SUSTAINABLE DEVELOPMENT GOALS



7 AFFORDABLE AND CLEAN ENERGY

Sustainable Development Goals

Affordable and Clean Energy



Swami Vivekanand Subharti University, Meerut

(Established under U.P. Govt. Act no. 29 of 2008 and approved under section 2(f) of UGC Act 1956)

Swami Vivekanand Subharti University demonstrates its commitment to UN SDG 7 - Affordable and Clean Energy through research excellence, renewable energy adoption, energy-efficient buildings, conservation, and low-carbon practices. Research performance is reflected through CiteScore, Field-Weighted Citation Impact (FWCI), and publications related to renewable energy, clean-energy technologies, energy harvesting, electric mobility, and sustainable energy solutions. The University promotes energy-efficient renovation and building upgrades through LED and sensor-based lighting, energy-efficient equipment, rooftop solar PV systems, solar streetlights, and an ISO 50001:2018-based Energy Management System. Carbon and emission reduction processes, energy-consumption reduction plans, energy wastage identification, and periodic energy audits support efficient energy management. The University also promotes responsible investment and divestment policies, monitors energy usage per square metre, and undertakes local community outreach for energy efficiency. Its commitment is further reflected in the 100% renewable energy pledge, energy-efficiency services for industry, policy development for clean-energy technologies, and assistance to low-carbon innovation through research and patented innovations. Furthermore, low-carbon energy use, including solar energy, CNG and battery-operated vehicles, bicycles, Car-Free Days, biogas, plantation, and green landscaping, reinforces the University's efforts towards sustainable energy management and the advancement of UN SDG 7 - Affordable and Clean Energy.

7.1 Research on Clean Energy

The University demonstrates its commitment to UNSDG 7 – Affordable and Clean Energy through research and scholarly publications addressing energy, energy efficiency, renewable energy, clean-energy technologies and sustainable energy solutions. The research output has been systematically documented using relevant Scopus-based bibliometric indicators, including Cite Score, Field-Weighted Citation Impact (FWCI), and the number of publications.

7.1.1 – Affordable and Clean Energy: Cite Score - The Cite Score information of the identified SDG 7-related publications has been documented to reflect the quality and journal impact of the University's research output. The indicator specifically considers the presence of publications in high-impact journals based on Cite Score.

7.1.2 – Affordable and Clean Energy: FWCI - The FWCI values of the identified publications have been compiled to demonstrate the citation impact of the University's research in energy and energy-efficiency-related fields. FWCI provides a field- and publication-normalized measure of research citation impact.

7.1.3 – Affordable and Clean Energy: Publications - The University's relevant publications have been identified and documented to demonstrate the volume and breadth of research contributing to clean and affordable energy and energy efficiency.

Table 1: Affordable and Clean Energy Publications – Cite Score and FWCI Analysis

S.No	Title	Author	Source	Cite Score	FWCI
1.	A Novel Technological Approach for the Electrical Energy Generation in the Form of Alternating Current/Direct Current from	Ramachandran T.; Krishnasamy M.	Lecture Notes in Mechanical Engineering	0.8	-

	the Human Energy by Cyclic Pedaling Contribution Title				
2.	Differential Evolutionary Optimization Algorithm for Energy-Efficient Routing Strategy in Wireless Sensor Networks	Bhatnagar A.; Bhatnagar D.; Kumar T.	International Journal of Computer Networks and Applications	2.9	0.58
3.	Enhancing Railway Safety Using Zigbee and IoT-Enabled Energy-Efficient Wireless Sensor Network Approach	Bansal A.; Mishra V.; Sharma P.; Akashe S.	Learning and Analytics in Intelligent Systems	0.7	-
4.	An introduction of green energy-based welding process	Kumar S.	Green Manufacturing and Materials Processing Methods: Characterizations, Applications, and Design	0	0.67
5.	Enhancing Urban Sustainability with AI-Driven Environmental Stewardship	Preety; Verma P.K.	International Journal of Advancement in Life Sciences Research	0.9	-
6.	Ab-initio investigation of structural, electronic, thermoelectric and optical properties of Full-Heusler X2MnB (X = Ti, Zr) for	Peng Q.; Iram N.; Sharma R.; Kumar A.; Saad Alsubaie	Inorganic Chemistry Communications	8.5	1.11

