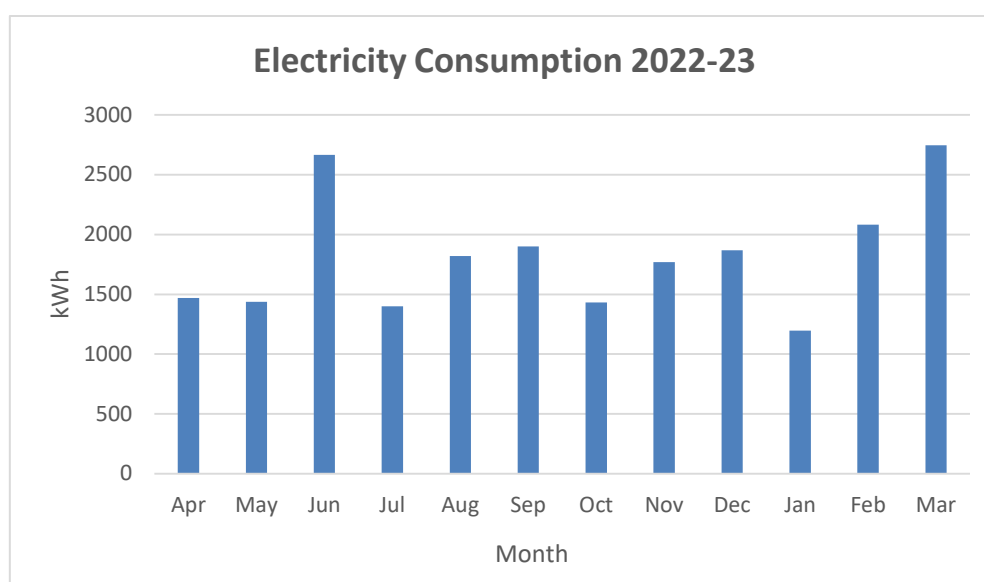
### 5.2. Results of performance testing

#### 5.2.1. Electrical System

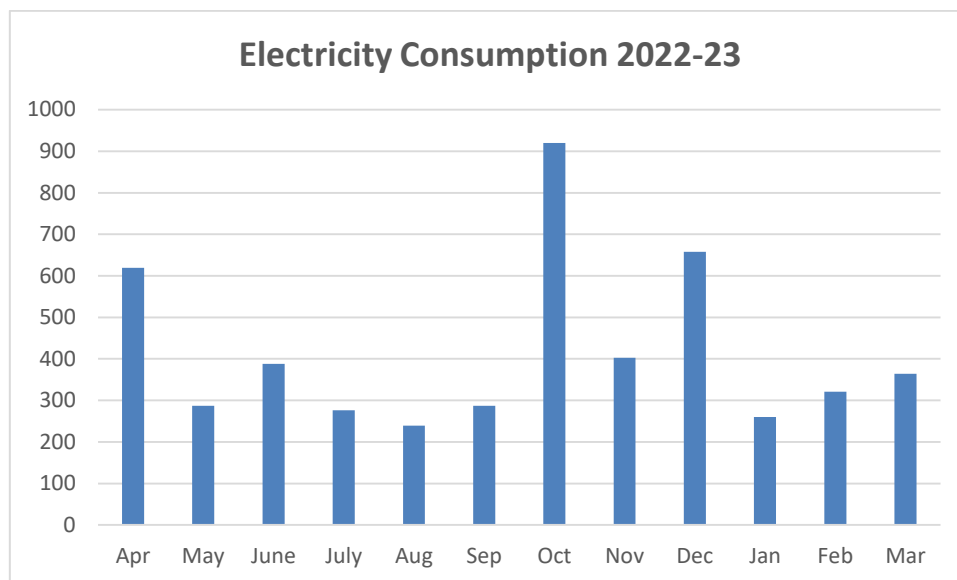
The average unit cost of electricity is **10.75 Rs/kWh**. This is taken as the basis for the financial analysis of electrical energy efficiency projects. The information on average energy consumption is taken from the historical electricity bill analysis.

