GREEN AUDIT REPORT
CONSULTATION REPORT

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22/04/24 03:37 PM GMT +05:30

MAHARSHI PANINI SANSKRIT EVAM VEDIC VISHWAVIDYALAYA
UJJAIN (M.P)

PREPARED BY

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(2022-23)

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ACKNOWLEDGEMENT

Empirical Exergy Private Limited (EEPL), Indore takes this opportunity to appreciate & thank the management of Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya Ujjain (M.P) for giving us an opportunity to conduct green audit for the university.

We are indeed touched by the helpful attitude and co-operation of all faculties and technical staff, who rendered their valuable assistance and co-operation the course of study.

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Member of ISHRAE [58150]

CERTIFICATE OF ISO 9001:2015

GREEN AUDIT TEAM

The study team constituted of the following senior technical executives from Empirical Exergy Private Limited,

- Mr. Rajesh Kumar Singadiya [Director & Accredited Energy Auditor AEA-0284]
- Ms. Laxmi Raikwar [Chemical & Energy Engineer]
- Mr. Ajay Nahra [Sr.Project Engineer]
- Mr. Charchit Pathak [Sr.Project Engineer]
- Mr. Mohan Choudhary [Electrical Engineer]
- Mr. Praveen Punasiya [Field Engineer]

EXECUTIVE SUMMARY

Green Audit is the most efficient way to identify the strength and weakness of environmentally sustainable practices and to find a way to solve problem. The executive summary of the Green Audit report furnished in this section briefly gives the identified green initiative taken by university and further recommendation for green campus, solid waste management and their impact on carbon foot print in the campus.

GREEN INITIATIVE TAKEN BY THE UNIVERSITY

CAMPAIGN OF PLANTATION AND GREEN CAMPUS

- University has around 346 numbers of plant & trees in the campus. It is a good initiative taken by management for green campus under the campaign of plantation. It's APPRECIABLE.
- We have found that after Biomass Calculation and CO_2 Sequestration of the Trees that is **3.06 Tons /Year** CO_2 Reduction in this year. It's appreciable.

RECOMMENDATION FOR IMPROVEMENT

Vermicomposting unit for treatment of Organic waste material

The process by which worms are used to convert organic materials (usually wastes) into a humus-like material known as vermin-compost. Only usually waste materials are used in composting. Good quality environmentally friendly manure is formed from the compost and can be used for agricultural purpose.

Recommendation for Herbal & medicinal plants:

List of recommended of herbal & medicinal plant in annexure -I list. University management can be purchase above recommended plants in future plantation.

List of Tree/Plant with Quantity show on university campus board:

List of Tree/plant in university campus. It should be show with quantity on university display system.

CO_2 Foot Print Analysis:

Total carbon footprint generated by the campus =	Carbon footprint by electricity consumption of the university from grid power - Carbon Neutralize by trees
Net Carbon Foot Print by University campus	= 15.02 -3.06 = 11.96 tons/year

It is calculated net carbon foot print of the university is 11.96 tons/year. It can further reduce by installation of 10 KWp Grid connected solar power plant in university campus. At Present the university is use 100 % power from grid. There is good potential for installation of solar power plant.

SOLID WASTE MANAGEMENT

Waste collection system & Recommendation for in the University

There are total 25 number of dustbin in the campus. The details of list of dustbins have provided in chapter-4. It is recommended to adopt 5 to 6 dustbin systems for collection of different type of waste material in the university campus. University has different activity in the campus. The basic principle of good waste management practice is based on the concept of 3Rs, namely, reduce, recycle, and reuse. All the degradable and non-degradable waste material are collected and processed in environmentally friendly way in the University campus.

QR CODE SYSTEM ON THE ON TREES

While the world seems to be going digital, people lack the time to read books and process the information they contain. Hence, University can be provided QR codes on the trees for its information and to exploit the rapidly growing platform for a unique purpose.

1.1 About University

The university expands in a lush green valley area in about 25 acres of land on Dewas road near the famous city of Ujjain. After entering through a grand gate, we enter the first academic campus of the university entitled "Panchavati". This complex gives the impression of an ancient Gurukul due to the five buildings with a huge platform in the middle and a beautiful fragrant garden. This place provides immense joy and peace to the new visitors. As we walk in the panchavati along the greenery gradually we come across an elevated path which leads us to Patanjali Hostel. The mesmerizing university campus has foundation lands allotted for a spacious educational building, administrative building, and huge auditorium etc. where buildings are yet to be constructed.
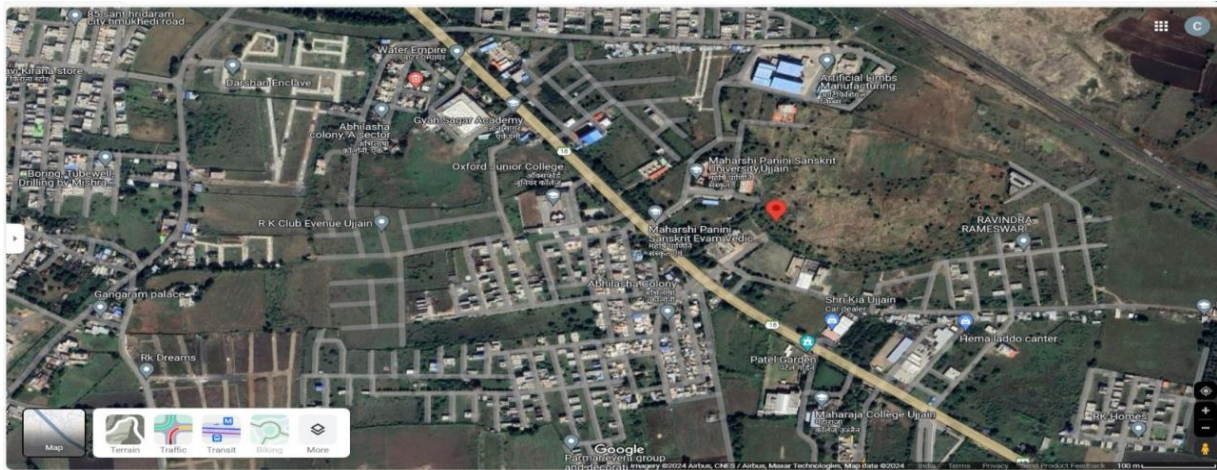
Satellites Image of University from Google map