	energy harvesting applications	A.; Rehman J.			
7.	A study analyzing the major determinants of implementing Internet of Things (IoT) tools in delivering better healthcare services using regression analysis	Kaur C.; Al Ansari M.S.; Rana N.; Haralayya B.; Rajkumari Y.; Gayathri K.C.	Advanced Technologies for Realizing Sustainable Development Goals: 5G, AI, Big Data, Blockchain, and Industry 4.0 Application	0	1.99
8.	A reverse logistics model with eco-design under the Stackelberg-Nash equilibrium and centralized framework	Saxena N.; Sarkar B.; Wee H.-M.; Reong S.; Singh S.R.; Hsiao Y.L.	Journal of Cleaner Production	21.3	2.77
9.	Novel Approach for the Micro Cracks Detection of Solar Wafers and Cells	Israil M.; Sharma A.K.; Gupta E.	Al-Bahir Journal for Engineering and Pure Sciences	1.2	-
10.	Cellulase enzymes for sustainable sugarcane waste management: a comprehensive review	Sinha A.; Kumar S.; Kumar A.	3 Biotech	5.7	0.68
11.	A Review of Different Catalysts for the Production of Glycerol Derivative Utilizing Waste Crude	Abida; Nisha; Pundir N.; Agarwal A.	Research on Engineering Applications in Multidisciplinar	0	-

	Glycerol		y Sectors (Part 2)		
12.	Optimizing energy consumption in passive optical networks through renewable integration	Bhardwaj S.; Bansal A.; Sharma V.; Ruhela M.	Journal of Optical Communications	6.3	0.24
13.	Cloud computing and machine learning in the green power sector: Data management and analysis for sustainable energy	Tirlangi S.; Teotia S.; Padmapriya G.; Kumar S.S.; Dhotre S.; Boopathi S.	Developments Towards Next Generation Intelligent Systems for Sustainable Development	0	42.56
14.	Computational study of Ba-doped TiO3 perovskites for solar energy applications	Kumar A.; Srivastava R.; Kumar A.; Kumar R.; Kumar S.; Chand R.; Saxena D.	Materials Physics and Mechanics	1.6	0.19
15.	Design and Evaluation of AI-Based Energy-Efficient Load Balancing Algorithm in Cloud Data Centers	Sharma V.; Chaudhary A.; Kumari S.; Vashishth T.K.; Choudhary K.; Chauhan P.	2025 IEEE 1st International Conference on Recent Trends in Computing and Smart Mobility, RCSM 2025	0	-
16.	Ab-initio study of hybrid perovskites Cs2AgGaCl6 for	Kumar A.; Kumar A.;	Hybrid Advances	10.1	1.49

	solar cells applications	Kumar A.; Iram N.			
17.	STUDY OF STRUCTURAL AND ELECTRONIC PROPERTIES OF CsMgCl3 COMPOUND	Kumar A.; Gupta H.; Kumar D.; Sharma R.; Kumar A.; Sharma S.K.; Singh A.P.	East European Journal of Physics	2.6	.62
18.	An Improved Resource Allocation in 5G C-RAN using Hybrid Swarm Intelligence Algorithm	Rao V.S.; Babu G.R.	2025 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation, IATMSI 2025	0	0
19.	Novel materials for sustainable energy conversion and storage	Kumar A.	Novel Energy Storage and Conversion Technologies for Two-Dimensional MXenes and MBenes	0	5.58
20.	Studies on Production, Characterization and Applications of Eco-friendly Liquid Organic Solution	Kumar A.; Tomer S.; Chand N.; Chauhan A.;	Annals of Biology	.3	0