## Electricity Consumption

Electricity Bill Details (2022-23)		
Name of the Consumer	St. Francis De Sales College, Bengaluru	
Connected Load (kW)	15	
Consumer No	1954504	
Month	kWh	Total amount to be paid (Rs)
Apr	1468	15754
May	1437	14249
Jun	2665	25972
Jul	1401	15126
Aug	1820	19572
Sep	1901	21710
Oct	1433	16486
Nov	1768	19532
Dec	1867	21340
Jan	1195	13221
Feb	2082	21634
Mar	2746	27898



Electricity Bill Details (2022-23)		
Name of the Consumer	St. Francis De Sales College, Bengaluru	
Connected Load (kW)	15	
Consumer No	1988407	
Month	kWh	Total amount to be paid (Rs)
Apr	619	7330
May	287	3954
June	388	5447
July	276	3365
Aug	239	3842
Sep	287	3456
Oct	920	10832
Nov	403	5603
Dec	658	7235
Jan	260	2983
Feb	321	3707
Mar	364	4387



<b>Annual Electricity Consumption (kWh)</b>		
<b>Consumer No</b>	<b>2022-23</b>	<b>Connected Load (kW)</b>
1954504	21783	15
1988407	5022	15
<b>Total</b>	<b>26805</b>	<b>30</b>

## Diesel

The campus has a Diesel Generator. The details of Diesel consumption are given below.

<b>Diesel Consumption Details</b>				
	<b>Transportation</b>	<b>Generator</b>	<b>Total</b>	<b>cost</b>
	<b>in L</b>	<b>in L</b>	<b>in L</b>	<b>in Rs</b>
22-23	0	189	189	17987

<b>Base Line Energy Data</b>		
<b>St. Francis De Sales College, Bengaluru</b>		
		<b>2022-23</b>
1	Electricity BESCO (kWh)	26805
2	Electricity DG (kWh)	568
3	Electricity Solar, Off grid (kWh)	3992
4	Electricity (BESCO + DG + Off grid) kWh	31365
5	Electricity Grid Tied (kWh)	15969
6	Diesel (L)	189
7	LPG (kg)	0.00
8	Biogas generated/year (kg)	330.00

<b>Energy Consumption Profile</b>		
<b>Sl No</b>	<b>Fuel</b>	<b>2022-23</b>
		<b>kCal</b>
1	Electricity	26974077
2	Diesel	1988063
3	LPG	0
4	Biogas	1540000
	<b>Total</b>	<b>30502140</b>



## Solar Power Plant

Solar Power Plant	
Capacity (kWp)	2022-23
	Annual generation (kWh)
12.5	15969

## Lighting

Sl. No	Building	Location	Lights	
			T8	LED T
1	First Floor	R. No. 101	4	2
2		R. No. 102	2	1
3		R. No. 103	2	1
4		R. No. 104	2	1
5		R. No. 105	2	1
6		R. No. 106	2	
7		R. No. 107	2	
8		R. No. 108	3	1
9		R. No. 109	3	1
10		R. No. 110	3	1
11		R. No. 111	3	1
12		Maths Lab	3	1
13		Computer Lab 1		9
14		Computer Lab 2		9
15		Seminar Hall	5	1
16		Business Lab		8
17		Auditorium	4	16
18		IQAC	5	
19		Sick Room		1
20		Kuvempu Hall	2	
21	Second Floor	R. No. 201	4	1
22		R. No. 202	5	2
23		R. No. 203	3	1
24		R. No. 204	5	1
25		R. No. 205	3	1
26		R. No. 206	4	1
27		R. No. 207	4	1
28		R. No. 208	2	

29		R. No. 209	4	1	
30		R. No. 210	4	1	
31		R. No. 211	4	1	
32		Psychology Lab	10	2	
33		Physics Lab	4	2	
34		Chemistry Lab	6	2	
35		Electronics Lab	2	2	
36		Yoga Hall	4	4	
37	Third Floor	R. No. 301	4	1	
38		R. No. 302	4	1	
39		R. No. 303	5	1	
40		R. No. 304	4	1	
41		R. No. 305	5	1	
42		R. No. 306	5	1	
43		R. No. 307	5	1	
44		R. No. 308	5	1	
45		R. No. 309	5	1	
46		R. No. 310	4	1	
47		R. No. 311	5	1	
48		R. No. 312	5	1	
49		R. No. 401	6	1	
50		R. No. 402	2	1	
51		R. No. 403	6	1	
52		Fourth Floor	R. No. 404	6	1
53			R. No. 405	5	1
54	R. No. 406		5	1	
55	R. No. 407		2	1	
56	R. No. 408		2	1	
57	R. No. 409		2	1	
58	R. No. 410		2	1	
59	R. No. 411		3	1	
60	R. No. 412		2	1	
61	R. No. 413		2	1	
62	R. No. 414		2	1	
63	R. No. 415		2	1	
64	R. No. 416		2	1	
65	R. No. 417		2	1	
66	R. No. 418		2	1	
67	Conference Hall 1			48	
68	Conference Hall 2			18	
69	Conference Hall 3		22		
70	Basement Floor	B01			
71		B02			
72		B03			
73		B04	4	1	
74		B05	3	1	
75		B06	4	1	