The university also contains an open auditorium, Nakshatravatika, Navagraha Vatika, Sarovar, Yagyashala, Library, Museum of Vedic Yagya Equipments, Astrology Laboratory, Psychology Laboratory, Language Lab, Sanskrit Gallery, Educational Subhashit Moral & a Fruit Garden. The university also plans to develop its concept of construction of residential houses. In future, this campus will be a centre of attraction and inspiration for students, academicians and travellers from India and abroad.

VISION

➕ **भारतीयज्ञानपरम्परायाः निरन्तरप्रवाहाय नवाचाराः**

❖ To integrate the timeless wisdom of ancient Indian knowledge with modern innovation and progress across diverse disciplines

MISSION

➕ **प्राच्यसंस्कृतज्ञानविज्ञानपरम्परां प्रसारयितुं नवाचारैः सह परम्परागतशिक्षणपद्धतिम् अनुसृत्य शिक्षणं शोधकार्यं च कर्तुं दीपशिखारूपेण स्वस्य प्रतिष्ठापनम्।**

❖ To serve as a beacon of Sanskrit heritage, thereby fostering a dynamic learning environment where tradition meets innovation.

❖ Through rigorous scholarship, research excellence and community engagement we aim to be a catalyst for personal growth, cultural enrichment and societal information hence ensuring the enduring relevance of Sanskrit wisdom in the contemporary world

➕ **CORE VALUES:** These core values often serve as a compass guiding the university's decisions, actions, and priorities, shaping its identity and contributing to its impact on society.

➕ **Excellence:** Commitment to high academic standards, rigorous research, and continuous improvement in teaching and learning.

➕ **Integrity:** Upholding honesty, ethical behaviour, and accountability in all aspects of academic and administrative activities.

➕ **Diversity and Inclusion:** Fostering a diverse community of students, faculty, and staff.

➕ **Innovation:** Encouraging creativity, curiosity, and entrepreneurship in education, research, and community engagement.

➕ **Collaboration:** Emphasizing teamwork, interdisciplinary cooperation, and partnerships within the university and with external stakeholders to advance knowledge and solve global problems.

- **Service and Social Responsibility:** Engaging in meaningful service to the community, promoting civic engagement, and addressing societal needs through education, research, and outreach.

- **Freedom of Inquiry and Expression:** Safeguarding academic freedom, intellectual curiosity, and open exchange of ideas as fundamental principles of scholarly pursuit and democratic society.

- **Global Citizenship:** Cultivating global awareness, cultural competence, and a sense of responsibility towards addressing global issues and promoting peace and justice worldwide.

- **Student-Centeredness:** Prioritizing the holistic development, well-being, and success of students through personalized support, mentorship, and opportunities for growth and leadership.

- **Sustainability:** Committing to environmental stewardship, sustainable practices, and responsible resource management in campus operations and educational initiatives.
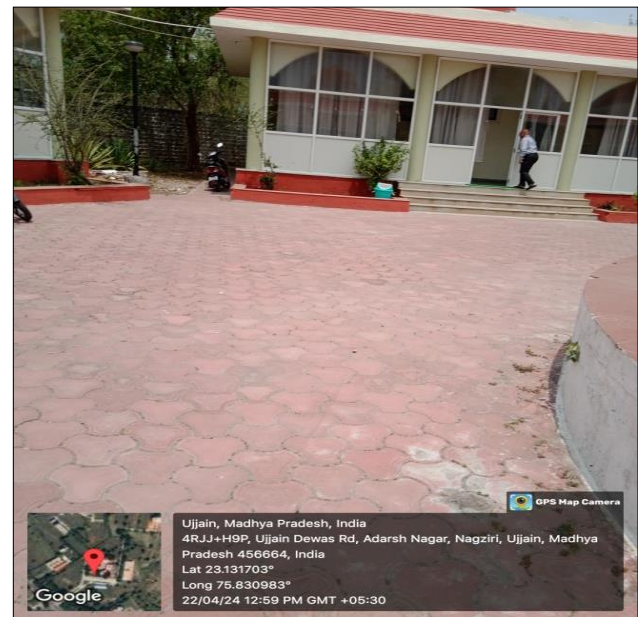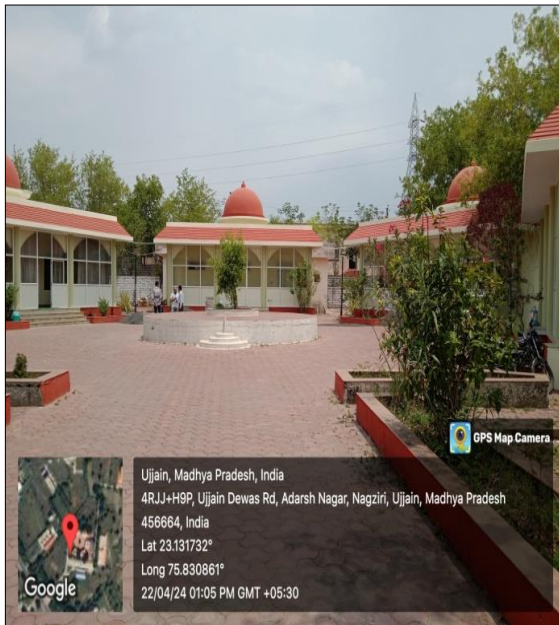
Photographs of the University Campus

