

VISHWAKARMA UNIVERSITY

SDG 7 REPORT 2024



**VISHWAKARMA
UNIVERSITY**
Maximising Human Potential

University Grants Commission (UGC) Approved State Private University



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Maximising Human Potential

About This Report

At Vishwakarma University (VU), our steadfast commitment to sustainable development is profoundly aligned with the United Nations' 2030 Agenda for Sustainable Development. These global goals delineate an aspirational vision for a sustainable future, one that VU has deeply integrated into its institutional framework and curriculum.

Our foundational principle, Unleashing Human Potential, reflects our dedication to cultivating an environment conducive to the holistic development of our students, empowering them with the resilience and confidence required to navigate contemporary challenges.

As part of our sustainability mission, VU has reimagined itself as an Eco-campus, exemplifying innovative and sustainable practices. This report details our continual efforts to minimize our carbon footprint and highlights the impactful partnerships underpinning these achievements. For instance, our Certificate Programme in Sustainability Management, developed collaboratively with Hof University of Applied Sciences, Germany, equips students with advanced competencies in business management and contemporary sustainable practices. Additionally, through a strategic partnership with the Wilo Foundation, we have established the Water Quality Centre of Excellence, aimed at advancing water treatment, purification, and public awareness of clean drinking water.

VU's commitment to sustainability extends beyond environmental stewardship. We have launched a dedicated Center for Sustainability, NEXUS, that undertakes activities aligned with the Sustainable Development Goals (SDGs). Our mission is to cultivate informed, ethical, and skilled individuals who uphold principles of equity, inclusivity, and excellence. By engaging students in practical applications of their knowledge, we bridge the divide between theoretical frameworks and real-world challenges.

Our participatory development model actively involves students and industry stakeholders, ensuring that our academic philosophy equips learners with the competencies essential for addressing the complexities of the modern business landscape. VU's extensive network, encompassing over 45 collaborations with prominent industries and educational institutions—including the Maharashtra State Faculty Development Academy, Queen Mary Technical Institute, Buldhana Urban Cooperative Credit Society, and TATA Technical Limited—facilitates industry projects, live projects, internships, and placements, thus enhancing practical exposure and career prospects for our students.

Furthermore, VU is committed to fostering a well-rounded education and community engagement through initiatives such as the VU-Centre for Communication Development, the Sahyadri Communication Project, and the VU Legal Aid Clinic, all integral components of our VU-iPAR Model. This model emphasizes community involvement, and we encourage student leadership through programs such as the National Service Scheme (NSS) and the Student Council. In alignment with the National Education Policy (NEP) 2020, we offer NEP 2020 courses and have established the VUWCOE – VU Wellness Center of Excellence, supporting holistic development in both academic and wellness dimensions.

In summary, Vishwakarma University's commitment to sustainable development and the SDGs is firmly embedded within our institutional ethos. Through collaborative engagement with diverse stakeholders, we consistently integrate sustainability into our operations, fostering a culture of innovation, research, and learning. VU remains committed to preparing future leaders equipped to drive impactful change, contributing meaningfully to the global vision of sustainable development.

Prof. (Dr) Siddharth Jabade
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VU's Participation in the THE Impact Rankings 2024

Vishwakarma University (VU) also participated last year in Times Higher Education (THE) Impact Rankings 2024, which looks at global universities' commitment and performance in furthering the Sustainable Development Goals (SDGs).

VU took part in the 4 SDGs listed below plus the mandatory SDG 17 and the results were as follows:

Overall Ranking 1001+





7 AFFORDABLE AND CLEAN ENERGY



Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 7: Affordable and clean energy.

In alignment with Sustainable Development Goal (SDG) 7: Affordable and Clean Energy, the Department of Economics, in collaboration with the Environmental Wing of Vishwakarma University, organized an educational visit to Abhiruchi Power Plant. The objective of this visit was to provide students with hands-on exposure to renewable energy generation, waste management, and sustainable resource utilization. Guided by Mr. Yashodhan Bhide, the facility's owner and manager, the visit provided an opportunity to connect classroom concepts of sustainability and economics with practical, real-world applications. Through interactive discussions and on-site observations, students explored innovative practices such as solar power generation, water recycling, biogas production, and waste-to-energy conversion, deepening their understanding of the interdependence between environmental conservation and economic viability. The visit to Abhiruchi Power Plant, led by the Economics Department and accompanied by the Environmental Wing of VU, was an insightful and enriching experience for students. Guided by Mr. Yashodhan Bhide, the owner and manager of the facility, students gained a deeper understanding of sustainable energy generation and waste management. Witnessing these systems firsthand helped them appreciate the real-world impact of sustainability efforts. More than just an observational visit, the experience encouraged students to critically analyze the practicality, challenges, and benefits of renewable energy and environmental conservation. The visit also introduced them to the economic aspects of sustainability, aligning with their academic pursuits.



