IEM
श्रद्धावान लभते ज्ञानम्
INSTITUTE OF ENGINEERING & MANAGEMENT
Good Education, Good Jobs

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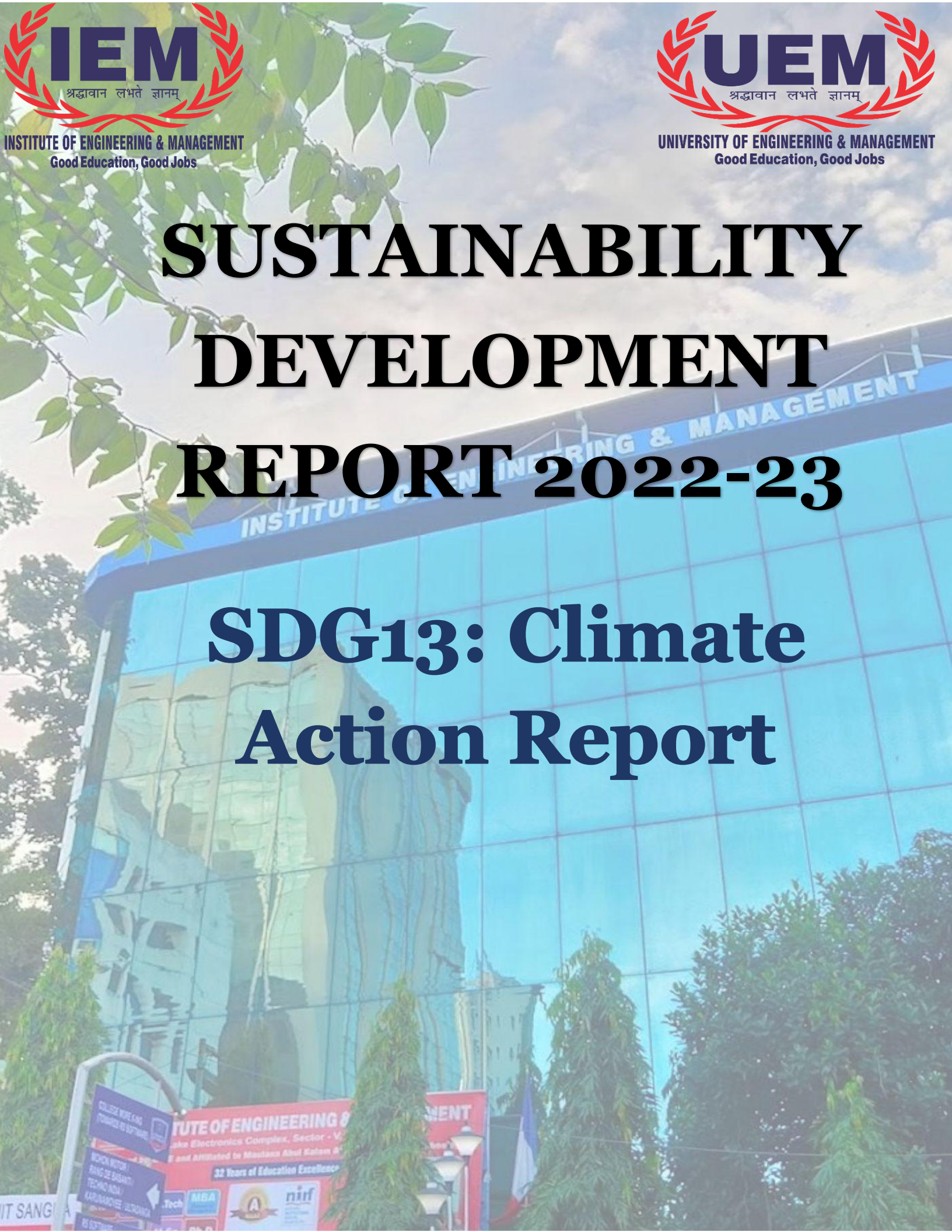
SUSTAINABILITY DEVELOPMENT REPORT 2022-23

SDG13: Climate Action Report



Executive Summary

IEM Kolkata's SDG 13 Climate Action Report for 2022-23 highlights institutional progress toward carbon neutrality through renewable energy adoption, including solar installations, biogas pilots, and LED sensor lighting across 100 buildings, reducing fossil fuel dependency. Key achievements encompass 60 climate workshops, over 2000 trees planted, mandatory Environmental Studies for all undergraduates, and 25 student-led projects, alongside regular GHG audits and participation in global sustainability rankings. These efforts engaged thousands via community events like marathons and IWC initiatives, embedding climate resilience in curriculum, research, and infrastructure.

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Vision, Mission, and Strategic Objectives

Institutional Vision

To lead as an adaptive, climate-responsive higher education institution, pioneering sustainable solutions that mitigate environmental impacts and strengthen resilience.

Institutional Mission

To embed climate action across policies, curriculum, research, and outreach, with the goal of achieving carbon neutrality and enhancing ecosystem resilience.

Strategic Objectives for 2022-23

- Increase renewable energy share and reduce campus carbon emissions.
- Advance climate-focused research and innovation.
- Integrate climate science and sustainability into all study programs.
- Broaden community and stakeholder engagement for climate action.