1.2 School/Department of the University

- School of Veda, Vedanga & Sahitya
- Department of Veda
- Department of Vyakarana
- Department of Sanskrit Sahitya
- Department of Jyotish
- Department of Vastu
- Department of Jyotirvigyan
- Department of Vishishta Sanskrit
- Department of Darshana
- Department of Yoga
- Department of Education
- Department of SSPGVSK
- School of Kala
- School of Darshana
- School of Prachin Vigyana

Facilities of the University Campus

- WiFi enabled campus
- Hostel
- Canteen
- Ragging free campus
- CCTV surveillance campus
- Girls' common room
- Boys' common room
- 24x7 Security
- Manuscript Repository
- Sanskrit Fledged Campus

Academic

- ICT classroom
- Computer lab
- Library
- Psychology Lab
- Museum

Spiritual

- Yoga and meditation center
- Lord Shiva temple
- Yagyashala
- Goshala

Online payment service

1.3 University Infrastructure

VC Cabin

Conference Hall
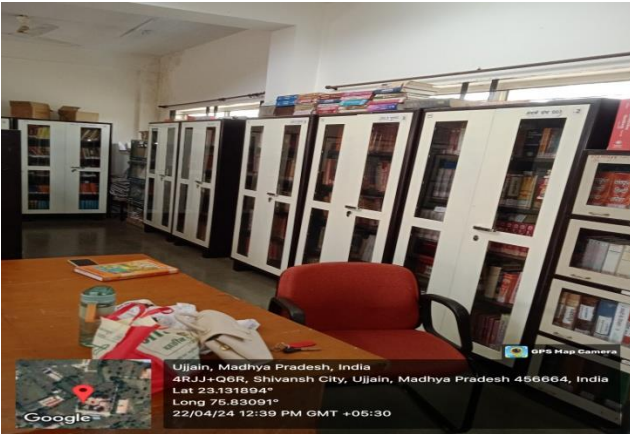
Library

Classroom

Yoga Bhavan

Classroom

1.4 Green Audit Committee

महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय

Panini Sanskrit Evam Vedic Vishwavidyalaya

देवासमार्ग, उज्जैन,(मध्यप्रदेश) . 456010

Website:- www.mpsvv.ac.in

क्र./कु.स/म.पा.सं.वै.वि/ 3211/A   दिनांक – 30/05/2023

कार्यालयीन आदेश

मा.कुलपति जी के आदेशानुसार वि.वि. में ग्रीन ऑडिट, पर्यावरण ऑडिट, एनर्जी ऑडिट कराया जाना है। इस सम्बन्ध में निम्नानुसार समिति गठित की जाती है।

1. डॉ. तुलसीदास परौहा – विभागाध्यक्ष, साहित्य विभाग
2. डॉ. शुभम शर्मा – विभागाध्यक्ष, ज्योतिष एवं ज्योतिर्विज्ञान विभाग
3. डॉ. अखिलेश कुमार द्विवेदी – विभागाध्यक्ष, व्याकरण विभाग
4. डॉ. उपेन्द्र भार्गव – विभागाध्यक्ष, योग विभाग
5. श्री केशव श्रोत्रिय – सहायक ग्रेड 3, स्थापना विभाग

समिति शीघ्र कार्यवाही सम्पन्न कर मा.कुलपति जी को अवगत कराने की कार्यवाही सुनिश्चित करेंगे।

कुलसचिव

क्र./कु.स/म.पा.सं.वै.वि/   दिनांक – 30/05/2023

प्रतिलिपिः

1. कुलसचिव कार्यालय, महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय, उज्जैन
2. कुलपति कार्यालय, महर्षि पाणिनि संस्कृत एवं वैदक विश्वविद्यालय , उज्जैन
3. साहित्य विभाग, महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय, उज्जैन
4. ज्योतिष एवं ज्योतिर्विज्ञान विभाग, महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय, उज्जैन
5. व्याकरण विभाग, महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय, उज्जैन
6. स्थापना विभाग, महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय, उज्जैन
7. गार्ड फाइल

कुलसचिव

1.5 About Green Auditing

Eco campus is concepts implemented in many educational institutions, all over the world to make them sustainable because of their mass resource utilization and waste discharge into the environment.

Green audit means to identify opportunities to sustainable development practices, enhance environmental quality, improve health, hygiene and safety, reduce liabilities achieve values of virtue.

This green audit was mainly focused on greening indicators like utilization of green energy (solar energy) and optimum use of secondary energy sources (petrol and diesel) in the university campus, vegetation, and carbon foot print of the campus etc. The aim of green auditing is to help the university to apply sustainable development practices and to set examples before the community and young learners.

1.6 Objectives of the Green Auditing

The general objective of green audit is to prepare a baseline report on Plant &Trees, Alternative energy sources (solar energy), measures to mitigate improve sustainable practices.

The specific objectives are

- To inculcate values of sustainable development practices through green audit mechanism
- Providing a database for corrective actions and future plans
- To identify the gap areas and suggest recommendations to improve the green campus status of the university

1.7 Target Areas of Green Auditing

Green audit forms part of a resource management process. Although they are individual events, the real value of green audit is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Target areas included in this green auditing are plant trees, green energy and carbon foot print.

