



Circular Economy Lab Initiatives and Zero Waste Audit Report, 2022 - 2023

Table of Contents

1	Introduction
2	About MET
3	About ICCE
4	MET IOM & ICCE Partnership
5	About UNGCNI
6	Initiatives by MET IOM Circular Lab
7	Internal Audit and Analysis
8	Recommendations by ICCE
9	Recommendations by THRECO
10	Way Forward
11	Acknowledgement
12	References

Introduction



Source: Mirror Now News

The management of solid waste is becoming more challenging in major cities around the world, and the bigger risk is from uncollected waste. Moreover, waste management is a global issue. The BMC collects about 6,300 MT of waste from the city of Mumbai each day.

With the growth in population and alteration in lifestyle, both the quantity and the sort of waste produced are steadily rising, finally placing great strain on the planet earth. The recent UN Summit declaration by the Prime Minister of India on Waste Management and Recycling issues has heightened global debate.



Source: Mid-Day

Managing waste is not just an enormous task but is imperative for all to join hands to make our community a "Zero-Waste Zone".

Hence, our objective is to do the waste management in our campus. A Zero-Waste campus means the waste generated from our institute will not go to the landfills as mixed waste and it will be recycled and reused.

WHAT IS ZERO-WASTE CAMPUS?

- The waste generated inside the campus will not be sent to landfills as a mixed waste.
- The dry waste generated would be segregated in the appropriate manner and sent for recycling.
- The use of plastic in the campus will be limited.
- The awareness programs would be conducted towards zero-waste.

ABOUT MET-IOM

MET Institute of Management, is a three decades old institute and ranked 4th Best B-School in Mumbai, 28th Best B-School All India and 15th amongst Top West B-Schools by the Times B-School Survey 2022. Academic and scholastic rigor are finely woven into application oriented skill sets; developing industry ready management professionals which positions the MBA students to hit the ground running as they face the challenges of market place and society.



MET Institute of Management, a top B-School in Mumbai has focused on developing industry ready management professionals shaped to cross industry threshold to seek their chosen place under the Sun. The structured learning systems are blended with the latest tools and technologies offered by the digital world. Therefore, despite Pandemic, a unique online learning experience was offered to the management students.

The well-equipped libraries with 64,000 plus books and journals are e-enabled to offer robust theoretical inputs to the MBA students. The close connection and networking with industry integrated by thousands of corporate-successful alumni offers deep insights into the real business world and a vibrant industry academia platform.

Thus, despite statutory limitations students could access and benefit from our information and technology centers and learning aids supported by the latest audio visual facilities at our complex. A high-tech convention Centre, well equipped seminar halls and state of the art networked virtual classrooms provide a multidimensional exposure to the students as we offer a holistic immersion to the MBA students as they step into the global business arena. That is why MET Institute of Management is considered as one of the best MBA colleges in Mumbai. It remains a much sought after premium B-School in Maharashtra in which graduates and experienced MBA aspirants writing MAH-CET, CAT, CMAT, XAT, ATMA, MAT and other prestigious entrance exams seek to secure admission.

ABOUT ICCE



ICCE is a thought leader and a pioneer in India with a global outlook to build regenerative and restorative systems. As the first international body in India, ICCE is a global platform for public and private sector companies, civil society organizations, academic institutions, and business associations. It helps align stakeholders' practices towards the Circular economy's basic tenets in material efficiency, system design, resource recovery, and reducing negative externalities across sectors. A partner of Ellen MacArthur Foundation, the council has a footprint in 32 countries through its collaborations.

ICCE was registered as a Section-8 company in July 2020 and formally launched in Aug 2020 to function as the first international body in India, working on the principles of Circular Economy. ICCE is a global platform for public and private sector companies, civil society organizations, academic institutions, and business associations. They help in aligning stakeholders' practices towards the Circular economy's basic tenets in material efficiency, system design, resource recovery, and reducing negative externalities across sectors.

