VISHWAKARMA UNIVERSITY

SDG 6 REPORT 2023

SUSTAINABLE DEVELOPMENT GOALS

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
Vice-Chancellor
Vishwakarma University, Pune, India

VU's Participation in the THE Impact Rankings 2023

Vishwakarma University (VU) also participated last year in Times Higher Education (THE) Impact Rankings 2023, 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+

6 CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

At the core of Vishwakarma University's philosophy are academic excellence, transformative research, innovation, and community engagement. VU is dedicated to cultivating a highly skilled workforce capable of making meaningful contributions to the nation, industries, and society. The university remains steadfast in its commitment to sustainable development by nurturing individuals who embody principles of fairness, inclusivity, excellence, ethics, and professionalism.

Vishwakarma University values diversity and a holistic approach to education, offering a wide array of programs, including undergraduate, postgraduate, Ph.D. courses, as well as certificate and diploma programs designed to meet the evolving needs of society and industry. Its multidisciplinary approach enriches students across various domains, supported by a diverse faculty across fields such as Commerce and Management, Art and Design, Science and Technology, Law, Pharmacy, Humanities and Social Sciences, Interdisciplinary Studies, Architecture, Music, Travel, and Tourism.

Notably, Vishwakarma University was an early adopter of digital learning, launching the VU-digital (VUD) program and the Vishwakarma Online Learning Platform (VOLP) well before the COVID-19 pandemic. This proactive approach ensures that students can access education anytime, anywhere, and at their own pace. The university has forged numerous national and international partnerships with industries, associations, and prestigious institutions worldwide, providing students access to cutting-edge technologies for online and blended learning. VU has established multiple centers of excellence in collaboration with renowned industry and academic partners, such as SAP, WILO Mather & Platt, Unity Technologies, Integrated Environmental Services (IES), and Binghamton University (USA), among others.

Ultimately, VU's mission is to: (1) empower individuals to innovate and develop skills within their local context, (2) nurture innovations of social and industrial significance, (3) acquire, adapt, and apply innovations to address local challenges and contribute to the "Make in India" initiative, and (4) facilitate grassroots-level participation in the innovation value chain, fostering inclusive and equitable growth.
To deliver cutting-edge, transformative education by means of research and innovation. To nurture capable leaders and professionals who excel in both life and career. To collaboratively cultivate exceptional human and socio-economic resources. To instill life skills and promote a well-rounded culture that values ethical and moral principles.

6.2.1 Campus Management Committee

The **Campus Management Committee** plays a vital role in ensuring the smooth and efficient operation of a university campus. It is responsible for overseeing the management and development of the campus environment, including both its physical infrastructure and its support services.

6.2.2 Annual Maintenance Contract

An **Annual Maintenance Contract (AMC)** is an agreement between a company and a service provider to maintain and service specific equipment, infrastructure, or systems on a regular basis for a defined period, usually one year. It is commonly used across various industries to ensure that critical assets such as IT infrastructure, machinery, and building facilities remain operational and in good working condition.

6.2.3 Water Supply Using Tanker

Extra water supply for university is provided by Tanker.

6.3.1 Publications

IoT for Water Management: A Sustainable Solution:::Among all the cardinal natural resources, "Water" needs to be effectively and "smartly" managed to reach Sustainable Development Goal 6. The internet-enabled connected digital devices ensure effective, efficient, and smart water management. This chapter provides the state-of-the-art advancements in water management with the Internet of Things (IoT). Different tools and systems utilised for management and audit are elaborated from the scientific and engineering point of view at length. The aspects of connecting devices, data security, privacy, water planning, and distributions are covered. The effectiveness of IoT-enabled technologies employment for sustainable water management is well supported by some case studies. The use of socially responsible and digitally enriched emerging technologies in the water management is elaborated with relevant case studies of its use for the greater cause.

https://www.taylorfrancis.com/chapters/edit/10.1201/9781003226888-9/iot-water-management-sustainable-solution-shraddha-khamparia-siddharth-jabade-shrikaant-kulkarni-priya-nakade-dhananjay-bhatkhande