CHAPTER-2
GREEN CAMPUS & SUSTAINABLE DEVELOPMENT

2.1 Green Audit

In the survey, focus has been given on assessment of present status of diversity in form of plants, in the university campus and efforts made by the university authorities for nature conservation. Campus is located in the vicinity of approximately more than 346 trees/ medicinal herbs/ ornamental plants. The Details of Name of Tree/Plant with Quantity in the University Campus is given in table 2.1:

Table -2.1 Details of Name of Tree/Plant with Quantity in University Campus

Sr.No.	Name of the tree/ plant	Botanical Name	Quantity (Nos)
1	Ashok	Saraca Asoca	25
2	Shisam	Dalbergia Sissoo	30
3	Kaner	Nerium oleander,	32
4	Aanwala	Phyllanthus Emblica	15
5	Tulsi	Ocimum tenuiflorum	7
6	Rudraksh	Elaeocarpus Ganitrus	1
7	Sirsa	Tinospora Cordifolia	6
8	Arjun	Terminalia Arjuna	25
9	Chameli	Jasminum	25
10	Mehandi	Lawsonia Inermis	7
11	Amrud	Psidium	24
12	Anar	Punica Granatum	15
14	Kele	Musa Paradisiaca	5
15	Belpatra	Aegle Marmelos	5
16	Neem	Azadirachta Indica	12
17	Bargad	Banyan	9
18	Sitafal	Annona Squamosa	5
19	Liptus	Eucalyptus Globulus	4
20	Ratrani	Cestrum Nocturnum	10
21	Gulab	Rose	1
22	Lemon	Citrus × limon)	2
23	Aam	Mangifera Indica	10
			346

2.2 Some Photograph of Green Campus in University
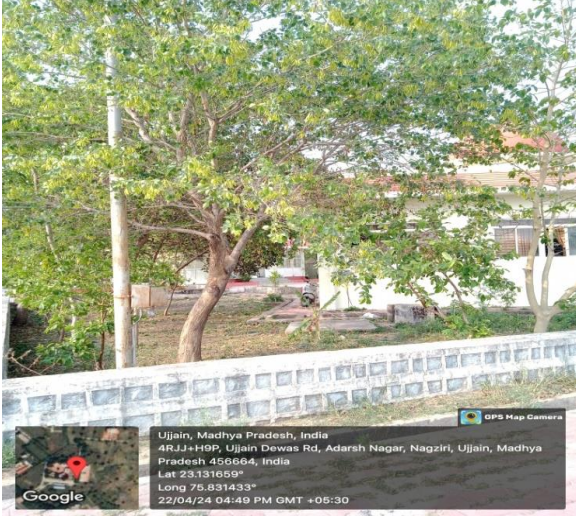
2.3 Plantation in University Campus

2.4 Biomass Calculation and CO₂ Sequestration of the Trees:

1. Estimation of above ground biomass (AGB)

$$K = 34.4703 - 8.0671D + 0.6589 \, D^2$$

Where,
K is above ground biomass and D is Breast height diameter in (cm)

2. Estimation of below ground biomass (BGD)

$$BGB = AGB \times 0.15$$

3. Total Biomass (TB)

$$TB = AGB + BGB$$

4. Calculation of carbon dioxide Weight sequestered in the tree in kg.

$$C = W \times 0.50$$

5. Calculate the weight of CO_2 Sequestered in the tree per year

$$In \, kg.CO_2 = C \times 3.666$$

Where: -

AGB = above ground biomass.

D   = Diameter of tree breast height.

BGB = Below Ground Biomass.

C = Carbon

TB = Total Biomass.

Sr. No.	Tree Name	Average Diameter cm (10 to 100)	AGB	BGB	Total	Carbon Storage	Amount of CO_2 Sequestered	Total No of Tree	Total Amount of CO_2 Sequestered	Annually CO_2 Sequestered amount (Ton/year)
1	Ashok	25	257.1	38.6	295.7	147.8	542.0	25	13549	0.18
2	Shisam	15	66.2	9.9	76.2	38.1	139.6	30	4187	0.06
3	Kaner	22	185.6	27.8	213.4	106.7	391.2	30	11736	0.16
4	Aanwala	13	44.3	6.6	51.0	25.5	93.5	15	1402	0.02
5	Tulsi	10	21.7	3.3	24.9	12.5	45.7	7	320	0.00
6	Rudraksh	19	126.3	18.9	145.2	72.6	266.2	1	266	0.00
7	Sirsa	31	436.8	65.5	502.3	251.2	920.8	6	5525	0.08
8	Arjun	16	79.2	11.9	91.1	45.5	166.9	25	4174	0.06
9	Chameli	22	185.6	27.8	213.4	106.7	391.2	25	9780	0.13
10	Mehandi	27	311.6	46.7	358.3	179.2	656.8	7	4598	0.06
11	Amrud	33	507.6	76.1	583.7	291.9	1070.0	20	21399	0.29
12	Anar	21	164.5	24.7	189.1	94.6	346.7	15	5200	0.07
13	Jaam	44	993.9	149.1	1143.0	571.5	2095.0	4	8380	0.11
14	Kele	32	471.5	70.7	542.2	271.1	993.9	5	4970	0.07
15	Belpatra	19	126.3	18.9	145.2	72.6	266.2	5	1331	0.02
16	Neem	45	1046.2	156.9	1203.2	601.6	2205.4	2	4411	0.06
17	Bargad	52	1450.7	217.6	1668.3	834.2	3058.1	4	12232	0.17
18	Sitafal	38	708.3	106.2	814.5	407.2	1493.0	5	7465	0.10
19	Liptus	42	893.2	134.0	1027.2	513.6	1882.9	4	7532	0.10
20	Ratrani	34	545.0	81.8	626.8	313.4	1148.8	10	11488	0.16

Green Audit Report Prepared By EEPL, Indore M.P.