Since its launch, ICCE has gained considerable upward momentum on almost all counts - membership enrolment, programmatic intervention, and greater engagement with members and other stakeholders. ICCE has attracted the most talented people from the EU, Asia Pacific region, the Nordic region, the US, south-east Asia, and India. Their aim is to keep the impetus to expand the scope and reach of our movement. Our future initiatives would involve research and innovation work in Circular practices in Agriculture, food, packaging, tourism, Energy & Environment, water, Mobility, and construction sectors.

MET-IOM & ICCE PARTNERSHIP



MET Institute of Management in collaboration with ICCE has taken an initiative to launch India's first circular lab in Mumbai which was inaugurated at MET IOM Campus on 19th November, 2022. The lab was inaugurated by Dr. Ramesh Unnikrishnan, Adviser AICTE. He was joined by stalwarts in the field of environment and sustainability such as Mr. Atul Bagai, Country Head, United Nations Environment Programme (UNEP), Mr. Anirban Ghosh, Chief Sustainability Officer, Mahindra & Mahindra, Mr. Rahul V Poddar, Managing Director, The Shakti Plastic Inc and Mr. Karan Thakkar, Founder and CEO, Threco-The Recycling Co.

The purpose of Circular Lab is to act as a prototype for future circular economy concepts and tools. The lab will put special emphasis on issues including resource recovery, waste reduction, and renewable energy. Circular Labs can aid in quickening the shift to a more resource-conscious and sustainable economy by offering a place for experimentation and innovation.



Strengthening Collaboration:

The MoU was signed on 15th July, 2022, to enhance collaboration and foster a stronger partnership.



Knowledge and Expertise Sharing:

It enables the exchange of knowledge, expertise, and best practices between the two companies, fostering innovation and growth.



Joint Resource Utilization:

To facilitate the optimal utilization of resources by both companies, allowing them to leverage each other's strengths and capabilities for mutual benefit.

ABOUT GCNI



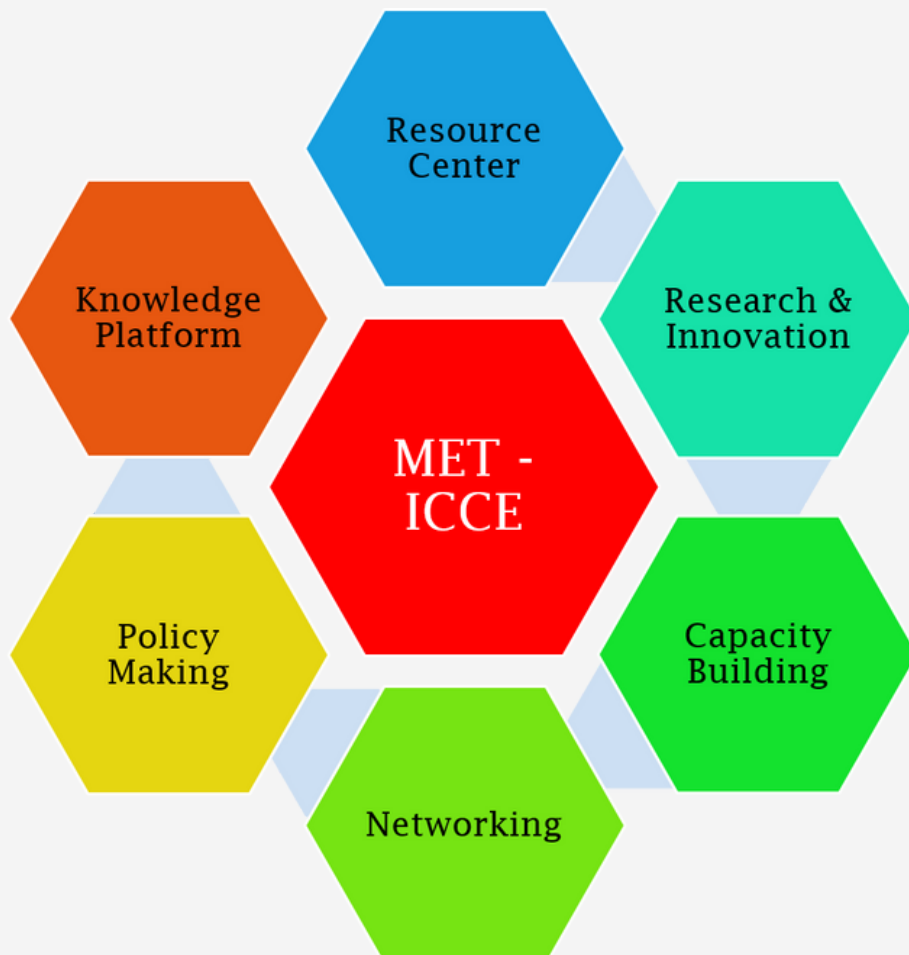
Global Compact Network India (GCNI), the Indian Local Network of the United Nations Global Compact (UNGC), New York is the first Local Network globally to be established with full legal recognition. It, also as a country level platform for businesses, civil organisations, public and private sector, aids in aligning stakeholders' responsible practices towards the Ten Universally Accepted Principles of UNGC in the areas of Human Rights, Labour, Environment and Anti - corruption, broad goals including Sustainable Development Goals and other key sister initiatives of the United Nations and its systems.

