INSTITUTE OF ENGINEERING & MANAGEMENT
Good Education, Good Jobs

UNIVERSITY OF ENGINEERING & MANAGEMENT
Good Education, Good Jobs

Sustainability Development Report (2023-24)

SDG 12: Consumption & Production

Executive Summary

The SDG 12 report outlines IEM Kolkata's commitment to responsible consumption and production for 2023-24. The institution has implemented energy and water efficiency, waste management, and circular economy principles within academic and campus operations. Key achievements include energy audits, increased renewable energy use, robust waste segregation and e-waste recycling, water conservation via rainwater harvesting, and a complete ban on single-use plastics. Education and community engagement are integral, with sustainability embedded in curricula and outreach programs. The report highlights challenges and future goals to enhance sustainability infrastructure and engagement for ongoing improvement.

Contents

Overview and Context

IEM Kolkata continues to champion SDG 12 by embedding responsible consumption and production within campus operations, curriculum, research, innovation projects, and community outreach. The 2023-24 focus expanded on resource use efficiency, waste management, circular economy adoption, and fostering sustainability awareness among faculty, students, and staff.

Core Mandate

Our institute aims to be a benchmark in sustainable resource stewardship by promoting energy and water efficiency, waste minimization, recycling, and a circular economy. Sustainability is integrated into academics and campus culture, with active community engagement to advance impactful environmental initiatives.

Annual Targets

- Expand renewable energy capacity and energy-saving automation.
- Increase the rate of waste recycling, particularly e-waste and organic waste.
- Enhance water conservation through advanced rainwater harvesting and wastewater recycling.
- Strengthen circular economy training programs and student-centric sustainability projects.
- Broaden community engagement in sustainability activities and social outreach.

Key Initiatives and Programs

Energy Efficiency and Renewable Energy

- Recorded annual energy consumption at approximately 13,05,696 kWh, with continuous improvements via energy-saving technologies.
- Regular green and energy audits conducted to monitor and optimize consumption.
- Deployment of automation technologies such as sensor-based lighting controls and IoT-enabled energy systems.

- Continued investment in solar and biogas energy generation enhancing renewable energy proportion on campus.

Waste Management and Recycling

- Solid waste management enforced through strict segregation at source and daily collection systems.
- Partnership with certified e-waste recycling agency Hulladek Recycling Pvt. Ltd., recycling over 2,057 kg of electronic waste.
- Organic waste managed via composting and aerobic sewage treatment; treated water reused for landscaping and non-potable uses.
- Total ban on single-use plastics on campus, supported by awareness campaigns and enforcement.

Water Conservation and Sustainable Use

- Fully operational rainwater harvesting and groundwater recharge infrastructure deployed campus-wide.
- Reuse of treated wastewater for gardening and maintenance reducing freshwater dependence.
- Conducted regular awareness programs educating stakeholders on sustainable water use practices.

Sustainable Transportation and Green Campus Initiatives

- Strict control on vehicle entry, with increased promotion of bicycles and electric vehicles for campus mobility.
- Smart resource management through automation and IoT systems monitors energy and water consumption.
- Extensive landscaping and tree planting maintained to support carbon sequestration and campus aesthetics.

Research, Education, and Innovation

- Integrated sustainability across curricula with modules on circular economy and environmental management.

- Delivered "Train the Trainers" programs reaching 70+ teachers across 65 regional schools to propagate sustainability education.
- Supported numerous student projects in eco-friendly innovations, renewable energy systems, and waste management solutions.
- Organized international symposiums and conferences focusing on sustainability technologies and practices.
- Established innovation labs empowering startups focused on sustainable product development and recycling technologies.

Community Engagement

- Collaborated with Inner Wheel Club (IWC), Lions, and Rotary Clubs conducting over 10 social and environmental outreach programs including food distribution, sanitary product drives, and tree planting.
- Promoted local sustainability initiatives aligned with SDG 12 objectives to improve social well-being and environmental health.

Data and Metrics

Metric / Category	Value / Description
Annual Energy Consumption	~1305696 kWh
E-Waste Recycled	2057 kg
Green and Energy Audits	Regularly conducted
Rainwater Harvesting Facilities	Fully operational
Treated Water Recycling	Implemented for gardening
Plastic Ban	100% enforcement
Solid Waste Segregation	Daily practice
Organic Waste Composting	Established
Smart Automation	Expanded deployment
Renewable Energy (Solar + Biogas)	Increased capacity

Train the Trainers Workshops	70 teachers, 65 schools
Community Outreach Drives	10+ social/environmental programs

Challenges and Mitigation Strategies

- Scaling recycling and composting operations remains a challenge for effective waste reduction.
- Sustaining behavioural change in plastic use and waste segregation requires ongoing effort.
- Implementing comprehensive real-time resource consumption monitoring is needed.
- Expansion of renewable energy infrastructure is planned, including 40 kW solar addition and biogas scaling.
- Advanced curricular integration of sustainability principles with hands-on student projects provides educational opportunities.
- Increased use of IoT-based monitoring systems will enhance resource use metrics and actionable insights.
- Extending sustainability engagement to broader community and industry partnerships fosters collective impact.

Future Plans and Roadmap

- Augment renewable energy footprint with new solar and alternative energy sources installations.
- Integrate sustainability modules across all STEM and management programs fostering responsible thinking.
- Implement broad internship and community-scale sustainable innovation projects.
- Participate actively in global sustainability benchmarking frameworks such as AASHE STARS and THE Impact.
- Continue expanding smart automation applications for water, energy efficiency, and waste minimization.

