

Advancing Green Campus: A Study of Sustainability Practices and Reporting in Indian Academia

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Abstract

Sustainability reporting has become a vital mechanism for academic institutions to demonstrate their commitment to environmental, social, and governance (ESG) principles, aligning with global frameworks like the United Nations' Sustainable Development Goals (SDGs). In India, higher education institutions are increasingly adopting sustainable business practices and transparent reporting to address environmental challenges and societal needs. This article reviews best practices in sustainability reporting and sustainable operations within Indian academic institutions, with a focus on standardized frameworks, stakeholder engagement, and innovative case studies. It also examines challenges and opportunities, emphasizing the role of academia in fostering sustainable development.

This article explores best practices in sustainability reporting and sustainable business practices within academic institutions. It examines the drivers behind increased sustainability efforts in academia, analyses various reporting frameworks and methodologies employed, and highlights successful examples of sustainable business practices implemented by universities and colleges. The aim of the article is to provide a concise overview of current trends and offer recommendations for academic institutions seeking to enhance their sustainability performance and transparency.

Keywords: Sustainability Reporting, Green Campus, Higher Education Institutions (HEIs), Sustainable Development Goals (SDGs), Environmental, Social, and Governance (ESG), Sustainable Practices in Academia, India

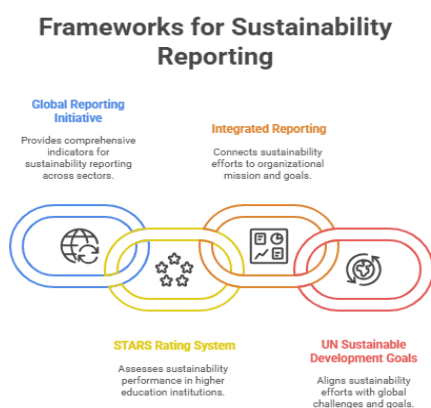
Introduction

Academic institutions are increasingly recognized as key players in promoting sustainability. Their roles as educators, researchers, and community members position them uniquely to drive positive change. This recognition has led to a growing emphasis on sustainability reporting and the adoption of sustainable business practices within these institutions. Sustainability reporting allows universities and colleges to transparently communicate their environmental, social, and economic performance, while sustainable business practices aim to minimize negative impacts and maximize positive contributions to society and the environment.

Sustainability reporting enables academic institutions to transparently communicate their ESG performance, fostering accountability and stakeholder trust. In India, where environmental challenges like water scarcity and air pollution are pressing, academic institutions are uniquely positioned to lead through education, research, and sustainable operations. This article explores best practices in sustainability reporting and sustainable business practices, with a focus on Indian institutions, highlighting recent case studies and addressing challenges in implementation.

Sustainability Reporting Frameworks and Methodologies

Several frameworks and methodologies are available to guide academic institutions in their sustainability reporting efforts like Global Reporting Initiative (GRI), Sustainability Tracking, Assessment & Rating System (STARS), Integrated Reporting (IR) and United Nations Sustainable Development Goals (SDGs) to serve as backbone and guideline of reporting. New frameworks for reporting sustainability for academic institutes are being proposed by the researchers and this can be also included in the academic institute rankings like NAAC. (Londhe, 2025)



Dia 1. Framework for Sustainability Reporting

Importance of Sustainability Reporting in Academic Institutions

Sustainability reporting enhances transparency, attracts environmentally conscious stakeholders, and aligns institutions with global sustainability goals. A 2022 United Nations Environment Programme report notes that 96% of leading organizations, including academic institutions, now publish sustainability reports, reflecting a global shift toward ESG accountability (UNEP, 2022). In India, institutions like the Indian Institutes of Technology (IITs) use reporting to track progress on energy efficiency, waste management, and social outreach, strengthening their role as sustainability leaders (Bhukya, 2024). For academic institutions, reporting fosters accountability, attracts environmentally conscious students and faculty, and enhances institutional reputation (Lozano et al., 2020). Moreover, it provides a framework to track progress toward sustainability goals, identify inefficiencies, and drive innovation in campus operations.