GCNI has also emerged as the largest corporate sustainability initiative in India and globally with a pan India membership of over 500 leading business and non-business participants, strengthening their commitment to the Global Compact Principles by becoming proud members of the Local Network in India.

GCNI members represent pertinent sectors of the country such as civil society, private, and public sector organisations, which with time have strengthened their commitment to the Global Compact principles. The main objective of the Network is to provide a forum to various Indian companies and organizations for co-partnerships, build a strong network and promote sustainable and positive corporate citizenship by encouraging various Indian Corporate bodies/ Institutions/ NGOs/ SMEs, to become members of the network, all these together aid in dissemination and promotion of global compact principles within their own milieu.

GCNI currently has its local chapters in 5 major Indian cities, which include Mumbai, Hyderabad, Chennai, Kolkata and Bangalore, and thus has facilitated its own expansion amongst local and regional counterparts widely operating within the country. As a sole Indian arm of the UNGC, the Global Compact Network India has established a semiotic relationship with the overall mandate and principles of the UNGC. Through its activities and programmes such as the India CEO forum on Human Rights, Women Empowerment Principles, Collective Act.

OBJECTIVES OF CIRCULAR LAB



OUR INITIATIVES

**NATIONAL RESEARCH
CONFERENCE ON 'HOLISTIC
VALUE CREATION THROUGH
SUSTAINABLE
DEVELOPMENT'**

**SUSTAINABILITY
HACKATHON**

**INTERNATIONAL RESEARCH
CONFERENCE ON
'TRANSITIONING TOWARDS A
CIRCULAR ECONOMY -
OPPORTUNITIES &
CHALLENGES'**

**THE ZERO WASTE CAMPUS
INITIATIVE**

MET IOM'S GREEN GOALS

**'YOUTH ENGAGEMENT FOR
CLIMATE RISK MITIGATION'
RESEARCH GRANT BY UNGCNI**

**INITIATIVES UNDER UNNAT
BHARAT ABHIYAN (UBA)**

**CIRCULAR ECONOMY AS A
VALUE ADDED SUBJECT**

**ENERGY LITERACY TRAINING
UNDER UNDER "YOUTH ACTION
FOR CLIMATE CORRECTION"**



1. ABOUT THE CONFERENCE

A National Research Conference on 'Holistic Value Creation Through Sustainable Development' held on 30th April, 2022

Sustainability was crucial for maximising the organisation's long-term high value creation. The corporates are under inspection for their contribution to society and environment. The companies need to create a strategy lead action plan and incorporate the key parameters and metrics required for sustainable investing. This conference gave a foresight for local sustainable action plan linking with global practices; from micro to macro level.