76	Ground Floor	B07	3	1	
77		Gym Room	6	2	
78		Studio	4	12	
79		Ambedkar Room	4	4	
80		Library	8	6	
81		Digital Library		8	
82		Faculty Room - PG	5		
83		NCC		8	
84		Staff Room 1	4	8	
85		Staff Room 2	2	4	
86		Staff Room 3	2	6	
87		Staff Room 4	2	4	
88		Staff Room 5	2	4	
89		Staff Room 6			
90		H R Office	2	8	
91		Principal Reception	6	14	
92		Academic Office		6	
93		Solar Street Light		10	
			<b>Total</b>	<b>287</b>	<b>304</b>

## Lux Measurement

St. Francis De Sales College, Bengaluru		
Sl.No	Location	Avg. Lux
1	Maths Lab	80
2	Computer Lab 1	80
3	Computer Lab 2	135
4	Seminar Hall	89
5	Business Lab	134
6	Auditorium	164
7	IQAC	153
8	Kuvempu Hall	126
9	Psychology Lab	80
10	Physics Lab	135
11	Chemistry Lab	89
12	Electronics Lab	134
13	Yoga Hall	164
14	Conference Hall 1	125
15	Conference Hall 2	123
16	Conference Hall 3	80
17	Gym Room	125
18	Studio	123

19	Ambedkar Room	80
20	Library	80
21	Digital Library	135
22	Faculty Room - PG	89
23	NCC	134
24	H R Office	80
25	Principal Reception	135
26	Academic Office	89

# 6

## Energy efficiency in utility and process system

The specific energy consumption is normally taken as the ratio of total energy consumed to the total area of building.

OTTOTRACTIONS- ENERGY AUDIT		
St. Francis De Sales College, Bengaluru		
Energy Performance Index (EPI)		
SI No	Particulars	2022-23
1	Total building area (m <sup>2</sup> )	12450
2	Annual Energy Consumption (kCal)	30502140
3	Annual Energy Consumption (kWh)	35468
4	Total Energy in Toe	3.05
5	Specific Energy Consumption kWh/m <sup>2</sup>	2.85

The Energy Performance Index (EPI) is

**2.85 kWh/m<sup>2</sup>**

The EPI of 2022-23 may be taken as benchmark.

# 7

## Evaluation of energy management system

### Energy management policy

There is no written energy policy available, but environment policy is available which includes energy conservation also. A draft energy management policy is given below. The management may constitute an energy management policy and display the same in the plant to motivate the staff.

**ST. FRANCIS DE SALES COLLEGE,  
BENGALURU**

**ENERGY POLICY**

*(Draft)*

*We are committed to optimally utilize various forms of energy in a cost effective manner to effect conservation of energy resources. We are committed to conserve the energy which is a scarce resource with the requisite consistency in the efficiency, effectiveness in the cost involved in the operations and ensuring that production quality and quantity, environment, safety, health of people are maintained. We are also committed to increase the renewable energy share of the total energy we use.*

*We are also committed to monitor continuously the saving achieved and reduce its specific energy consumption by minimum of 2% every year.*

*Date -----*

*Head of the Institution*

### 7.1. Energy management monitoring system

- **Energy Management Cell** has to be constituted with an objective to revise action plan for energy conservation thereby reducing the production cost.
- Energy conservation tips/ posters are displayed in crucial points.
- Use of renewable energy has to be encouraged.

### 7.2. Training to staff responsible for operational and Documentation.

- The staff and students need to be made more aware of the importance of energy saving and management.
- Log books shall be maintained to record Electricity Consumption and Diesel consumption.
- Meter reading shall be taken and compared with KSEB regularly.
- Better operating practices regarding appliances and fixtures should be taught to the staff.