Renewable Energy and Emissions Reduction

- **Solar Energy Initiatives:** Campus solar installations supported replacement of grid electricity, contributing to a reduction in fossil-based power consumption.
- **Annual Carbon Emissions:** Total annual emissions measured and tracked; energy-efficient technologies adopted.
- **LED & Sensor-Based Lighting:** LED lighting and light/sensor automation installed throughout campus buildings and halls.
- **Biogas Projects:** Labs and infrastructure initiated pilot biogas installations to substitute for fossil fuels.

Environmental Monitoring and Climate Research

- **GHG Emission Monitoring:** GHG, carbon, and energy audits conducted regularly. Collaboration with ministry- and government-funded climate projects.

- **Research Projects:** Faculty and student projects focused on climate monitoring, environmental audits, and innovative solutions for decarbonization.
- **Reporting:** Participation in national and international rankings (Times Higher Education Impact, etc.) and disclosure of sustainability performance.

Academic Integration and Capacity Building

- **Curriculum:** Mandatory Environmental Studies integrated across all undergraduate programs; climate action and sustainability topics across STEM fields.
- **Skill Development:** 60 workshops on energy efficiency, climate science, and sustainable practices conducted.
- **Student Engagement:** Hands-on climate action projects, hackathons, and modeling competitions focused on renewable energy, carbon management, and resilience.

Climate Resilient Infrastructure

- **Building Design:** Adoption of green standards and passive building design to optimize thermal comfort and reduce energy loads.
- **Water Management:** Rainwater harvesting and wastewater recycling systems expanded for sustainability.
- **Green Campus:** Annual tree plantation drives and green campus activities fostered carbon sequestration and biodiversity enhancement.

Community & Stakeholder Engagement

- **Student Clubs:** Rotary, Lions, Inner Wheel, and Pet Society organized projects supporting environmental awareness, health camps, and sustainability outreach.
- **IWC Projects:** Multiple social projects addressing food security, education, menstrual health, and tree plantation—especially on World Earth Day.

- **Public Events:** Participation in large-scale community events (e.g., IEM-UEM Kolkata Marathon, IEMPACT Fest) amplifying climate action and sustainability.

Data and Metrics

Performance Indicator	**Achievement**
Renewable Energy Projects	Solar
Greenhouse Gas Monitoring	Annual emissions recorded; audits regular
LED Lighting Coverage	100% campus buildings covered
Climate Science Workshops	60 conducted
Tree Plantation Drives	Over 2000 saplings planted
Environmental Studies Enrollment	All UG students
Energy-Efficient Infrastructure	Passive building design adopted
Community Projects (IWC)	10+ projects on environment, health, education
Sustainability Reporting	Disclosure in national/international forums
Student Engagement in Climate Projects	25+ implemented

In 2022-23, IEM Kolkata reduced environmental impact through solar and biogas adoption, lowered campus carbon emissions with energy-efficient infrastructural upgrades, and amplified climate action through diverse outreach and capacity-building programs. Over 500 trees were planted, and sustainability workshops, research, and outreach involved thousands of stakeholders.

Challenges, Institutional Responses, and Mitigation Strategies

- **Scaling renewable energy adoption and biogas integration:** The institution is working to expand its solar and biogas infrastructure to meet more than 20 percent of total campus energy needs, supporting the long-term goal of carbon neutrality.
- **Securing funding for advanced climate research and infrastructure:** Dedicated efforts are underway to attract government, alumni, and industry grants that can

accelerate innovation in climate-resilient technologies and campus sustainability infrastructure.

- **Promoting behavioral change and sustainability culture:** Awareness campaigns, digital learning modules, and periodic sustainability workshops are being conducted to engage students, faculty, and staff in climate-positive actions.
- **Monitoring and reporting climate resilience performance:** Real-time monitoring systems and automated analytics tools are being deployed to track progress on emission reduction, energy efficiency, and resilience metrics across all facilities.
- **Strengthening institutional governance for climate action:** Interdepartmental sustainability committees and SDG task forces are coordinating planning, implementation, and review of all climate-related initiatives to ensure long-term accountability and impact.

Future Roadmap and Strategic Plan (2023-24 and Beyond)

- **Increase Renewable Energy Capacity:** Add rooftop solar and scale biogas installations for campus operations.
- **Expand Climate Curriculum:** Integrate advanced climate and sustainability modules into all programs.
- **Community Projects:** Launch internships and extension projects focused on climate innovation.
- **Global Benchmarking:** Enhance participation in global rankings and sustainability disclosure.
- **Infrastructure Upgrades:** Broaden passive building design and green campus landscaping.

Conclusion

In 2022-23, IEM Kolkata advanced SDG 13 by slashing campus emissions via solar, biogas, and energy-efficient upgrades while fostering climate awareness through workshops, tree drives, and outreach impacting thousands of stakeholders. Academic integration featured mandatory sustainability courses and hands-on projects, complemented by resilient infrastructure like rainwater harvesting and passive designs. Challenges such as scaling renewables and funding are met with expanded solar capacity, grant pursuits, awareness campaigns, real-time monitoring, and SDG task forces for accountability. Looking to 2023-24, priorities include boosting renewable energy to over 20% of needs,

enriching curricula with advanced modules, launching climate internships, enhancing global benchmarking, and broadening green landscaping. This roadmap reinforces commitment to a climate-responsive campus, pioneering decarbonization and ecosystem resilience for a sustainable future.

Photo Gallery

Sensor-based energy conservation system

Photo: LED Tube Lights in Labs

LED Lights