Sr. No.	Tree Name	Average Diameter cm (10 to 100)	AGB	BGB	Total	Carbon Storage	Amount of CO_2 Sequestered	Total No of Tree	Total Amount of CO_2 Sequestered	Annually CO_2 Sequestered amount (Ton/year)
21	Gulab	25	257.1	38.6	295.7	147.8	542.0	1	542	0.01
22	Lemon	24	231.9	34.8	266.7	133.3	488.9	2	978	0.01
23	Aam	43	942.9	141.4	1084.3	542.2	1987.5	10	19875	0.27
24	Neem	33	507.6	76.1	583.7	291.9	1070.0	10	10700	0.15
25	Kabit	32	471.5	70.7	542.2	271.1	993.9	2	1988	0.03
26	Pipal	29	371.5	55.7	427.2	213.6	783.1	50	39153	0.53
27	Kaner	35	583.8	87.6	671.3	335.7	1230.6	2	2461	0.03
28	Bargad	32	471.5	70.7	542.2	271.1	993.9	5	4970	0.07
29	Jamun	24	231.9	34.8	266.7	133.3	488.9	5	2444	0.03
30	Aakaye	17	93.5	14.0	107.6	53.8	197.2	2	394	0.01
31	Babul	18	109.2	16.4	125.6	62.8	230.2	1	230	0.00
32	Kathal	15	66.2	9.9	76.2	38.1	139.6	1	140	0.00
33	Chawla	12	35.4	5.3	40.7	20.4	74.7	10	747	0.01
								346		3.06

Observation:

University has 346 Trees/Plants in the campus. This is good initiative taken by management for green campus under the campaign of plantation it's APPRECIABL. There are total CO_2 sequestered 3.06 ton /year.

3.1 About carbon foot print

Climate change is one of the greatest challenges facing nations, governments, institutions, business and mankind today. The total amount of greenhouse gases produced to directly and indirectly support human activities, usually expressed in equivalent tons of carbon dioxide (CO_2).

Carbon footprint is a measure of the impact your activities have on the amount of carbon dioxide (CO_2) produced through the burning of fossil fuels and is expressed as a weight of CO_2 emissions produced in tonnes.

We focus on consumption in each of our five major categories: housing, travel, food, products and services. In addition to these we also estimate the share of national emissions over which we have little control, government purchases and capital investment.

For simplicity and clarity all our calculations follow one basic method. We multiply a use input by an emissions factor to calculate each footprint. All use inputs are per individual and include things like fuel use, distance, calorie consumption and expenditure. Working out your inputs is a matter of estimating them from your home, travel, diet and spending behaviour.

Although working out you inputs can take some investigation on your part the much more challenging aspect of carbon calculations is estimating the appropriate emissions factor to use in your calculation. Where possible you want this emissions factor to account for as much of the relevant life cycle as possible.

We all have a carbon footprint…
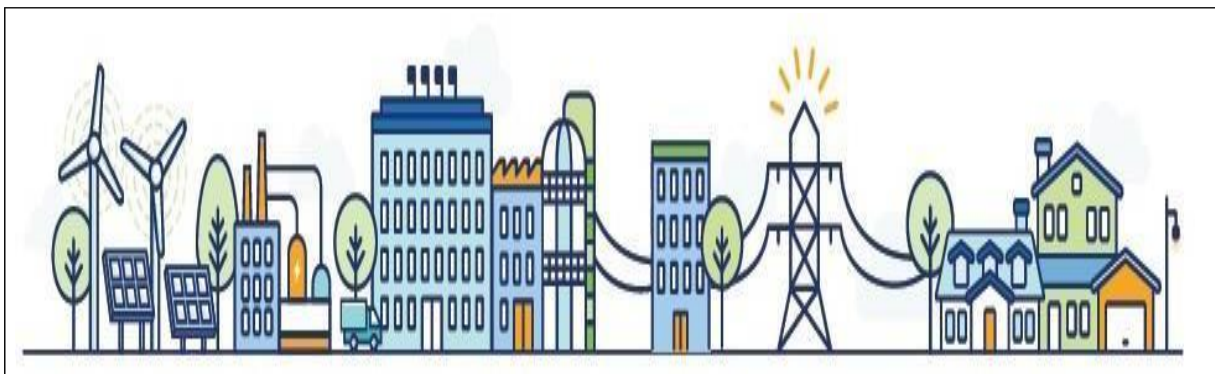
3.2 Methodology and Scope

The carbon footprint gives a general overview of the University greenhouse gas emissions, converted into CO_2 -equivalents and it is based on reported data from internal and external systems.

The purposes of the carbon indicators are to measure the carbon intensity per unit of product, in addition to showing environmental transparency towards external stakeholders.

The carbon footprint reporting approach undertaken in this study follows the guidelines and principles set out in the "Greenhouse Gas Protocol Corporate Accounting and Reporting Standard" (hereafter referred to as the GHG Protocol) developed by the Greenhouse Gas Protocol Initiative and international standard for the quantification and reporting of greenhouse gas emissions –ISO:14064.

This is the most widely used and accepted methodology for conducting corporate carbon footprints. The study has assessed carbon emissions from the University Campus. This involves accounting for, and reporting on, the GHG emissions from all those activities for which the company is directly responsible.

The items quantified in this study are as classified under the ISO: 14064 standards:

The report calculates the greenhouse gas emissions from the University. This includes electricity, as well as emission associated with diesel consumption in the institute vehicle. The emission associated with air travel, waste generation, administration, and marketing related activities has been excluded from the current study. Emissions from business activities are generally classified as scope 1, 2 or 3 areas classified under the ISO 14064 standards.