### 7.3. Best Practices

- Have solid Waste management program
- Conducted Green Audit.
- Have different social and environmental clubs
- Installed LED bulbs
- Installed Solar Street Lights in the campus
- Conducted Energy Conservation Training Programs
- Installed 12.5kWp Solar power plant in the campus

# 8

## Energy Conservation Measures and Recommendations

Executive Summary					
Consolidated Cost Benefit Analysis of Energy Efficiency Improvement Projects					
St. Francis De Sales College, Bengaluru					
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1	Energy Saving in Lighting by replacing existing 287 No's T8 (40W) Lamps to 18W LED Tube	0.86	0.651	15.86	6061
2	Energy Saving by replacing existing 347 No's in-efficient ceiling fans with Energy Efficient Five star fans	10.41	0.702	178.03	6529
3	Installation of 15kWp Solar Power Plant	8.25	2.731	36.26	20531
	<b>Total</b>	<b>19.52</b>	<b>4.08</b>	<b>76.72</b>	<b>33122</b>
(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.)					



OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal	
<b>Energy Saving in Lighting by replacing existing 287 No's T8 (40W) Lamps to 18W LED Tube</b>	
<b>Existing Scenario</b>	
287 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%.	
<b>Proposed System</b>	
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)	
<b>Financial Analysis</b>	
Annual working hours (hr)	2400
No of fittings	287
Total load (kW)	11.48
Annual Energy Consumption (kWh)	11021
Expected Annual Energy saving for replacing all fittings (kWh)	6061
Cost of Power (Rs)	10.75
Annual saving in Lakhs Rs (1st year)	0.65
Investment required for complete replacements [@Rs 300 per fittings](Lakhs Rs)	0.86
Simple Pay Back (in Months)	15.86

OTTOTRACTIONS- ENERGY AUDIT	
Energy Saving Proposal	
<b>Energy Saving by replacing existing 347 No's in-efficient ceiling fans with Energy Efficient Five star fans</b>	
<b>Existing Scenario</b>	
There are 347 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.	
<b>Proposed System</b>	
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).	
<b>Financial Analysis</b>	
Annual working hours (hrs)	2400
Total numbers of ordinary fans	347
Total load (kW)	24.29
Annual Energy Consumption (kWh)	23318
Expected Annual Energy saving, for total replacement(kWh)	6529
Cost of Power (Rs)	10.75
Annual saving in Lakhs Rs (1st year)	0.70
Investment required for a total replacement (Lakhs Rs)[@3000 Rs per Fan with 50W at full speed]	10.41
Simple Pay Back (in Months)	178.03

Energy Saving Proposal	
Installation of 15kWp Solar Power Plant	
<b>Existing Scenario</b>	
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.	
<b>Proposed System</b>	
It is proposed to have a Solar Power Plant of 15kW 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 off grid system. Now days the technology provides trouble free grid interactive and connected system. The installation will provide 25yrs trouble free generation with only 20% efficiency loss at the 25th year.	
<b>Financial Analysis</b>	
Proposed Solar installed Capacity (kW)	15
Total average kWh per day expected (3.5kWh/day average)	56.25
Total annual Generating Capacity (kWh)	20531
Cost of energy generated annually Lakhs Rs	2.73
Investment required (INR lakh)(Approx)	8.25
Simple Pay Back (in Months)	36.26
Life cycle in Yrs	25
Total Saving in Life Cycle (Approx) RS lakh	68.27

## Technical Supplements

St. Francis De Sales College, Bengaluru								
Sl. No	Building	Location	Lights		Fans	IT	AC	Others
			T8	LED T	CF	projector	1.5	LCD
1	First Floor	R. No. 101	4	2	4	1		1
2		R. No. 102	2	1	4	1		1
3		R. No. 103	2	1	4	1		1
4		R. No. 104	2	1	4	1		1
5		R. No. 105	2	1	4	1		1
6		R. No. 106	2		4	1		1
7		R. No. 107	2		2	1		1
8		R. No. 108	3	1	2	1		1
9		R. No. 109	3	1	2	1		1
10		R. No. 110	3	1	2	1		1
11		R. No. 111	3	1	2	1		1
12		Maths Lab	3	1	2			
13		Computer Lab 1		9	6	1		1
14		Computer Lab 2		9	6	1		1
15		Seminar Hall	5	1	6	1		
16		Business Lab		8	6	1		1
17		Auditorium	4	16	12	1		
18		IQAC	5		3			