	(ELOS) as Plant Growth Booster	Rai D.K.; Kumar A.; Dwivedi A.K.; Rajora D.			
21.	Comparing New Wireless Sensor Network Protocols through Simulation and Data Analysis †	Agarwal H.; Singh A.P.; Singh A.; Kumar A.; Agrawal P.K.; Saranya S.	Engineering Proceedings	1.8	.58
22.	Simulation, Design and Modeling of Lead-Free Double Halide Perovskite Solar Cell	Sharma S.; Pachauri R.K.; Mavi R.; Shashikant; Minai A.F.	2023 International Conference on Power, Instrumentation, Energy and Control, PIECON 2023	0	1.11
23.	Comparative Research on Power and Junction Temperature in 2, 4, 8 bit Multiplier Using Nikhlam Sutra	Mishra P.K.; Gupta E.; Kumar A.	IEEE International Conference on Recent Advances in Science and Engineering Technology, ICRASET 2024	0	-
24.	Optimized heuristic LEACH variants for energy-efficient routing in passive optical networks	Ashima; Kishor A.; Agrawal R.; Kumar T.;	Journal of Optical Communication s	6.3	1.92

		Sharma V.			
25.	Energy efficient dynamic resource allocation in C-RAN using tunicate swarm and whale optimization algorithm	Rao V.S.; Babu G.R.	International Journal of Information Technology (Singapore)	9.9	.71
26.	Hybrid Photovoltaic/PEM Fuel Cell Driven Water Pumping System for Agricultural Application: Overview, Challenges and Future Perspectives	Pachauri R.K.; Mavi R.; Minai A.F.; Tiwari S.; Shashikant	Photovoltaic Systems Technology	0	-
27.	Integration of internet of things (IoT) with passive optical networks (PON): a framework for next-generation connectivity	Sharma V.; Kumar A.; Rani R.	Journal of Optical Communications	6.3	0.24
28.	Advanced Nanomaterials and Characterization Techniques for Photovoltaic Applications	Kumar A.	Nano Revolution: Unveiling the Future of Energy through Advanced Materials and Digital Technologies	0	-
29.	Study of Electronic Properties of Rare Earth Transition Metal Gallides Ho4XGa12, (X = Pd, Pt)	Kumar V.; Kumar A.; Kumar A.; Kumar S.;	Research on Engineering Applications in Multidisciplinar	0	-

		Singh R.P.	y Sectors (Part 2)		
30.	Chalcogenide Nanocomposites Enabling Materials for Future Energy Solutions	Kumar A.	Chalcogenide-Based Materials for Optoelectronics, Energy, and Sustainability	0	-
31.	A comprehensive theoretical analysis of Cs2KGaX6 (X = Cl, Br, I): For green energy solutions	Singh N.K.; Kumar A.; Kumar S.; Nautiyal V.K.; Kumar R.; Kumar A.; Iram N.	Solid State Communications	4.7	2.61
32.	Porous organic frameworks based on porphyrinoids for clean energy	Nisa K.; Lone I.A.; Arif W.; Singh P.	Porphyrin-Based Composites: Materials and Applications	0	3.44
33.	Plastic and Polythene Waste Degradation	Garg A.P.; Ateeq A.	Combating Plastic Pollution in Terrestrial Environment: Challenges and Strategies for a Sustainable Future	0	1.71
34.	A comparative study of $A_2AgInCl_6$ (A = Na, K)	Kumar A.; Kumar A.;	Next Materials	2.7	1.84

	double perovskites: Stability and suitability for energy technologies	Kumar K.; Nautiyal V.K.; Irum N.			
35.	Securing Electric Vehicles: A Cybersecurity Framework for Threat Detection and Mitigation	Gautam K.K.; Chaudhary A.; Vashishth T.K.; Chauhan P.; Sharma V.; Samania B.	International Conference on Intelligent Communication Networks and Computational Techniques, ICICNCT 2025	-	1.12
36.	A Novel Technological Approach for the Electrical Energy Generation in the Form of Alternating Current/Direct Current from Human Energy by Cyclic Pedaling Contribution Title	Ramachandran T.; Krishnasamy M.	Lecture Notes in Mechanical Engineering	0	-

