

GREEN AUDIT REPORT
of
DR. D. Y. PATIL SCHOOL OF ENGINEERING,
Charholi Budruk, Pune 412 105



Year: 2018-19

Prepared by

ENRICH CONSULTANTS

Yashashree, 26, Nirmal Bag Society,
Near Mukhtangan English School, Parvati, Pune 411009
Phone: 09890444795, Email: enrichcons@gmail.com



MAHARASHTRA ENERGY DEVELOPMENT AGENCY



Maharashtra Energy Development Agency
(A Government of Maharashtra undertaking)
2nd Floor, MIADA Commercial Complex, Opp. Tridal Nagar, Yerwada, Pune 411 006,
Ph No: 020-26614393/266144403
Email: eec@mahaurja.com, Web: www.mahaurja.com

ECN/2018-19/CR-05/4174

19th September, 2018

**CERTIFICATE OF REGISTRATION
FOR CLASS 'A'**

We hereby certify that, the firm having following particulars is registered with **MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)** under given category as "Energy Planner & Energy Auditor" in Maharashtra for Energy Conservation Programme of MEDA.

Name and Address of the firm : **Enrich Consultants**
Yashashree, Plot No. 26, Nirmal Bag Society,
Near Muktangan English School,
Parvati, Pune - 411009.

Registration Category : Empanelled *Consultant for Energy Conservation Programme*

Registration Number : *MEDA/ECN/CR-05/2018-19/EA-03*

- Energy Conservation Programme intends to identify areas where wasteful use of energy occurs and to evaluate the scope for Energy Conservation and take concrete steps to achieve the evaluated energy savings.
- MEDA reserves the right to visit the firm at any time without giving any prior information and canceling the registration, if the information is found incorrect.
- This empanelment is valid till **31st March 2021** from the date of registration, to carry out energy audits under the Energy Conservation Programme
- The Director General, MEDA reserves the right to cancel the registration at any time without assigning any reasons thereof.


(Smita Kudarikar)
General Manager (EC)



Enrich Consultants

Yashashree, 26, Nimal Bag Society,
Near Mukangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: enrichcons@gmail.com

Ref: EC/DYPSOE/18-19/02

Date: 25/8/2019

CERTIFICATE

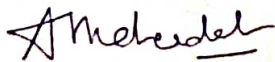
This is to certify that we have conducted Green Audit at Dr. D. Y. Patil School of Engineering, Charholi Budruk, Pune 412 105, in the Academic year 2018-19

The Institute has adopted following Green practices:

- Usage of Energy Efficient LED Fittings
- Provision of Bio composting Plant for organic Waste disposal
- Usage of Sewage Treatment Plant of capacity 300 KLPD
- Good internal Roads within the campus
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan

We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Energy Efficient.

For Enrich Consultants,

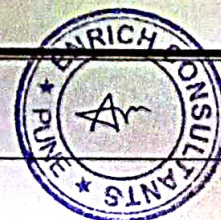


A Y Mehendale,
Certified Energy Auditor
EA-8192



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ACKNOWLEDGEMENT

We at Enrich Consultants, Pune, express our sincere gratitude to the management of Dr. D. Y. Patil School of Engineering, Charholi Budruk Pune 412 105 for awarding us the assignment of Green Audit of their Charholi campus for the Academic Year: 2018-19.

We are thankful to all Faculty members & staff members for helping us during the field study.



EXECUTIVE SUMMARY

1. Dr. D. Y. Patil School of Engineering, Charholi Budruk, Pune 412 105 consumes Energy in the form of Electrical Energy used for various gadgets, Office & other facilities.

2. Present Level of Energy Consumption & CO₂ Emission:

No	Parameter	Energy consumed, kWh	CO ₂ Emissions, MT
1	Total	318515	254.81
2	Maximum	34094	27.28
3	Minimum	16488	13.19
4	Average	26542.9	21.23

3. Various Majors Adopted for Energy Conservation:

- Usage of Energy Efficient LED fittings

4. Usage of Renewable Energy:

The College is in a process of installation of 80 kWp Roof Top Solar PV Plant. Therefore as on Date the reduction in CO₂ emissions due to usage of Renewable Energy is Nil.