19		Sick Room		1	1		
20		Kuvempu Hall	2		1		
21	Second Floor	R. No. 201	4	1	6	1	1
22		R. No. 202	5	2	6	1	1
23		R. No. 203	3	1	6	1	1
24		R. No. 204	5	1	6	1	1
25		R. No. 205	3	1	4	1	1
26		R. No. 206	4	1	4	1	1
27		R. No. 207	4	1	3	1	1
28		R. No. 208	2		2	1	1
29		R. No. 209	4	1	2	1	1
30		R. No. 210	4	1	2	1	1
31		R. No. 211	4	1	2	1	1
32		Psychology Lab	10	2	8	1	1
33		Physics Lab	4	2	4		
34		Chemistry Lab	6	2	5		
35		Electronics Lab	2	2	4		
36		Yoga Hall	4	4	4		
37		Third Floor	R. No. 301	4	1	4	1
38	R. No. 302		4	1	4	1	1
39	R. No. 303		5	1	4	1	1
40	R. No. 304		4	1	4	1	1
41	R. No. 305		5	1	4	1	1
42	R. No. 306		5	1	4	1	1
43	R. No. 307		5	1	4	1	1
44	R. No. 308		5	1	4	1	1
45	R. No. 309		5	1	4	1	1
46	R. No. 310		4	1	4	1	1
47	R. No. 311		5	1	4	1	1
48	R. No. 312		5	1	4	1	1
49	R. No. 401		6	1	4	1	1

50		R. No. 402	2	1	2	1		1
51		R. No. 403	6	1	4	1		1
52	Fourth Floor	R. No. 404	6	1	4	1		1
53		R. No. 405	5	1	4	1		1
54		R. No. 406	5	1	4	1		1
55		R. No. 407	2	1	4	1		1
56		R. No. 408	2	1	4	1		1
57		R. No. 409	2	1	4	1		1
58		R. No. 410	2	1	4	1		1
59		R. No. 411	3	1	6	1		1
60		R. No. 412	2	1	4	1		1
61		R. No. 413	2	1	4	1		1
62		R. No. 414	2	1	4	1		1
63		R. No. 415	2	1	4	1		1
64		R. No. 416	2	1	4	1		1
65		R. No. 417	2	1	4	1		1
66		R. No. 418	2	1	6	1		1
67		Conference Hall 1		48		1	4	1
68		Conference Hall 2		18		1	2	1
69		Conference Hall 3		22		1	2	1
70		Basement Floor	B01					
71	B02							
72	B03							
73	B04		4	1	2	1		1
74	B05		3	1	4	1		1
75	B06		4	1	4	1		1
76	B07		3	1	4	1		1
77	Gym Room		6	2				
78	Studio		4	12		1	1	
79	Ambedkar Room		4	4	2			
80	Ground Floor	Library	8	6	12			

81	Digital Library		8	4			
82	Faculty Room - PG	5		3			
83	NCC		8	1			
84	Staff Room 1	4	8	10			
85	Staff Room 2	2	4	4			
86	Staff Room 3	2	6	10			
87	Staff Room 4	2	4	4			
88	Staff Room 5	2	4	6			
89	Staff Room 6						
90	H R Office	2	8	4			
91	Principal Reception	6	14	2			
92	Academic Office		6	4			
93	Solar Street Light		10				
	<b>Total</b>	<b>287</b>	<b>304</b>	<b>347</b>	<b>66</b>	<b>9</b>	<b>63</b>

<b>UPS</b>			
<b>S. No.</b>	<b>Rating (kVA)</b>	<b>Nos</b>	<b>Total kVA</b>
1	1	6	6
2	2	1	2
3	2.5	1	2.5
4	3	2	6
5	3.5	3	10.5
6	5	1	5
7	10	1	10
8	30	2	60
<b>Total</b>			<b>102</b>

GSTIN:29AACCB1412G1Z5

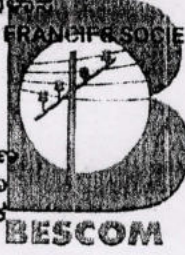
ಉಪ ವಿಭಾಗ VECRASANDRA  
ಸ್ಥಳ ಸಂಕೇತ 5130206  
ಮಾ.ಓ.ಸಂಕೇತ MRC10