Research Projects Supporting Low-Carbon Innovation

1. Comparison of 2D and 3D Artificial Intelligence-Assisted Compressed Sensing Technology with Conventional Methods of MR Imaging

The research project "Comparison of 2D and 3D Artificial Intelligence-Assisted Compressed Sensing Technology with Conventional Methods of MR Imaging" demonstrates an innovative application of Artificial Intelligence (AI) and compressed sensing technology in medical imaging. By optimizing MRI data acquisition and potentially reducing scanning time, the technology can improve the efficient utilization of electricity, machine operating time, and other resources compared with conventional MRI methods. Thus, the project supports the development of energy-efficient and resource-efficient healthcare practices, contributing to UNSDG 7.4.5 - Assistance to Low-Carbon Innovation.

2. Comparison of 2D and 3D Artificial Intelligence-Assisted Compressed Sensing Technology with Conventional Methods of MR Imaging

The research project on IVIM, DKI and biparametric MRI represents an innovative approach towards resource-efficient medical imaging. By evaluating advanced diffusion techniques as an alternative or adjunct to conventional contrast-enhanced multiparametric MRI, the study explores the possibility of reducing dependence on contrast-enhanced imaging while maintaining diagnostic performance. IVIM and DKI demonstrated diagnostic performance comparable to mpMRI, with sensitivity of 93.3%, specificity of 83.3% and accuracy of 90.5%. The research therefore contributes to technology-driven healthcare innovation and has potential relevance to low-carbon and resource-efficient healthcare practices through the development of advanced non-contrast imaging approaches.

Table 2: Research Projects Supporting Low-Carbon Innovation and Sustainable Technology

S. No	Name of the Project/ Clinical Trial/ Endowment/ Chairs	Name of the Principal Investigator/Co Investigator	Department of Principal Investigator/ Co Investigator	Year of Award	Funds provided (INR in Lakhs)	Duration of the project	Name of the Funding agency	Type (Government/Non-Government etc.,)

1	Comparison of 2D and 3D artificial intelligence-Assisted compressed sensing technology with conventional methods of MR imaging.	Ayush Singla	Radio-Diagnosis	2023	0.40	2.5 years	Krishna Medical Store	Non-Government
3.	Comparison of intravoxel incoherent motion (IVIM), Diffusion Kurtosis Imaging (DKI) and BI parametric with multiparametric MRI Sequences in patients with Clinical suspicion of prostatic Carcinoma.	Pushpdeep Agarwal	Radio-Diagnosis	2023	0.38	2.6 years	Krishna Medical Store	Non-Government

7.2 University Measures Towards Affordable and Clean Energy

The University has adopted a comprehensive approach towards affordable, efficient and clean energy through energy-efficient buildings, renewable energy adoption, carbon and emission reduction, energy conservation planning, and systematic identification of energy wastage. The University conducts periodic Energy, Green and Environment Audits to assess energy performance and identify opportunities for improvement. Energy-efficient measures include LED and sensor-based lighting, energy-efficient electrical equipment, efficient ventilation, solar photovoltaic systems, solar-powered streetlights, and ISO 50001:2018-based Energy Management System. The University also promotes energy-efficient and low-carbon transportation through CNG-operated and battery-operated vehicles, bicycle use, pedestrian-friendly pathways and regulated vehicle access. Biogas, solar energy, green landscaping and plantation activities further support renewable energy use, carbon reduction and sustainable campus operations. To ensure continuous improvement, the University monitors monthly electricity consumption, solar generation, energy usage and energy wastage and uses audit findings to plan corrective and energy-conservation measures. Technical systems such as LT Panels and Single Line Diagrams (SLDs) support efficient power distribution and energy management. These integrated measures demonstrate the University's institutional commitment to energy efficiency, renewable energy adoption, conservation of resources, reduction of carbon emissions and sustainable infrastructure, contributing to the objectives of UNSDG 7 – Affordable and Clean Energy

7.2.1 Energy-Efficient Renovation and Building

The University is committed to enhancing the energy efficiency of its buildings through a systematic approach guided by its Energy-Efficient Building Policy and periodic Energy Audits. The Energy Audit (2024–25) evaluates the energy performance of campus buildings and provides recommendations for improving energy efficiency through the adoption of sustainable technologies and operational practices.