3.3 Carbon emission from electricity

Direct emissions factors are widely published and show the number of emissions produced by power stations in order to produce an average kilowatt-hour within that grid region

Unlike with other energy sources the carbon intensity of electricity varies greatly depending on how it is produced and transmitted. For most of us, the electricity we use comes from the grid and is produced from a wide variety of sources. Although working out the carbon intensity of this mix is difficult, most of the work is generally done for us.

Electricity used in the site is the significant contributors towards GHGs emission from the unit. Electricity used onsite is the most direct, and typically the most significant, a contributor to a unit's carbon footprint. Thus, using an average fuel mix of generating electricity, carbon dioxide intensity of electricity for national grid is assumed to be 0.9613 $KgCO_2$/Kwh (Reference: Central Electricity Authority (CEA) Baseline Carbon Dioxide Emission database http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/database_11.zip) Electricity Purchased from the grid.

Table: - 3.1 Electricity Purchased from the grid and Emissions from the electricity Import

Sr.No	Month & Year	Annual KWh Unit	Annual Billing Amount (Rs.)	Emission Factor Kg CO_2e/kWh	Emission Ton CO_2e/Year
1	2022-23	15,621	1, 72,421/-	0.9613	15.02

3.4 Other Emissions Excluded

This study did not evaluate the carbon sequestration potential of existing plantation activities and emission from the staff commuting, food supply, official flights, paper products, water supply, and waste disposal and recycling due to limited data availability. The current study identifies areas where data monitoring, recording and archiving need to be developed for enlarging the scope of mapping of GHGs emission in the future years. Accordingly, a set of tools and record keeping procedure will be developed for improving the quality of data collection for the next year carbon footprint studies.

CO_2 Foot Print Analysis:

Total carbon footprint generated by the campus =	Carbon footprint by electricity consumption of the university from grid power - Carbon Neutralize by trees
Net Carbon Foot Print by University campus	= **15.02 -3.06 = 11.96 tons/year**

It was calculated net carbon foot print of the university is 11.96 tons/year. It can reduce by installation of 10 KWp Grid connected solar power plant in university campus. At Present the university is use 100 % power from grid. There is good potential for installation of solar power plant.

4.1 About Waste

Human activities create waste, and it is the way these wastes are handled, stored, collected and disposed of, which can pose risks to the environment and to public health Waste management is important for an eco-friendly campus. In university different types of wastes are generated, its collection and management are very challenging.

Solid waste can be divided into three categories: bio-degradable, non-biodegradable and hazardous waste. A bio-degradable waste includes food wastes, canteen waste, wastes from toilets etc. Non-biodegradable wastes include what is usually thrown away in homes and schools such as plastic, tins and glass bottles etc. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals, acids and petrol.

Unscientific management of these wastes such as dumping in pits or burning them may cause harmful discharge of contaminants into soil and water supplies, and produce greenhouse gases contributing to global climate change respectively. Special attention should be given to the handling and management of hazardous waste generated in the University. Bio- degradable waste can be effectively utilized for energy generation purposes through anaerobic digestion or can be converted to fertilizer by composting technology. Non- biodegradable waste can be utilized through recycling and reuse. Thus the minimization of solid waste is essential to a sustainable University. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems.

Table 4.1 Different types of waste generated in the University Campus.

Sr. No.	Types of Waste	Particulars
1	Solid wastes	Damaged furniture, paper waste, paper plates, food wastes etc.
2	Plastic waste	Pen, Refill, Plastic water bottles and other plastic containers, wrappers etc.
3	E-Waste	Computers, electrical and electronic parts etc.
4	Glass waste	Broken glass wares from the labs etc.
5	Chemical wastes	Laboratory waste etc.
6	Bio-medical Waste	Sanitary Napkin etc.

4.2 Waste management Practices adopted by the University

University is implemented "Big & Small dust Bin" waste collection system. All kind of waste generated from various activity is collected.
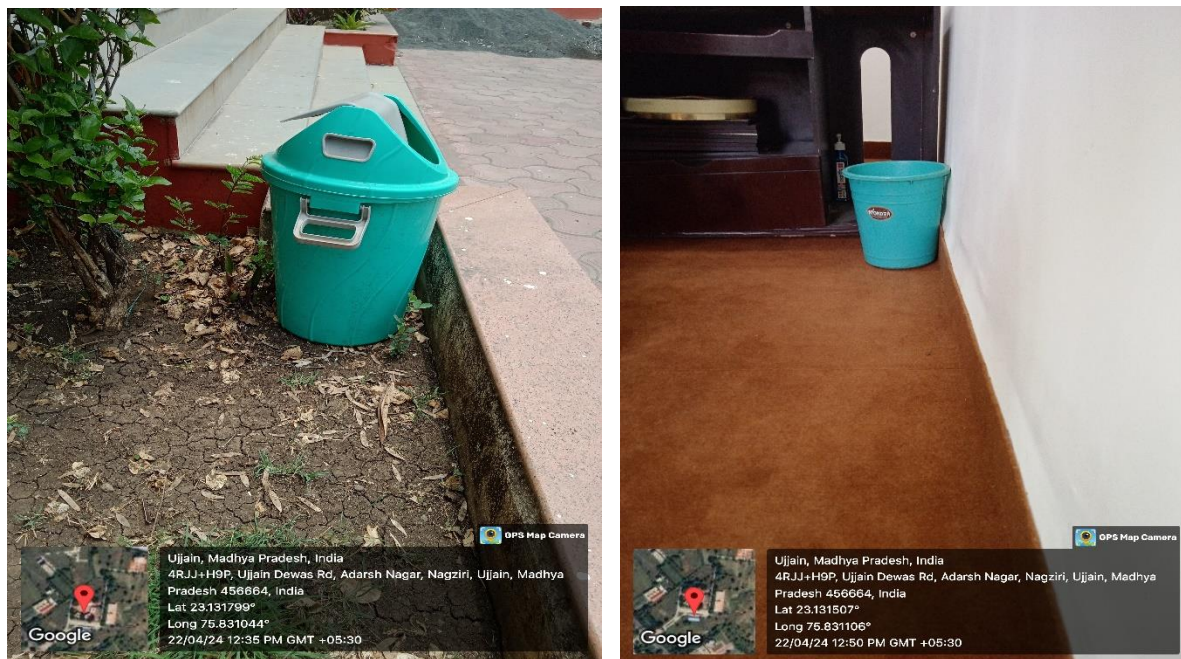

Figure 4.1: - Waste collection bin in the university campus

Recommendation:

It is recommended adopted 5 Bin Waste Collection System for collect different type of waste generated in university premises.