ಆರ್.ಆರ್.ಸಂಖ್ಯೆ HB13515  
ಗ್ರಾಹಕರ ಐ.ಡಿ.ಬಿ. 1954504

ಹೆಸರು ಮತ್ತು ವಿಳಾಸ  
KARNATAKA FRANCHISE SOCIETY

HEBBAGODI

ಬಕಾತಿ LT-2 (b)(i)-M-U  
ಮಂ.ವಿ. ಪ್ರಮಾಣ 8.00KW  
ದಾ.ವಿ. ಪ್ರಮಾಣ 15.25KW  
ಓದುವ ದಿನಾಂಕ 01-10-2022  
ಬಿಲ್ ಸಂಖ್ಯೆ 95450401  
ಹಾಲಿ ಮಾಪನ 40296.00  
ಹಿಂದಿನ ಮಾಪನ 38863.00  
ಬಳಕೆ 1433  
ಮಾಪಕ ಸ್ಥಿರಾಂಕ 1.00  
ಪಿ.ಎಫ್ 0.85



ನಿಗದಿತ ಶುಲ್ಕ (ಪರಿಮಾಣದ, ಮೊತ್ತ) 8.00 120.00 960.00  
ವಿದ್ಯುತ್ ಶುಲ್ಕ (ಪರಿಮಾಣದ, ಮೊತ್ತ) 200.00 7.35 1470.00  
1233.00 8.60 10603.80  
ಇಂ.ಹೊ.ಮೊತ್ತ (ಪರಿಮಾಣದ, ಮೊತ್ತ) 1433 0.74 1060.42

ಪಿ.ಎಫ್.ದಂಡ 0.00

ಅಧಿಕ ಪ್ರಮಾಣ ದಂಡ  
BMD (7.25 \* 120.00 \* 1.5) -> 1305.00

ರಿಯಾಯಿತಿ 0.00

ಬಡ್ಡಿ 0.00

ತೆರಿಗೆ 1086.04

ಬಿಲ್ ಮೊತ್ತ 16486.86

ಬಾಕಿ 0.00

ಸರ್ಕಾರದ ಸಹಾಯಧನ 0.00

ಪಾವತಿಸಬೇಕಾದ ಮೊತ್ತ (₹) 16486.00

ಪಾವತಿಗೆ ಕಡೆ ದಿನಾಂಕ 15-10-2022

SD:19430/Paid:16450/Paid:2080



195450416486

ಕೋವಿಡ್-19 ಆತಂಕ ಬೇಡ, ಮುನ್ನೆಚ್ಚರಿಕೆ ಇರಲಿ  
ಮಾನ್ಯ ಧರಿಸಿ, ಸಾಮಾಜಿಕ ಅಂತರ ಪಾಲಿಸಿ.

10/10/22



ಶಿಕ್ಷಣ ಮತ್ತು ಸಂಶೋಧನೆ ಕ್ಷೇತ್ರದಲ್ಲಿ  
67ನೇ ವರ್ಷದ ಕನ್ನಡ ರಾಜ್ಯೋತ್ಸವದ ಕುಭಾಷಣೆಯನ್ನು  
ವಿದ್ಯುತ್ ಬಿಲ್

GSTIN:29AACCB141261Z5

ಉಪ ವಿಭಾಗ  
ಸ್ಥಳ ಸಂಕೇತ  
ಮಾ.ಓ. ಸಂಕೇತ

VEERASANDRA  
5130206  
MRC10

ಆರ್.ಆರ್. ಸಂಖ್ಯೆ  
ಗ್ರಾಹಕರ ಐ.ಡಿ

HBAEHMS753  
1988407

ಹೆಸರು ಮತ್ತು ವಿಳಾಸ  
SUVIDHYA EDUCATION INSTI

SUVIDHYA EDUCATION I

ಚಕಾತಿ

LI-2 (b)(i)-M-U

ಮಂ ವಿ ಪ್ರಮಾಣ

15.00KW

ಗಾ ವಿ ಪ್ರಮಾಣ

1.00KW

ಓಟುವ ದಿನಾಂಕ

01-11-2022

ಬಿಲ್ ಸಂಖ್ಯೆ

98840701

ಹಾಲಿ ಮಾಪನ

83860.00

ಹಿಂದಿನ ಮಾಪನ

83457.00

ಬಳಕೆ

403

ಮಾಪಕ ಸ್ಥಿರಾಂಕ

1.00

ಪಿ.ಎಫ್

0.85

ಆಗತ ಶುಲ್ಕ (ಪರಿಮಾಣ ದರ ಮೊತ್ತ)