6.3.1 VSTP MOU

1. VERTICAL SEWAGE TREATMENT PLANT:::

A Vertical Sewage Treatment Plant (VSTP) is an innovative wastewater treatment solution designed to maximize efficiency in urban areas where space is limited. Instead of spreading out horizontally, the treatment processes are stacked vertically, allowing the plant to occupy a smaller footprint while still handling a high volume of sewage. This design is particularly suited for dense urban environments, high-rise buildings, and areas where land is scarce or expensive.

https://research.vupune.ac.in/patent

Patent No 434249 Application No 202121043909 Dated 28-09-2021 Date of Granted 09-06-2023.

2. FREEZE CONCENTRATION TECHNOLOGY APPLICATION IN VERTICAL SEWAGE TREATMENT PLANT TO GENERATE POTABLE WATER:::

Freeze concentration technology can be effectively applied in vertical sewage treatment plants (VSTPs) to generate potable water by separating pure water from contaminants through freezing.

https://research.vupune.ac.in/patent

Patent No 506625 Application No 202121043907 Dated 28-09-2021 Date of Granted 02-02-2024.

3. A METHOD OF OPTIMIZATION TO MINIMIZE COMBINED VOLUME OF AEROBIC AND ANAEROBIC REACTOR:::

To optimize and minimize the combined volume of aerobic and anaerobic reactors in a wastewater treatment process, a balance between the biological requirements and space or cost constraints must be achieved. The objective is to reduce the overall size (volume) of both reactors while maintaining or improving the efficiency of treatment.

https://research.vupune.ac.in/patent

Patent No 492661 Application No 202121044823 Dated 04/10/2021 Date of Granted 01/01/2024.

6.3.2 Publication
Book Chapter Publication:-
IOT for Water Management: A Sustainable Solution

IoT for Water Management: A Sustainable Solution:::Among all the cardinal natural resources, "Water" needs to be effectively and "smartly" managed to reach Sustainable Development Goal 6. The internet-enabled connected digital devices ensure effective, efficient, and smart water management. This chapter provides the state-of-the-art advancements in water management with the Internet of Things (IoT). Different tools and systems utilised for management and audit are elaborated from the scientific and engineering point of view at length. The aspects of connecting devices, data security, privacy, water planning, and distributions are covered. The effectiveness of IoT-enabled technologies employment for sustainable water management is well supported by some case studies. The use of socially responsible and digitally enriched emerging technologies in the water management is elaborated with relevant case studies of its use for the greater cause.
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https://www.taylorfrancis.com/chapters/edit/10.1201/9781003226888-9/iot-water-management-sustainable-solution-shraddha-khamparia-siddharth-jabade-shrikaant-kulkarni-priya-nakade-dhananjay-bhatkhande

6.3.3 Drinking Water Testing Report
A water testing report is essential for ensuring the quality and safety of water, particularly for drinking and other critical uses.
Dated 01-12-2023

Vishwakarma University, in collaboration with Wilo India, has installed a unique Water ATM that produces significantly less waste compared to conventional RO systems. The reject water from this ATM is repurposed for watering plants. Additionally, water filters and coolers are installed on each floor, with maintenance handled by the Campus Infrastructure Management and the Water Quality Centre of Excellence. The Water ATM is freely accessible to all students, staff, and visitors.

6.3.4 Rain Water harvesting
Rainwater Harvesting
The process of rainwater harvesting is already installed and well maintained at Vishwakarma University campus

Please find the images of Rain water harvesting on following link–
https://drive.google.com/drive/folders/10Wt4Eo6RRBpZj7K15S1up-5aIKBFj2Ie?usp=drive_link
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.vupune.ac.in/images/IQAC/policies-and-procedures/VU_Green_Building_and_Well-being_Policy.pdf

6.3.5 Water-conscious planting

Plant landscapes to minimize water usage. (e.g. use drought-tolerant plants)
Please find the photos of the event on the following drive—
https://drive.google.com/drive/folders/1f1ZDbdUlaQ8WO30f4V5cw4cox6o4l4Nb?usp=drive_link