The aim of the conference was to identify the challenges and prevailing practices leading to sustainable production and consumption patterns to bring holistic value creation for society at large. So, there was an urgency to understand and discuss the factors in detail and to take action in the various areas with new solutions in every sphere of our societies to bring significant societal change.



2. ABOUT THE SUSTAINABILITY HACKATHON

On 30th April, 2022, students organized a Sustainability Hackathon; where 6 sustainability goals were the major focus and few models were created on some environmental problems which can help them to resolve in a sustainable way.

The six areas were:

1. Energy & Buildings
2. Integrated Mobility
3. Sustainable Waste Management
4. Urban Flooding & Water Resource Management
5. Air Quality
6. Urban Greening & Biodiversity

Hon'ble Shri Aditya Thackeray, Minister of environment, Tourism & Protocol, Govt. of Maharashtra, had inaugurated the Hackathon and also addressed the crowd with his future vision and outcomes of his departments and the need of the hour on climatic change issue. He was very delighted that the new generation was not only focusing on just the development but for a sustainable development for the future.

He also expressed "We are at the hour when sustainability has to be our focus, not just for the future generations but for ourselves".



3. ABOUT THE CONFERENCE

An International Research Conference on 'Transitioning towards a Circular Economy - Opportunities & Challenges', held on 19th November, 2022

Circular thinking has always been prevalent in Indian society; its fundamental tenet being value generation must be separated from resource use. For our industrial systems to become more competitive and less reliant on resources, a development strategy that promotes the best use of resources is the need of the hour.

To take a holistic view of products and processes, a circular thinking and an interdisciplinary approach that takes into account socio-technical, managerial, and environmental variables are required for this paradigm shift.

The ultimate aim of this conference was to create a platform of innovative strategies that would help businesses to smoothly transition from linear to circular economy which will be inclusive by the thought leaders and exclusively used by all.



4. ABOUT THE ZERO WASTE CAMPUS INITIATIVE

Zero Waste aims to promote sustainable consumption and production patterns and support the societal shift towards circularity. It focuses on waste prevention by encouraging sustainable production & consumption, reuse or recycle of the resources by making optimum utilization.

The end goal of this is to avoid sending trash or waste to the landfills, ocean, waste treatment plant or any other part of the environment.