Best Practices in Sustainability Reporting

1. Adopting Standardized Frameworks

Using frameworks like the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and Business Responsibility and Sustainability Reporting (BRSR) ensures credible and comparable reports. The BRSR, mandated in India since FY 2022–23, aligns with global standards like GRI and the Task Force on Climate-related Financial

Disclosures (TCFD), making it relevant for Indian institutions (CEEW, 2024). For example, IIT Bombay integrates GRI standards to report on carbon emissions and community engagement, enhancing stakeholder trust.

2. Conducting Materiality Assessments

Materiality assessments prioritize ESG issues based on stakeholder input. Engaging students, faculty, and local communities helps identify key concerns like water conservation and renewable energy. The Indian Institute of Management (IIM) Ahmedabad conducts annual materiality assessments to focus on sustainable campus operations and educational outreach, aligning with SDGs 4 (Quality Education) and 13 (Climate Action) (IIMA Sustainability Report, 2024).

3. Ensuring Data Accuracy and Transparency

Robust data collection systems ensure credible reporting. Institutions should disclose methodologies and limitations to build trust. The University of Delhi, for instance, reports detailed metrics on water recycling and energy consumption, using standardized units like metric tons of CO₂ equivalent (CO₂e) (DU Sustainability Report, 2024). Transparent reporting allows benchmarking and drives operational improvements.

4. Integrating Forward-Looking Goals

Including long-term sustainability targets demonstrates commitment to continuous improvement. IIT Delhi's sustainability report outlines a plan to achieve carbon neutrality by 2030, with investments in solar energy and green infrastructure (IITD Sustainability Plan, 2024). Such goals align with TCFD recommendations for climate risk management.

5. Leveraging Technology for Reporting

Digital tools, such as AI-powered analytics, streamline data collection and enhance report accuracy. The National Institute of Technology (NIT) Tiruchirappalli uses IoT-based systems to monitor energy and water usage, integrating real-time data into its sustainability reports (NITT Sustainability Report, 2023). This practice improves efficiency and scalability.

6. Engaging Stakeholders in Reporting

Involving diverse stakeholders ensures reports reflect community priorities. The Tata Institute of Social Sciences (TISS) engages students and local NGOs in its reporting process, focusing on social equity and community development (TISS Sustainability Report, 2024). This practice strengthens stakeholder relationships and enhances report relevance.

Sustainable Business Practices in Indian Academic Institutions

1. Energy Efficiency and Renewable Energy

Indian institutions are adopting renewable energy to reduce carbon footprints. IIT Madras has installed 2 MW of solar panels, meeting 15% of its energy needs and reducing CO₂ emissions

by 1,800 tons annually (IITM Sustainability Report, 2024). Energy-efficient lighting and smart building systems further optimize consumption.

2. Waste Management and Circular Economy

Zero-waste initiatives are gaining traction. The University of Pune's circular economy program diverts 70% of campus waste through recycling and composting, engaging students in waste segregation workshops (Pune University Sustainability Report, 2023). Such initiatives align with SDG 12 (Responsible Consumption and Production).

3. Sustainable Curriculum and Research

Integrating sustainability into curricula equips students to address global challenges. IIM Bangalore offers courses on sustainable business models, while its research centers focus on climate adaptation and renewable energy (IIMB Sustainability Plan, 2024). These efforts align with SDG 4 (Quality Education).

4. Water Conservation and Management

Given India's water stress, institutions prioritize conservation. Anna University's rainwater harvesting systems collect 10 million liters annually, supporting campus needs and groundwater recharge (Anna University Sustainability Report, 2023). These initiatives address SDG 6 (Clean Water and Sanitation).

5. Community Engagement and Social Impact

Partnerships with local communities amplify impact. The Banaras Hindu University (BHU) collaborates with rural communities to promote sustainable agriculture, training 5,000 farmers in organic farming techniques (BHU Sustainability Report, 2024). This aligns with SDG 2 (Zero Hunger).

Academic institutions are implementing a wide range of sustainable business practices across their operations:



Dia 2. Sustainability Practices in Academics

Case Studies from India and Abroad

1. Govardhan Ecovillage (GEV), Maharashtra

GEV, affiliated with an academic institution, integrates sustainability into its operations through organic farming, 350 KW solar power, and water recycling. Its 2023 sustainability report, aligned with GRI, details initiatives like distributing 700,000 meals to combat hunger and educating 9,000 students in STEM, aligning with SDGs 2 and 4 (GEV Sustainability Report, 2023).