NSS TREE PLANTATION REPORT

Under the Government initiative Meri Maati, Mera Desh, NSS unit of Vishwakarma University organized a drive from 12th September to 21st September 2023 to come together and honor our soil by filling out our very own Amrut Kalash. Students from across all departments came to the spot where the Kalash was kept over the days of the event, and deposited the soil they had got with them in the pot. The activity was witness to more that 50 students as well as faculty members participating enthusiastically to fill the Amrut Kalash. Vishwakarma University has launched an extensive tree plantation program, which includes the planting of 49 native Indian trees on the campus. During this activity, government guidelines for social distancing were strictly adhered to. Additionally, the program emphasizes water-conscious planting techniques to ensure the sustainability and growth of the newly planted trees.

https://www.vupune.ac.in/centres-of-excellence/centre-of-excellence-for-energy-and-sustainability
https://www.vupune.ac.in/event/tree-plantation-drive
https://www.vupune.ac.in/national-service-scheme

6.4.2 Water Quality Centre of Excellence

The WILO water ATM which is widely used by students and staff , discharges very less amount of water and that water is being utilized for watering the plants. Under Eco Campus initiative awareness drives are arranged on regular basis to encourage for reusing the water and Campus Management team takes care of this aspect in an efficient manner.

https://www.vupune.ac.in/event/content/water-quality-centre-of-excellence

6.5.1 World Water day

World water day 2023, a National level event was celebrated at VU on the theme of "Accelerating the change to solve Water & Sanitation Crisis". VU- Wilo Water Quality Centre of Excellence shouldered the responsibility to sensitize the youth. The celebration began on 12th April with the activity of training and analysis of water samples brought by students. April 13th started with the glorious morning of tree plantation at the hands of chief guest Mr. Hemant Watve, CEO&MD of WILO Mather & Platt and other dignitaries.

Please find the link of the World Water Day celebrations-
https://drive.google.com/drive/folders/1MhwfSAdkOa6hhg_VIBtJyfj6kzc4Q55S?usp=drive_link

https://unnatbharatabhiyan.gov.in/blog/index.php/vishwakarma-university-pune-providing-pure-water-drinking-facility/

Mr. Hemant Watve CEO&MD of WILO Mather & Platt, Prof. Siddharth Jabade VC Vishwakarma University, Prof. Vasudev Gade VP Vishwakarma University, Prof. Nitin Satpute Dean Science and Technology and Prof. Dhananjay Bhatkhande Director Water Quality Center of Excellence shared the dais. Prof. Siddharth Jabade VC Vishwakarma University delivered the Welcome address in which he also informed that Ministry Of Jalshakti has signed MOU with VU for Namami Gange project. Mr. Hemant Watve in his interactive speech deliberated on the national theme" Accelerating the change on water and sanitation Crises." Prof. Dhananjay Bhatkhande gave vote of thanks.

Following competitions were organized
1. Photography
2: Quiz
3. Hold the water molecule.
4. Game development
5. Partom i Orbis

Mr Ravi Ulangwar, Mr. Ravindra Akki, Mr. Mukul Pendase and Mr. Anshuman Bade from Wilo were judge for various events of the day. More than 450 students from all over India participated in the program. Partom i Orbis was designed to develop the landscape layout for smart city mission. Q-cards provided were expected to paste as per the function & operation on landscape layout. Total 13 teams (each of 5 members) participated from different institutes in the event.

The winners were (1st) Vishwakarma University -Tanvi Bokil, Priya Shingare, Rutik suryawanshi, Suraj Davane, Hrushikesh Satve.

(2nd)Vishwakarma Institute of Information Technology-Mayuresh Bhol, Sumit Lokare, Vibhavari Tidke, Hrugwed Hirve, Yash Revandkar.

(3rd)D Y Patil Institute of Technology Pimpari-Harshad Shendage, Shravani Chillal, Sangram Kad, Roshini Ankushkar, Akash Narkhede.