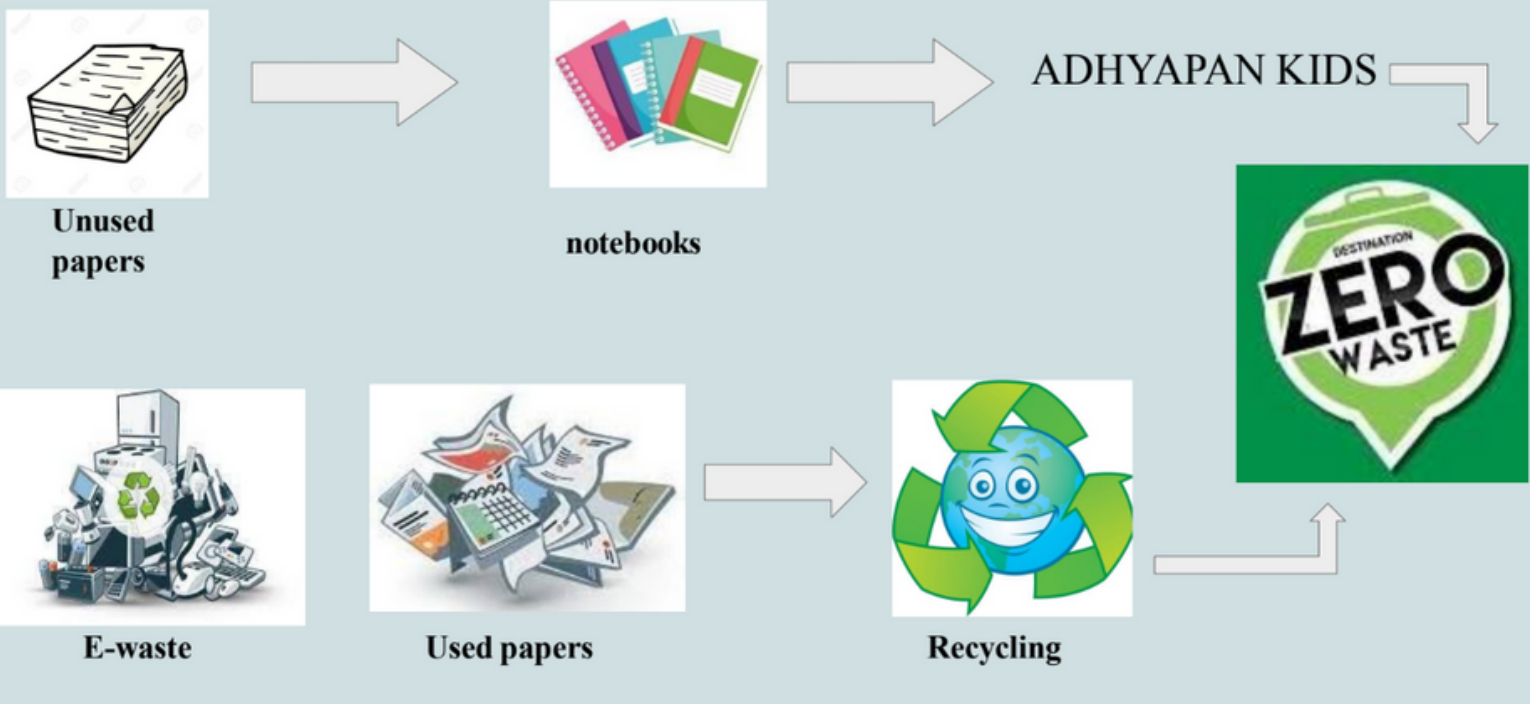
Zero waste approach aims for massive change in the way materials flow from the society. It encompasses eliminating waste through reducing, reusing and recycling. The below mentioned activities is under a continuous process, these activities started from February, 2023.



a) DRY WASTE COLLECTION DRIVE

b) ECO-BRICKS

ZERO WASTE CAMPUS INITIATIVE



c) PAPER WASTE

d) EWASTE



e) WET & DRY WASTE MANAGEMENT



f) SAVING ELECTRICITY



g) SAVING WATER

5.

Green Goals

1 Campus Gardens

We are committed to increase the green cover in our Institute



2

Plastic-Free Campus

On our Campus, we affirm to eliminate single-use plastic and replace it with reusable products.



3

Sustainable Energy

At our institute, we are committed to conserve & promote the use of renewable energy



4

Paperless Institute

We pledge to lessen our Institute's reliance on paper, thereby consolidating its digital DNA.



5

Strategic Waste Management

We are dedicated to take steps to ensure proper waste segregation and e-waste disposal.



6

Sustainable Transportation

We are devoted to use sustainable and environment friendly modes of transportation



Refuse Reduce Reuse Repurpose Recycle

6. CSR RESEARCH PROJECT BY UNGCNI

MET Institute of Management and GCNI signed an MoU on 22nd April, 2023, to carry out a CSR Research Project 'Youth Engagement for Climate Risk Mitigation', research grant by UNGCNI; in the area of SDG 13 Climate Action focuses on improving education, awareness-raising and human and institutional capacity building on climate change mitigation, adaptation, impact reduction and early warning.