Fig. 4.2: Recommended 5 Dust Bin waste collection System

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4.3 Waste Collection Points:

Audit team also visited various departments, and find out waste generation area and waste collection points for further improvement.

Table: List of Waste Collection Dust Bin Locations

Panchvati area			
Sr. No.	Location	Small Dustbin	Big Dust Bin
1	VC office	2	0
2	Library	1	0
3	Exam room	3	0
4	Registrar office	1	0
5	NCC room	1	0
6	Account branch	1	0
7	VCO room	1	0
8	Panchvati area	0	4
	Total	10	4
Yoga bhawan Sandipani bhawan			
Sr. No.	Location	Small Dustbin	Big Dust Bin
1	Yoga bhawan	1	0
2	Sandipani bhawan	1	0
3	Yoga bhawan area	0	1
	Total	2	1
Patanjali bhawan			
Sr. No.	Location	Small Dustbin	Big Dust Bin
1	Corridor	1	0
2	Wash room	1	0
3	Staff room	1	0
4	Room no 1	1	0
	Total	4	0
1 St Floor			
Sr. No.	Location	Small Dustbin	Big Dust Bin
1	Corridor	1	0
2	Office	1	0
3	Terrace	1	0
4	Panchvati bhawan area	0	1
	Total	3	1

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CHAPTER- 5
RECOMMENDATIONS AND SUGGESTIONS

5.1 QR Code Systems

While the world seems to be going digital, people lack the time to read books and process the information they contain. Hence, University can be provided QR codes on the trees for its information and to exploit the rapidly growing platform for a unique purpose.

Fig: 5.1 QR Code System for plants

These codes can give students all the information they need to know about the tree from its scientific name to its medicinal value. They only need to put their smart-phones to use. QR codes to them, making it easier for everybody to learn about a plant or a tree at the tip of their fingers," If any app generating a QR code, which is available for free on the online stores, can be used to avail the information of the trees.

Eco-restoration programme

Frame long-term eco-restoration programmes for replacing exotic Acacia plantations with indigenous trees and need of the hour is to frame a holistic campus development plan.

Other Suggestions

Some of the very important suggestions are: -

- Adopt the proposed Environmentally Responsible Purchasing Policy, and work towards creating and implementing a strategy to reduce the environmental impact of its purchasing decisions.

- Increase recycling education on campus.

- Increase Awareness of Environmentally Sustainable Development in University campus.

- Practice Institutional Ecology- Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.

- Involve All Stakeholders- Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development.

- Collaborate for Interdisciplinary Approaches- To develop interdisciplinary approaches to curricula, research initiatives, operations, and outreach activities that support an environmentally sustainable future.

- Increase reduces, reuse, and recycle education on campus.

- Develop a butterfly garden that arouses appreciation towards flora and fauna diversity.

- Name all the trees and plants (Plant DNA barcodes) with its common name and scientific name.

- Arrange training programmes on environmental management system and nature conservation.

- Renovation of cooking system in the canteen to save gas by installation solar water heater system with heat pump.

- Establish a procurement policy that is energy saving and eco-friendly.

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Recommendation for Herbal & Medicinal plants:

S.No.	Hindi Name	Botanical Name	Family
1	Asopalav	Polyalthia longifolia	Annonaceae
2	Gudhal	Hibiscus-rosa-sinensis	Malvaceae
3	Nandee	Ficus Benjamina	Moraceae
4	Bahera	Terminalia Bellirica	Combretaceae
5	Khirni	Manilkara hexandra	Sapotaceae
6	Kaner	Nerium indicum	Apocynaceae
7	Champa	Plumeria fragrance	Apocynaceae
8	Peepal	Ficus religiosa	Moraceae
9	Jackfruit	Artocarpus heterophyllus	Moraceae
10	Amla	Emblica officinalis	Euphorbiaceae
11	Bael	Aegle marmelos	Rutaceae
12	Amrood	Psidium guajava	Myrtaceae
13	Ghratkumari	Aloe barbadensis	Liliaceae
14	Nimbu	Citrus lemon	Rutaceae
15	Mogra	Jasminum sambac	Oleaceae
16	Parijaat	Nyctanthes arbor-tristis	Oleaceae
17	Aam	Mangifera indica	Anacardiaceae
18	Peela kaner	Thevetia nerifolia	Apocynaceae
19	Jaamun	Syzugium cumini	Myrtaceae
20	Kachnar	Bauhinia variegata	Fabaceae
21	Ratanjot	Jatropha curcas	Euphorbiaceae
22	Shewt ark	Calotropis procera	Asclepiadaceae
23	Drumstick	Moringa oleifera	Moringaceae
24	Neem	Azadirachta indica	Meliaceae
25	Arandi	Ricinus communis	Euphorbiaceae
26	Arjuna	Terminlia arjuna	Combretaceae
27	Putranjiva	Putranjiva roxburghii	Putranjivaceae
28	Anjeer	Ficus carica	Moraceae
29	Shikakai	Acacia concina	Fabaceae
30	Pila amaltas	Cassia glauca	Fabaceae
31	Nirgundi	Vitex negundo	Lemiaceae
32	Sheesham	Dalbergia sissoo	fabaceae
33	Dhawda/ Gumghatti	Anogeissus latifolia	Combrataceae
34	Paras peepal	Thespasia populina	Malvaceae
35	Kanak champa	Pterospermum acerifolium	Malvaceae
36	Maulshree	Mimusops alengi	Sapotaceae
37	Tendu	Diospyros melanoxylon	Ebanaceae