5. Waste Management:

5.1 Segregation of Waste at Source:

The waste is segregated at source. Separate Dry and Wet waste collection bins are provided at key locations in the campus. It is then further disposed.

5.2 Liquid Waste Management:

The Institute has a Sewage Treatment Plant of Capacity 300 KLPD, to treat the Liquid Waste. The treated water is used for Gardening purpose.

5.4 E Waste Management:

It is recommended to dispose of the E Waste through Authorized Agency.

6. Rain Water Harvesting:

It is recommended to implement the Rain Water Harvesting Project.

7. Green & Sustainable Practices:

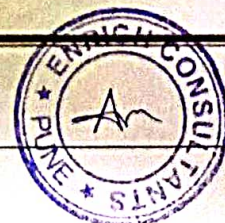
- Maintenance of Well Maintained Internal Roads
- Maintenance of Internal Garden
- Provision of Ramp for Divyangajan

8. Assumption:

- 1 kWh of Electrical Energy releases 0.8 Kg of CO₂ into atmosphere

ABBREVIATIONS

LED	:	Light Emitting Diode
KLPD	:	Kilo Liters per Day
Kg	:	Kilo Gram
kWh	:	kilo-Watt Hour
kWp	:	Kilo Watt Peak
Qty	:	Quantity
MT	:	Metric Ton
CO ₂	:	Carbon Di Oxide



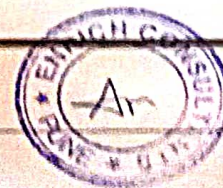
CHAPTER-I INTRODUCTION

1.1 Objectives:

1. To study the present Energy Consumption
2. To study CO₂ emissions
3. To study usage of Renewable Energy
4. To study Waste Management
5. To study Rain Water Management
6. To study Green Practices

1.2 Table No 1: General Details of Institute:

No	Head	Particulars
1	Name	Dr. D. Y. Patil School of Engineering
2	Address	Charholi Budruk Pune 412 105



CHAPTER-II STUDY OF ELECTRICAL ENERGY CONSUMPTION

In this chapter, we present the analysis of last year Electricity Bills

Table No 2: Electrical Bill Analysis- 2018-19:

No	Month	Energy Consumed, kWh
1	Apr-18	14119
2	May-18	30109
3	Jun-18	23816
4	Jul-18	27625
5	Aug-18	16488
6	Sep-18	29459
7	Oct-18	34094
8	Nov-18	18086
9	Dec-18	16940
10	Jan-19	32666
11	Feb-19	29734
12	Mar-19	30084
13	Total	318515
14	Maximum	34094
15	Minimum	16488
16	Average	26543

Chart No 1: To study the variation of Month wise Energy Consumption, kWh:

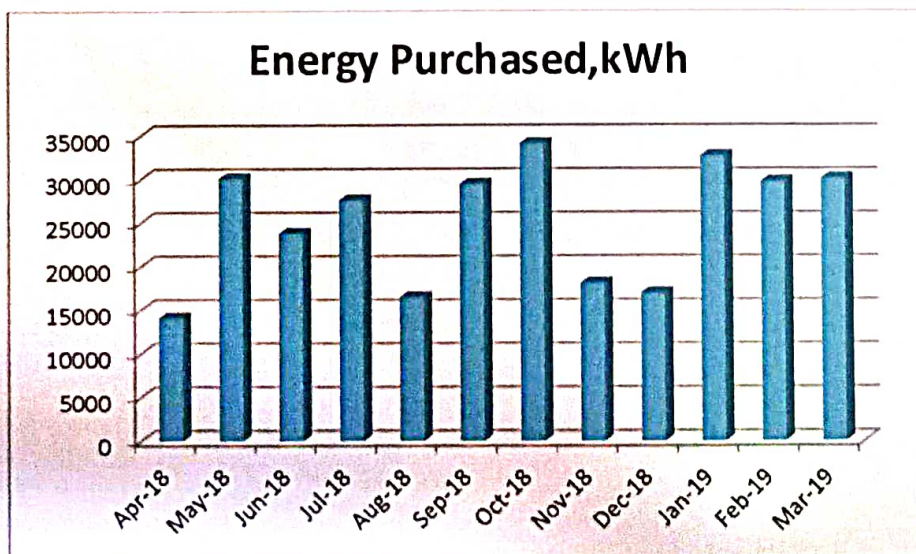
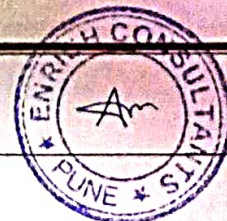


Table No 3: Key observations:

No	Parameter	Energy consumed, kWh
1	Total	318515
2	Maximum	34094
3	Minimum	16488
4	Average	26542.9



CHAPTER-III CARBON FOOTPRINTING

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities.

In this we compute the emissions of Carbon-Di-Oxide, by usage of the various forms of Energy used by the Institute for performing its day to day activities

The Institute uses Electrical Energy for various Electrical gadgets.

Basis for computation of CO₂ Emissions:

The basis of Calculation for CO₂ emissions due to Electrical Energy is:

- 1 kWh of Electrical Energy releases 0.8 Kg of CO₂ into atmosphere

Based on the above Data we compute the CO₂ emissions which are being released in to the atmosphere by the Institute due to its Day to Day operations

Table No 4: Month wise CO₂ Emissions:

No	Month	Energy Consumed, kWh	CO ₂ Emissions, MT
1	Apr-18	14118.7	11.29
2	May-18	30109	24.09
3	Jun-18	23816	19.05
4	Jul-18	27625	22.10
5	Aug-18	16488	13.19
6	Sep-18	29459	23.57
7	Oct-18	34094	27.28
8	Nov-18	18086	14.47
9	Dec-18	16940	13.55
10	Jan-19	32666	26.13
11	Feb-19	29734	23.79
12	Mar-19	30084	24.07
13	Total	318515	254.81
14	Maximum	34094	27.28
15	Minimum	16488	13.19
16	Average	26542.9	21.23

Chart No 2: Representation of Month wise CO₂ emissions:

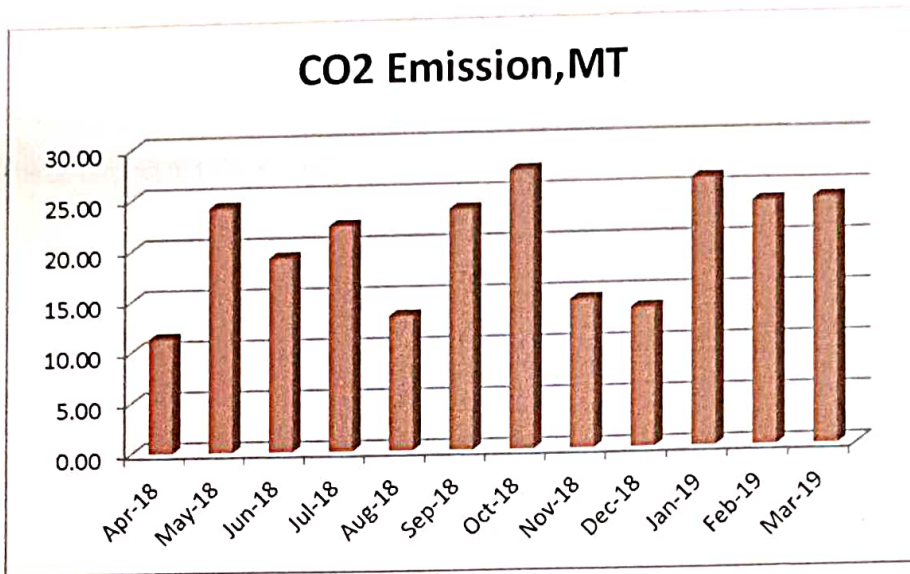
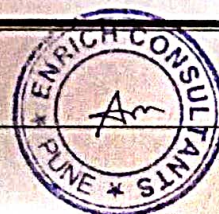