The objective of this project is to co-create and implement a district wide climate change and risk mitigation pilot to support target 13.3 across aspirational districts in Gujarat and Maharashtra. The districts will be selected based on availability of bio-mass and plastic waste in the district and the project will be implemented across entire district adopting a saturation approach. A youth engagement strategy will be deployed in partnership with leading NGOs/ academic institution of the district with credibility and presence.

The project is a multi-year project divided into 2 phases

a) Pilot phase: Extensive primary and secondary research, identification of the district(s) where the project will be implemented

b) Implementation phase: Based on the pilot report atleast one district will be selected for focused attention and a long-term project implementation strategy will be prepared and submitted.

7. INITIATIVES UNDER UNNAT BHARAT ABHIYAN (UBA)

Under the Unnat Bharat Abhiyan (UBA), MET Institute of Management has pledged to help in the transformational change in rural development processes by leveraging knowledge institutions to help build an architect of an inclusive India.

The Institute has adopted five villages - Komarpada, Chinchapara, Shivajinagar, EktaNagar, MoriPara in Goregaon East area and conducts various social activities on a continuous to aid in rural development.

To conduct various programs, MET Institute of Management has received Rs. 50,000/- as seed money from UBA.

As a part of the UBA, the first campaign in the area adopted was to help in detection and eradicating of cataract in a systematic manner. For the same regular Eye Testing Camps are conducted once in a month followed by operations of patients detected with cataract problems with the help of NAATA Foundation and Rotary Club Goregaon

MET IOM paid for the Eye Testing Camp expenses which was approx. 7,000/- per camp, for 4 months to cover all villages adopted by MET IOM with NAATA Foundation. And the operation expenses of approx. 20,000/- per patient would be paid by Rotary Club or other funding partners.



8. CIRCULAR LAB AS A VALUE ADDED SUBJECT

Learning Objectives:

- Students will learn the importance of resource conservation, waste reduction, and sustainable production and consumption.
- Exploring innovative business models, product design strategies, and resource management techniques that promote circularity.
- Students will be able to analyse life cycle assessments, carbon footprints, and other environmental indicators to identify opportunities for circular economy interventions that minimize resource depletion and environmental degradation.

Synopsis of topics covered under Circular Economy Subject:

- Linear Versus Circular Economy
- Elements in Circular Economy
- Role of Government in Promoting Circular Model
- Circular Economy and various components

9. G20 INITIATIVE ON 'YACC'

- AICTE jointly with Energy Swaraj Foundation (ESF) has launched a G20 initiative on “Youth Action for Climate Correction (YACC)” in line with Mission LiFE of Hon. Prime Minister.
- The aims to harness the potential of the youth, recognizing them as important stakeholders in shaping the future and facing the increasingly grave consequences of climate change.
- The Energy Literacy training would enable individuals and institutions to make informed decisions on sources of energy to be used and appropriate amounts to be used.
- The Energy & Climate Fellowship Program and the Energy and Climate Mentorship Program seek to empower the youth in combating climate change and creating a sustainable future.

Energy Literacy Training by MET IOM

No. of Registered Participants

193 Participants

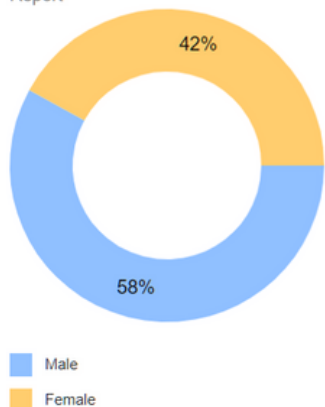
No. of Participants Completed the Course

179 Complete

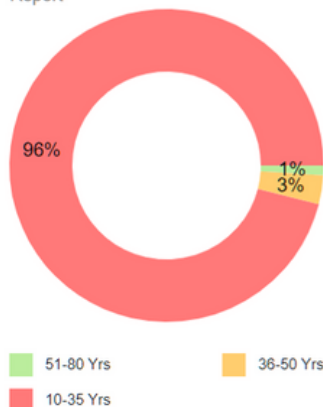
No. of Participants in Process the course