Annexure-II Green Policy of the University

Green Campus Policy
INITIATIVE (GCI)

GREEN CAMPUS POLICY DOCUMENT

Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya

देवासमार्ग, उज्जैन, (मध्यप्रदेश). 456010

Website:- www.mpsvv.ac.in

Green Campus Policy

A Green Campus is a place where environment friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green campus concept offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental conditions along with social and economic needs of the mankind.

The impact of humans on the environment is expanding, posing serious environmental problems. To reduce the negative impacts that human activity has on the ecosystem-effects that in turn change how we relate to the planet and to one another unprecedented effort is needed. To make a significant shift, it will be required to include all methods of problem solutions. In view of the above background, Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya has evolved its green campus policy so as to contribute maximum to mother earth and environmental protection.

Objectives of the Green Campus Policy

The objectives of green campus policy of the Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya Ujjain are as follows:

- To make all possible efforts to keep its premises, compound and surroundings green through creating awareness, plantation and protection of trees and plants etc.
- To contribute collectively in developing an eco-friendly sustainable campus and disseminate the concept of e-friendly culture to the nearby community and wherever possible.
- To continuously improve the efficient use of all resources, including energy and water, and to reduce consumption and the amount of waste produced, recovering and recycling waste where possible.
- To spread awareness about environmental issues among students and staff of the Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya in particular and the community in general by way of various methods.

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- To develop the institution on a self-sustainable basis in the areas of power, water and cleanliness without harming nature in any manner.
- To discourage the use of plastic made products and encourage a suitable waste management mechanism.
- To make use of non-conventional methods of energy in the campus.
- To keep the university campus green, clean and environmentally friendly.
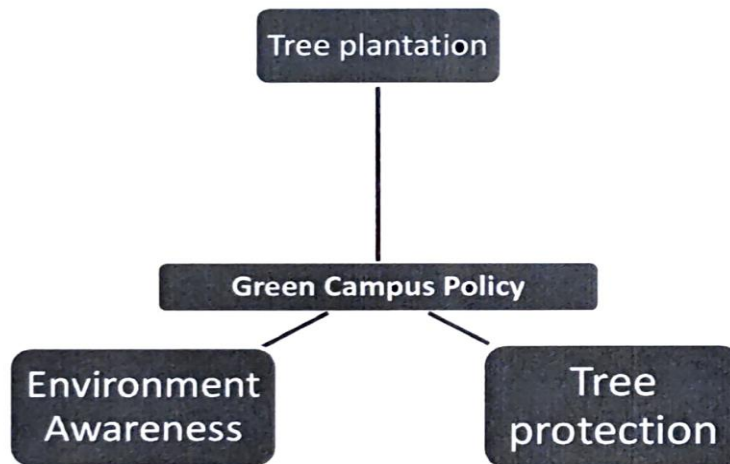
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Green Campus Protocol of the University

As part of its initiatives for environmental sustainability, the following instructions and guidelines are implemented by the university:

- No body will harm any tree, lawn and plants in the campus and strict action will be taken if found doing this.
- Spreading awareness among the staff, faculty and students about the advantages of green campus.
- Restriction on entry of vehicles in the campus compound.
- Construction of pedestrian friendly pathways.
- Warning to both teacher and students about the dis advantages of harming nature.
- Putting banners and boards indicating the relevance of plantation and protection of trees and nature.
- Spread the importance of Energy Conservation.
- Promote the use of e-copies and e-documents.
- Print on both sides of paper.
- Celebrate tree plantations and plant trees on days of celebrations
- Promote the usage of LED bulbs
- Discourage the use of plastics made pens/bags/files/folders etc.

Moreover, our university administer the pledge by students and staff members to maintain green and clean campus and its surrounding areas on an annual basis.

Waste Management

To ensure greenery in campus and for conservation of natural resources, Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya has a waste management mechanism to achieve the following objectives:

- To increase the green cover in and around the campus.
- To adopt methods for waste segregation
- Take appropriate actions to reduce or recycle multiple waste inside the campus.
- To manage, collect and dispose e-waste appropriately

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- Actions taken to reduce consumption of plastic in the campus.
- To encourage paperless work culture and recycling/ reuse of paper.
- Display waste management instructions/alerts at prominent/relevant locations in the campus.

Green Audit

Eco-friendly campus is a concept implemented in many educational institutions, all over the world to make them sustainable because of their mass resource utilization and waste discharge in to the environment.

To achieve the green policy objectives, the university aims to regularly conduct a Green Environment Audit of its campus to assess our strengths and weaknesses to further our goals of long-term sustainability. Green audit means to identify opportunities to sustainable development practices, enhance environmental quality, improve health, hygiene and safety, reduce liabilities achieve values of virtue.

Green audit of " Maharshi Panini Sanskrit Evam Vedic Vishwavidyalaya " enables to assess the life style, action and its impact on the environment. This green audit was mainly focused on greening indicators like utilization of green energy (solar energy) and optimum use of secondary energy sources (petrol and diesel) in the university campus, vegetation, and carbon foot print of the campus etc.

कुलपति 12/11/2018
महर्षि पाणिनि संस्कृत एवं वैदिक विश्वविद्यालय.
उज्जैन (म.प्र)

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