2. IIT Bombay

IIT Bombay's Green Campus Initiative includes a 1 MW solar plant and a waste-to-energy facility processing 2 tons of organic waste daily. Its GRI-aligned sustainability report highlights a 25% reduction in energy consumption since 2018, showcasing leadership in sustainable operations (IITB Sustainability Report, 2024).

3. Symbiosis International University, Pune

Symbiosis has implemented a comprehensive sustainability strategy, including a zero-waste campus and green building certifications. Its BRSR-aligned report details efforts in water recycling and biodiversity conservation, with 60% of campus energy sourced from renewables (Symbiosis Sustainability Report, 2024).

4. Amity University, Noida

Amity University's sustainability initiatives include a 500 KW solar installation and a sustainability-focused curriculum. Its 2023 report, adhering to GRI standards, highlights partnerships with NGOs to promote environmental awareness, impacting 10,000 community members annually (Amity Sustainability Report, 2023).

5. United Arab Emirates University (UAEU)

UAEU has integrated sustainability into its institutional operations, curricula, and community outreach. Its sustainability report, aligned with GRI standards, details progress in reducing water consumption, increasing renewable energy use, and promoting sustainable awareness among students. UAEU's partnerships with corporations facilitate innovative solutions, such as smart city technologies, enhancing its reputation as a leader in sustainability education (Alshamsi & Alshamsi, 2021).

6. Arizona State University:

ASU has achieved STARS Platinum rating and is known for its comprehensive sustainability initiatives, including its School of Sustainability and its commitment to carbon neutrality (ASU, 2023).

7. University of California, Berkeley:

UC Berkeley has a long-standing commitment to sustainability and has implemented numerous initiatives, including a comprehensive climate action plan and a robust sustainable procurement program (UC Berkeley, 2023).

8. University of British Columbia:

UBC has been recognized as a global leader in sustainability and has implemented innovative programs, such as its Campus as a Living Lab initiative, which uses the campus as a testbed for sustainability research and innovation (UBC, 2023).

Challenges in Sustainability Reporting

Challenges include inconsistent reporting frameworks, resource constraints, and greenwashing risks. Indian institutions often face difficulties in collecting standardized ESG data due to limited digital infrastructure (Bhukya, 2024). Additionally, aligning with mandatory frameworks like BRSR requires significant investment in training and systems (CEEW, 2024). Overcoming these requires robust data systems and adherence to global standards.

Benefits of Sustainability Reporting

Sustainability reporting enhances institutional reputation, attracts funding, and drives cost savings. A McKinsey study notes that organizations with strong ESG practices achieve up to 15% financial gains through operational efficiencies (McKinsey, 2023). For Indian institutions, reporting aligns with national policies like India's Nationally Determined Contributions, boosting global credibility (Ghosh, 2021).

Future Directions

Indian institutions should adopt AI and IoT for real-time ESG monitoring, foster corporate partnerships for innovation, and expand sustainability-focused curricula. Collaborative platforms like the Global Compact Network India can facilitate knowledge sharing (Krishnan, 2019). Research into climate adaptation and social equity will further align institutions with SDGs.

Conclusion

Sustainability reporting and sustainable business practices are becoming increasingly important for academic institutions. By embracing these practices, universities and colleges can reduce their environmental impact, enhance their reputation, and prepare students for a sustainable future. While challenges remain, the opportunities for academic institutions to lead the way in sustainability are significant. By adopting best practices, engaging stakeholders, and collaborating with external partners, academic institutions can play a crucial role in creating a more sustainable world.

Sustainability reporting and practices are transforming Indian academic institutions into hubs of environmental and social innovation. By adopting standardized frameworks, leveraging technology, and engaging stakeholders, institutions like IITs, Symbiosis, and Amity are setting benchmarks. Despite challenges, the benefits—enhanced reputation, cost savings, and societal impact—underscore the importance of these efforts. As India advances toward its SDG targets, academic institutions will play a pivotal role in shaping a sustainable future.

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