11

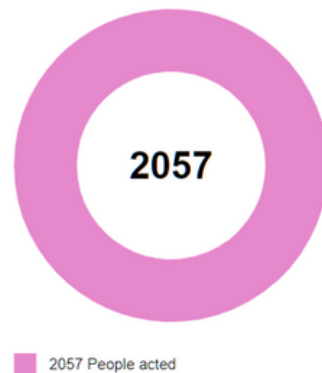
Gender base EL Report



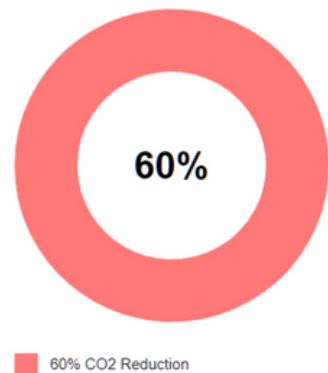
Age base EL Report



No. of People acted



CO2 Reduction



INTERNAL AUDIT OF THE CAMPUS



Our aim is to sensitize students, staff and society about the importance of Waste Management.

In March, 2022, MET Institute of Management adopted a Sustainability Initiatives, which outlines new goals that will lead the campus to become zero-waste. Our zero waste goals are as follows:

- The dry waste generated would be segregated in the appropriate manner and send for recycling.
- Limit the use of plastic in the campus.
- The awareness programs would be conducted towards zero-waste.

Internal audit process

In order to perform the internal audit, the process included different tools data collection such as physical inspection of the campus, interviewing key persons, and filling the questionnaire provided by ICCE. The study covered the following areas to epitomize the current status of the environment management in the campus:

- o Energy Conservation
- o Water management
- o Waste management
- o E-waste management
- o Green area management

Energy Audit

Energy use is clearly an important aspect of campus sustainability. This consist of energy consumption, energy sources, energy monitoring, lighting & appliances.

Observations:

Total energy consumption is determined as 3.5 KWH/day by major energy consuming equipment. Approximately 409 LED (Capacity) are counted during the survey. The institute has 40 AC machines (2 tons each) with 2/3 star rating. Also, campus administrator runs switch off drills on a regular basis. In all the class room the switches were shut down after the lectures are over and it is one of the green practices for energy conservation.

Water Audit

A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use. There are controllable knobs to control the pressure and amount of flow of water.

Observations:

It has been observed that water has been used for drinking purpose and toilets. On an average the total use of water is 30k L/ month. The institute has 18 no. single flush toilets and none dual flush toilets. Institute has 17 faucets and 7 water saving faucets taps.

The work on rain water harvesting is not yet started.

Waste Management Audit

Waste production and disposal of different wastes like paper, food, plastic, biodegradable waste and recyclable waste are some of the indicators of waste production. Solid waste generation and management is a major issue as unscientific handling of these waste can create threat to everyone. At MET Institute, the canteen wet & dry waste is segregated on a daily basis.

Observations

The total dry waste produced is around 51.5 kgs. / day and horticulture waste is 8 to 10 kgs/day. Single side used paper is reused of writing and printing by all the staff members. There are two separate bins in canteen. Unimportant paper is sent to the vendor as scrap. Very less plastic waste is generated of 400 gms. in a day. Three segregation dustbins are required for separating wet waste, paper and plastic waste.

eWaste Audit

e-waste is the most hazardous form of waste because it contains harmful elements that can damage human health & environment.

Observations:

E-waste generated in the institute is 1.25 kgs. per month. It is sent to the dealer for recycling. The non-working computers, spare parts and other non-working electrical equipment are stored in separate places.

Green Area Management Audit

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards.