15.00 120.00 1800.00

ವಿದ್ಯುತ್ ಶುಲ್ಕ (ಪರಿಮಾಣ ದರ ಮೊತ್ತ)

200.00 7.35 1470.00

203.00 8.60 1745.80

ಅ.ಹೊ.ಮೊತ್ತ (ಪರಿಮಾಣ ದರ ಮೊತ್ತ)

403 0.74 298.22

ಪಿ.ಎಫ್.ದಂಡ

0.00

ಅಧಿಕ ಪ್ರಮಾಣ ದಂಡ

0.00

ರಿಯಾಯಿತಿ

0.00

ಬಡ್ಡಿ

0.00

ತೆರಿಗೆ

289.42

ಬಿಲ್ ಮೊತ್ತ

5603.44

ಬಾಕಿ

0.00

ಸರ್ಕಾರದ ಸಹಾಯಧನ

0.00

ಪಾವತಿಸಬೇಕಾದ ಮೊತ್ತ (₹)

5603.00

ಪಾವತಿಗೆ ಕಡೆ ದಿನಾಂಕ

15-11-2022



19884075603

ಹೋವಿಡ್ -19 - ಆತಂಕ ಭೇದ, ಮುನ್ನೆಚ್ಚರಿಕೆ ಇರಲಿ  
ಮಾಸ್ಕ್ ಧರಿಸಿ, ಸಾಮಾಜಿಕ ಅಂತರ ಪಾಲಿಸಿ.

*Signature*



Bill Format

Annexure-I

ಬೆಂಗಳೂರು ವಿದ್ಯುತ್ ಸರಬರಾಜು ಕಂಪನಿ ನಿಯಮಿತ

CORPORATE OFFICE SOLAR ROOF TOP CENTRALIZED BILLING CENTER BANGALORE

NET Metering SRTPV Bill For the Month - SEPTEMBER-2022

BR No :

Date :