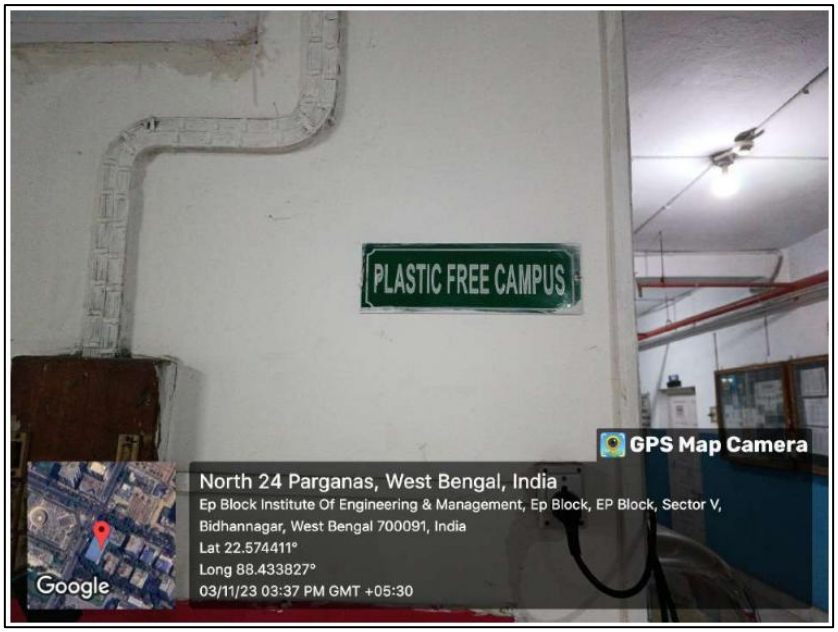
Photo Gallery

Solar Panel

Solar Panel

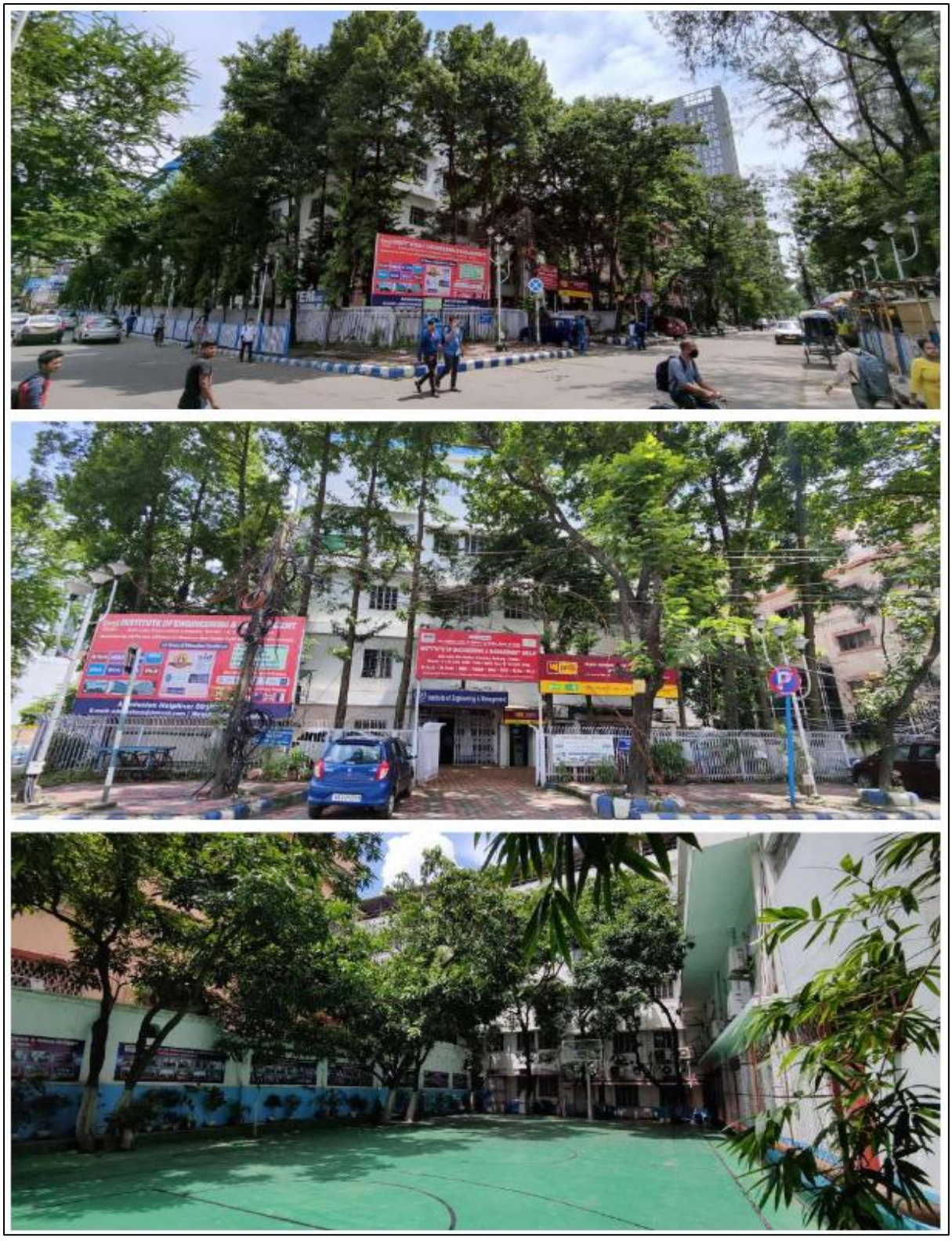
E-Waste Recycling

E-Waste Recycling



Plastic Free Campus

Sensor-based energy conservation system



Green Campus Initiatives

Celebration of The World Tourism Day – 27th September 2023

Awareness session organized by Hulladek to promote e-waste recycling in IEM Newtown campus on August 2023