Observations:

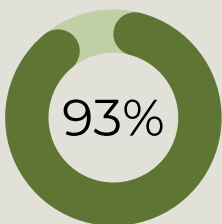
350 trees are planted in an academic year and was bought to notice that no seed balls were planted.



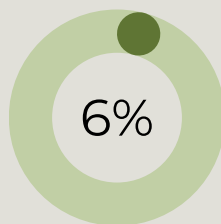
ANALYSIS BY ICCE



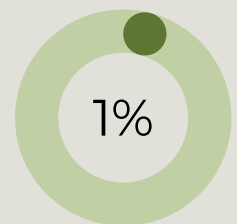
- The Institute produces a total C-footprint of almost 321 MT of Co2e.
- Energy usage is the major source of emissions. 300 MT is accounted for by the energy consumption.
- 18MT of co2e is produced by mishandling of organic food waste. The campus produces a total of 14454 kgs of wet waste in a year.
- Almost 3MT is accounted for by plastic waste, water wastage and paper wastage.



Energy Consumption
 is accounted to 300
 MT



Organic Food waste
 produced 18 MT



Plastic, water and
 paper waste accounts
 to 3 MT

RECOMMENDATIONS BY ICCE

1. Installation of solar panels to deploy renewable energy will reduce the GHG drastically.
2. Start replacing old electric equipment with 5 star rated equipment's
3. Make a compost pit within the campus
4. Use the compost as organic manure for all plants within the campus
5. Plastic and paper waste can be reduced by proper segregation for recycling
6. Deploy smart faucets that reduces the water wastage
7. Rain water harvesting within the campus would enable recharge of run of water
8. Grey water could be used to irrigate plants and trees on the campus
9. Three segregation dustbins are required for separating wet waste, paper and plastic waste.
10. Behavioral change through frequent environment related activities is important among the students to lead a lifestyle change

RECOMMENDATIONS BY THRECO

The Recycling Company (Threco) is one of India's leading Integrated Waste Management company. They are authorised by Maharashtra Pollution Control Board (MPCB) to recycle varieties of e-waste.

1. E-waste and can collection drives in societies/ schools
2. Structure to be created from the cans collection done giving a message towards recycling.
3. Stand-up comedy write-up
4. Rag song/ jingle on sustainability
5. Podcast/ Story around sustainability.
6. Creatives/ Posters creating awareness around E-waste and recycling.
7. Play could be written/ enacted around theme sustainability.



Way Forward

Environmental conservation is a significant concern for both faculty and students & hence, environmental awareness initiatives are crucial. In efforts to achieve our goals outlined in the Zero Waste Plan, we will be working actively to reduce the campus's per capita waste amount and increase its diversion rates, while embedding zero waste philosophy into the campus culture. We will promote the use of green resource guides for faculty, staff, and student events. We will provide zero waste training for current and new faculty/staff as well as regular engagement sessions for the Zero Waste Plan and Annual Zero Waste Report.

1 Action & commitment

Implementing the recommendations given by ICCE over a period of time

2 Action & commitment

Paying attention to suggestions made by our Sustainability Partner, Threco

3 Action & commitment

Following the Green Goals and creating a sustainable culture across MET Institute

Acknowledgements



Mr. Chhagan Bhujbal

Hon. Founder Chairman



Mrs. Meena Bhujbal

Hon. Trustee



Mr. Pankaj Bhujbal

Hon. Trustee



Mrs. Vishakha Bhujbal

Sr. Management Representative



Dr. Swati Lodha

Director, MET - IOM



Dr. Shalini Goyal Bhalla

Managing Director, ICCE



Dr. Nirmala Joshi

Research & MET Seva - Head

Social Cause Committee

- Dr. Sana Khan, Assistant Professor
- Ms. Dharmishta Gala, Assistant Professor

ICCE Staff Members

- Social Cause Committee Students
- Maintenance Team

We thank you for your continued support in our efforts.

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