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Solar Plant, Water Recycling Plant, and Electricity Generation Solar Plant:

Students were introduced to the role of solar energy in reducing reliance on non-renewable resources. The facility generates 25% of its required power through solar panels, showcasing the benefits of renewable energy adoption. A key takeaway was the 25% cap on solar energy usage, allowing surplus electricity to be distributed to farmers free of charge. This community-driven approach particularly resonated with students, as it demonstrated the balance between environmental responsibility and social welfare. Engaging discussions emerged about the economic feasibility of solar energy expansion and potential government incentives.

Water Recycling Plant:

Water conservation was another eye-opening aspect of the visit. Students observed how overflowed water is systematically collected and filtered through a recycling system, ensuring minimal wastage. This system not only reduces the plant's water footprint but also serves as an example of efficient water management for large-scale operations. Many students were intrigued by the potential applications of such systems in urban settings and industrial facilities, emphasizing their broader impact on sustainability.



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Biogas Production (Energy Generation):

The biogas facility captivated students, showcasing how cow dung and kitchen waste are converted into biogas, equivalent to one LPG cylinder (15 kg) per day. The biogas is primarily used for cooking meals for school children, reinforcing the concept of a circular economy. Students engaged in discussions about the seasonal variations in biogas production, particularly the slowdown in fermentation during winter. Understanding the 5-6 lakh installation cost of a biogas unit (excluding manpower) gave students insight into the financial considerations of renewable energy investments. The real-world application of waste-to-energy technology helped them bridge theoretical knowledge with practical implementation.

Waste Management and Recycling Plastic-to-Fuel Conversion Process:

One of the most debated topics among students was the plastic-to-fuel conversion process. The plant processes 25 kg of plastic per batch, with a recovery rate of 20%, producing only 5 liters of polyfuel. Given the low output and high operational costs, selling polyfuel was deemed economically unviable, and instead, segregated waste is sold at 15 per kg. Polyfuel is given to laborers for personal consumption, and by-products such as gas and ash are repurposed. Students reflected on the economic challenges of waste-to-energy conversion and discussed potential technological advancements to improve efficiency and profitability.

Recycling Process:

The plant's waste segregation and recycling initiatives impressed students. They learned about the systematic processing of 25 kg of raw bottles and plastics daily, which increases to 50 kg on weekends. However, the realization that only 9% of total waste is recycled sparked discussions on the need for improved recycling infrastructure and policies. The plant donates all recyclable waste to NGOs in Pune, reinforcing the importance of social responsibility in waste management. Additionally, students learned about the lack of subsidies for commercial recycling operations and the 5% property tax incentive offered to households that participate in waste segregation. Seeing these policies in action helped them understand the intersection of economics, governance, and environmental sustainability.

Organic Waste and Composting System:

The visit also highlighted organic waste management through composting. Students observed the compost pits, where organic waste such as leaves and vegetable scraps decompose over 4-5 months to create natural fertilizer. Excluding large branches and woody waste from the composting process helped them understand the nuances of composting efficiency. Many students expressed interest in initiating similar composting projects in their schools and communities, recognizing its potential to reduce landfill waste and promote soil health.



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Student Experience and Key Takeaways:

The visit to Abhiruchi Power Plant was more than an academic exercise—it was an eye-opening journey into the practical world of sustainability. The interactive nature of the tour, facilitated by Mr. Yashodhan Bhide, allowed students to ask questions, analyze challenges, and discuss real-world implications of renewable energy and waste management. Seeing the integration of solar energy, biogas, recycling, and water conservation deepened their appreciation for the complexity of sustainability efforts.

One of the most impactful realizations was the economic feasibility of various sustainable practices. While students were inspired by the efficiency of solar and biogas systems, they also acknowledged the financial and technical challenges of plastic-to-fuel conversion. This led to critical discussions about innovation, investment, and policy-making in the sustainability sector. The visit also encouraged students to reflect on their own environmental footprint and consider small-scale initiatives they could implement in their daily lives.

Beyond the technical knowledge, the visit reinforced a sense of responsibility among students. It also provided additional context on broader environmental efforts, and students left with a heightened awareness of the need for collective action in tackling sustainability challenges. The engagement and

curiosity sparked by this visit will likely influence their academic projects, career interests, and personal contributions toward sustainability.



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Conclusion:

The visit to Abhiruchi Power Plant, guided by Mr. Yashodhan Bhide and organized by the Economics Department with the presence of the Environmental Wing of VU, was a transformative learning experience for students. By observing real-world applications of solar energy, water recycling, biogas production, and waste management, students gained a holistic understanding of sustainability beyond textbooks. The discussions on economic feasibility, policy incentives, and technological advancements made the experience intellectually stimulating and relevant to their academic curriculum.

Importantly, the visit left students with a sense of purpose and inspiration. The practical exposure to sustainability challenges and solutions empowered them to think critically about how they can contribute to a greener future. Whether through individual actions, academic research, or future career choices, the lessons from this visit will undoubtedly influence their perspectives on environmental responsibility. The Abhiruchi Power Plant visit was not just a learning opportunity—it was a call to action for students to engage with sustainability on a deeper level and drive meaningful change in their communities.



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