Table No 5: Key observations:

No	Value	Energy Consumed, kWh	CO2 emissions, MT
1	Total	318515	254.81
2	Maximum	34094	27.28
3	Minimum	16488	13.19
4	Average	26542.9	21.23

CHAPTER-IV STUDY OF USAGE OF RENEWABLE ENERGY

The College is in a process of installation of 80 kWp Roof Top Solar PV Plant. Therefore as on Date the reduction in CO₂ emissions due to usage of Renewable Energy is Nil.



CHAPTER-V STUDY OF WASTE MANAGEMENT

5.1 Segregation of Waste at Source:

The waste is segregated at source. Separate Dry and Wet waste collection bins are provided at key locations in the campus. It is then further disposed.

Photograph of Waste Collection Bins:



5.2 Liquid Waste Management:

The Institute has a Sewage Treatment Plant of Capacity 300 KLPD, to treat the Liquid Waste. The treated water is used for gardening purpose.

Photograph of Sewage Treatment Plant:

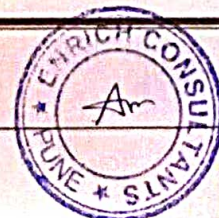


5.3 E Waste Management:

It is recommended to dispose the E Waste through Authorized Agency.

CHAPTER-VI STUDY OF RAIN WATER MANAGEMENT

It is recommended to implement the Rain Water Harvesting Project.



CHAPTER-VII

STUDY OF GREEN PRACTICES

7.1 Pedestrian Friendly Roads:

The College has well maintained internal road as to facilitate the easy movement of the students within the campus.

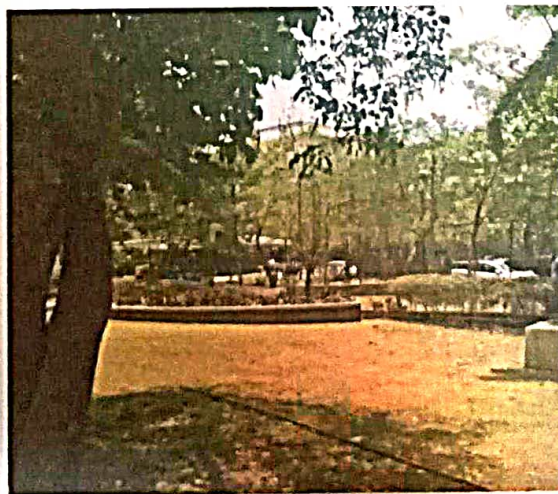
Photograph of Road within campus:



7.2 Plantation in the Campus:

The College has well maintained Garden, inside the campus.

Photograph of Internal Lawn and Tree Plantation:



7.3 Provision of Ramp for Divyangajan:

The College has made a provision of Ramp for easy movement of Divyangajan.

Photograph of Ramp:



Green Audit Certificate

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for 2020-2021 and 2021-2022 (Analysed for 2 years) to the Esteemed Institution

Dr. D. Y. Patil Educational Enterprises Charitable Trust's

Ajeenkya D. Y. Patil School of Engineering

Dr. D. Y. Patil Knowledge City, Charholi (Bk.) via Lohegaon, Pune - 411047

As part of the Institution's initiatives for a Healthy & Sustainable College the audit was conducted. We appreciate the immense efforts taken by Staff and students towards the Efficient Management of Premise.

Valid till December 2023



Ar. Nahida Shaikh

Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS)
Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

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