1	ಆರ್.ಆರ್.ಸಂಖ್ಯೆ / RRNO	ZANEH71	21	ವಿಂಡಿ ದರ / Cost of Purchase	3.07	
2	ಅಕೌಂಟ್ ಐಡಿ / Account ID / Connection ID	1941638				
3	ಹೆಸರು ಮತ್ತು ವಿಳಾಸ / Name and Address:	PRESIDENT HEBBAGODI KARNATAKA PRAYANA SANGHA	22	whether the consumer has availed MNRE subsidy (Yes or No)		NO
4	ಮಾಪಕ ಓದುಗರ ಸಂಖ್ಯೆ / Meter-Reader Code	JE ANANTHAGARA				
5	ಜಾಲಾತಿ / Tariff	LT-2(B)(I)	24	ಗ್ರಾಹಕರಿಗೆ ಪಾವತಿಸಬೇಕಾದ ಒಟ್ಟು ಮೊತ್ತ / Gross Amount payable to Consumer		0
6	ಮಂಜೂರಾದ ವಿದ್ಯುತ್ ಪ್ರಮಾಣ / Sanctioned Load in	13 kw	A	ಗ್ರಾಹಕರು ಬೆವಿಲಿಂಗ್ ಪಾವತಿಸಬೇಕಾದ ಮೊತ್ತ / To be paid by Consumer		
6B	ಮಂಜೂರಾದ ವಿದ್ಯುತ್ ಪ್ರಮಾಣ / Solar Installed capacity in kw	12.5KW		ನಿಗದಿತ/ಬೇಡಿಕೆ ಶುಲ್ಕ/Fixed/Demand Charges (KVA X Unit Rate)	HP	ಚಾರ್ಜ್ / Charges
7	ಬಿಲ್ಡಿಂಗ್ ಅವಧಿ /Billing Period	01.8.2022 TO 31.8.2022			ಬಿಲ್ಡಿಂಗ್ ಅವಧಿ / Billing Period	
8	ಮಾಪಕ ಓದಿದ ದಿನಾಂಕ / Reading Date	01-Sep-22	i	Slab1	13	120.00
9	ಬೈ-ಡೈರೆಕ್ಷನಲ್ ಮಾಪಕ ಕ್ರಮ ಸಂಖ್ಯೆ / Bi-Directional Meter SI No	X1187483	ii	Slab2	12	0.00
			iii	Slab3	0	150.00
10	ವಿದ್ಯುತ್ ದಾಖಲೆಗಳು / Energy Recorded	(A) ವಿದ್ಯುತ್ ಒಳಹಂಪು / Energy Import	(B) ವಿದ್ಯುತ್ ಹೊರಹಂಪು / Energy Export	24A	Total Fixed charges(i+ii)	
11	ಇಂದಿನ ಗಣಾಂಕ / Present Reading	98344.80	1194.40			1560.00
12	ಹಿಂದಿನ ಗಣಾಂಕ / Previous Reading	92668.20	1150.00	24B	ಗ್ರಾಹಕರ ದಂಡ ಶುಲ್ಕ / MD Penalty Charges [( MD Recorded - Sanctioned load) X Rate]	
13	ವ್ಯತ್ಯಾಸ / Difference ( 11-12 )	5676.60	44.40	C	ವಿದ್ಯುತ್ ಶುಲ್ಕ / Energy Charges [ Units X Rate]	
14	ಮಾಪಕ ಗುಣಾಂಕ / Meter Constant	1		i	01-200	200
15	ಒಟ್ಟು ವಿದ್ಯುತ್ ಒಳಹಂಪು / ಹೊರಹಂಪು / Total Energy Import / Export ( 13X 14 )	5676.60	44.40	ii	200 ABOVE	5432
16	ನಿವೃತ್ತಿ ಬಳಕೆ/ಉತ್ಪಾದನೆ / Net Import (Consumption) /Export :	5632.20	0	iii		7.35
17	( 15A - 15B = Plus ನಿವೃತ್ತಿ ಬಳಕೆ / Net Consumption ) = ಗ್ರಾಹಕರಿಂದ ಪಾವತಿಸಬೇಕಾದ / Payable by Consumer	0	0	iv		8.60
18	( 15B - 15A = Plus ನಿವೃತ್ತಿ ಉತ್ಪಾದನೆ / Net Export ) = ಬೆವಿಲಿಂಗ್ ಗ್ರಾಹಕರಿಗೆ ಪಾವತಿಸಬೇಕಾದ / Payable by BESCOM	0	0	24C	Total Energy charges(i+ii+iii+iv)	
19	ದಾಖಲಿತ ಬೇಡಿಕೆ / Recorded MD	35.05	5.20	24D	ಕೆಆರ್ / Tax 9% Import	
19a	Total Load in KVA	35.05	0.00	24E	FAC Charges	
20	ಪವರ್ ಫ್ಯಾಕ್ಟರ್ / Power Factor	0.98	0.92	24F	ಪವರ್ ಫ್ಯಾಕ್ಟರ್ ದಂಡ ಶುಲ್ಕ / Power Factor Penalty	
II) SRTPV Meter Details :				24G	ಬಾಕಿ / Arrears	
1	SRTPV Meter SI NO	C905302		24H	ಜಮೆ , ಹೊಂದಾಣಿಕೆಗಳು / Credits, Adjustments/Round off adj	
2	Present Reading	54466.50		25	ಗ್ರಾಹಕರು ಬೆವಿಲಿಂಗ್ ಪಾವತಿಸಬೇಕಾದ ನಿವೃತ್ತಿ ಮೊತ್ತ / Net Amount to be paid by Consumer (24A+24B+24C+24D+24E+24F+24G-24H)	
3	Previous Reading	53999.80		26	ಬೆವಿಲಿಂಗ್ ಗ್ರಾಹಕರಿಗೆ ಪಾವತಿಸಬೇಕಾದ ನಿವೃತ್ತಿ ಮೊತ್ತ / Net Amount to be paid to by BESCOM	
4	Difference (2-3)	466.70		27	ಪಾವತಿಸಬೇಕಾದ ದಿನಾಂಕ / Due Date for Payment	
5	Meter Constant	1				
6	Total (4*5)	467				

*See*  
 Assistant Executive Engineer  
 Veerasandra, C, O&M Sub-division