Photography, Quiz, Game development was conducted on the theme of water day. Soniya Parsewar, Diksha Jaju and Anushka sonti won 1st, 2nd and third prize. Neel Khatri & Shambhavee Nawani from Vishwakarma University won the quiz competition. In Hold the water molecule event the tram of Eesha Pansare, Sukanya Pujari, Kartik Ghorpade, Om Godse stood first and team of Mansi Chandurkar, Pranav Baitule, Aashirwad Mehare, Phalguni kate, Atharva Kshirsagar stood second. Game development on the theme of Water day was hit by Noopur Rane stood first & Marwin Pintu won the second prize in the Game development on the theme of Water day. Prof.Maya Kurulekar & Mrunmai Ranade worked as Faculty Coordinator of the event and Mr. Divyansh Renkuntlwar worked as student coordinator of the event. Vishwakarma University has collaborated with Wilo Mather and Platt Pumps Private Limited to address the critical need for advancements in the Water and Sanitation sector. The university also participates in Unnat Bharat Abhiyan, a national initiative to provide clean and safe water to rural communities.

http://www.wilo-foundation.de/en/funded-projects/science/water-quality-centre-of-excellence-at-vishwakarma-university-pune-india.html

VU in UBA List:
http://unnat.iitd.ac.in/app/webroot/files/First%20list%20of%20Participating%20Institutes%20selected%20under%20UBA-2.0%20program%20%20for%202018-2019.pdf

6.5.2 “Promoting conscious water usage : : Wider Community

Report on WWD 2023

World water day 2023, a National level event was celebrated at VU on the theme of “Accelerating the change to solve Water & Sanitation Crisis”. VU- Wilo Water Quality Centre of Excellence shouldered the responsibility to sensitize the youth. The celebration began on 12th April with the activity of training and analysis of water samples brought by students. April 13th started with the glorious morning of tree plantation at the hands of chief guest Mr. Hemant Watve, CEO&MD of WILO Mather & Platt and other dignitaries.

https://unnatbharatabhiyan.gov.in/blog/index.php/vishwakarma-university-pune-providing-pure-water-drinking-facility/

6.5.3.Off-campus water conservation support::Support water conservation off campus

As part of a social initiative to provide drinking water facilities in rural areas, Vishwakarma University, Pune, in collaboration with Wilo Mather and Platt Private Pumps Limited, Pune, India, has launched a movement to bring potable water technology to the grassroots level. A survey has been conducted, and plans are underway to install drinking water facilities in rural communities surrounding the region. This initiative reflects the university’s commitment to driving social change through intellectual leadership.

“Lik of blog of UNNAT Bharat Abhiyan:
https://unnatbharatabhiyan.gov.in/blog/index.php/vishwakarma-university-pune-providing-pure-water-drinking-facility/”

6.5.4. Sustainable water extraction on campus

Where water is extracted (for example from aquifers, lakes or rivers) utilise sustainable water extraction technologies on associated university grounds on and off campus.

To address the challenge of delivering clean water to areas with limited land availability, Vishwakarma University partnered with Wilo Mather and Platt Pumps Private Limited, Pune, India, to conceptualize and develop a Vertical Sewage Treatment Plant (VSTP) designed to produce potable water. The plant has a capacity of 10,000 liters per day and the project commenced in 2019. The project stages included the ideation of VSTP technology, conceptualization, individual component design, system design and configuration, installation at the university campus, patenting, investigation, testing, validation, as well as simulation and modeling. The VSTP has been installed on the Vishwakarma University campus, and operational testing in a controlled environment at Technology Readiness Level 5 has been successfully completed. A Memorandum of Understanding (MoU) is included with this project (Disclosure: A Non-Disclosure Agreement with Wilo has been signed, and the document is not publicly available).

6.5.5. Cooperation on water security

Cooperate with local, regional, national, or global governments on water security.
Vishwakarma University has collaborated with Wilo Mather and Platt Pumps Private Limited to address the critical need for advancements in the Water and Sanitation sector. The university also participates in Unnat Bharat Abhiyan, a national initiative to provide clean and safe water to rural communities.

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