The audit highlights the implementation and continued expansion of LED lighting systems, sensor-based lighting, and solar energy systems to reduce electricity consumption and promote the use of renewable energy. It also recommends the phased replacement of conventional lighting with LED luminaires, installation of additional motion sensor-based lighting in common areas, expansion of solar-powered lighting, and regular maintenance and replacement of ageing electrical equipment with energy-efficient alternatives.

The University further promotes energy-efficient ventilation through the use of efficient ventilation systems and regular maintenance of electrical and mechanical equipment to ensure optimum performance while minimizing energy consumption. Continuous monitoring of energy usage and implementation of audit recommendations support the University's commitment to sustainable infrastructure development and continuous improvement in building energy performance.

As part of its technical energy management system, the University utilizes Low Tension (LT) Panels and Single Line Diagrams (SLDs) for efficient power distribution, load management, and monitoring of the electrical network. These systems support safe and optimized electricity distribution, facilitate preventive maintenance, and strengthen the University's overall energy management framework.

SWAMI VIVEKANAND SUBHARTI UNIVERSITY™

Approved by UGC

Where Education is a Passion...

Policy on Energy-Efficient Renovation and Buildings

Policy on Energy-Efficient Renovation and Buildings

SI. No.	Particulars	Description
1	Policy Number	U-07/SVSU/2024/1071
2	Policy Structure	The policy ensures that all renovation and building activities follow energy-efficient and sustainable practices. It defines clear procedures for planning, approval, and execution of projects to promote the use of renewable energy, eco-friendly materials, and energy-saving technologies. It aligns with national standards such as ECBC and supports the University's commitment to green campus development and environmental responsibility.
3	Scope of the Policy	This policy applies to all construction, renovation, and maintenance projects undertaken within the University campus, including academic, residential, and administrative buildings. It involves all stakeholders to ensure energy efficiency, environmental compliance, and sustainable infrastructure development across the institution.
4	Policy Status	Original
5	Originated By	Environment Department of the University
6	Reviewed By	Registrar
7	Approving Authority	Hon'ble Vice Chancellor
8	Effective Date of Policy	28.03.2024
9	Policy Review Date	20.01.2025

20.01.2025

1.Purpose

The purpose of this policy is to ensure that all new constructions and renovation projects at Swami Vivekanand Subharti University are designed and executed following best practices in energy efficiency. This aligns with Sustainable Development Goal 7 (Affordable and Clean Energy) and supports the university's commitment to sustainability and reducing its carbon footprint.

2. Scope

This policy applies to:

- All new buildings are constructed on university premises.
- All major and minor renovation or retrofitting projects of existing university buildings.
- Planning, design, procurement, and maintenance activities related to building infrastructure.

3. Policy Statement

Swami Vivekanand Subharti University is committed to:

1. Incorporating energy-efficient design principles in all new constructions and renovations.
2. Complying with national and international energy efficiency standards, codes, and certifications.
3. Selecting construction materials, lighting, HVAC, and equipment that minimize energy consumption.
4. Implementing renewable energy solutions wherever feasible, such as solar panels or energy-efficient water heating systems.
5. Conducting periodic energy audits and monitoring building performance to ensure sustained energy efficiency.

4. Guidelines and Procedures

- **Design Phase:** All new building designs and renovation plans must integrate energy-efficient features such as insulation, energy-efficient windows, LED lighting, and smart building management systems.
- **Approval Process:** The Planning and Development Committee (or designated authority) must review and approve building and renovation proposals to ensure compliance with this policy.
- **Construction Phase:** Contractors and vendors must adhere to prescribed energy-efficient standards and submit compliance reports.
- **Post-Construction:** Newly completed buildings will undergo energy performance evaluation. Measures will be taken to optimize systems if performance falls below set benchmarks.
- **Awareness & Training:** Faculty, staff, and students involved in building management and operations will be trained on energy efficiency practices.

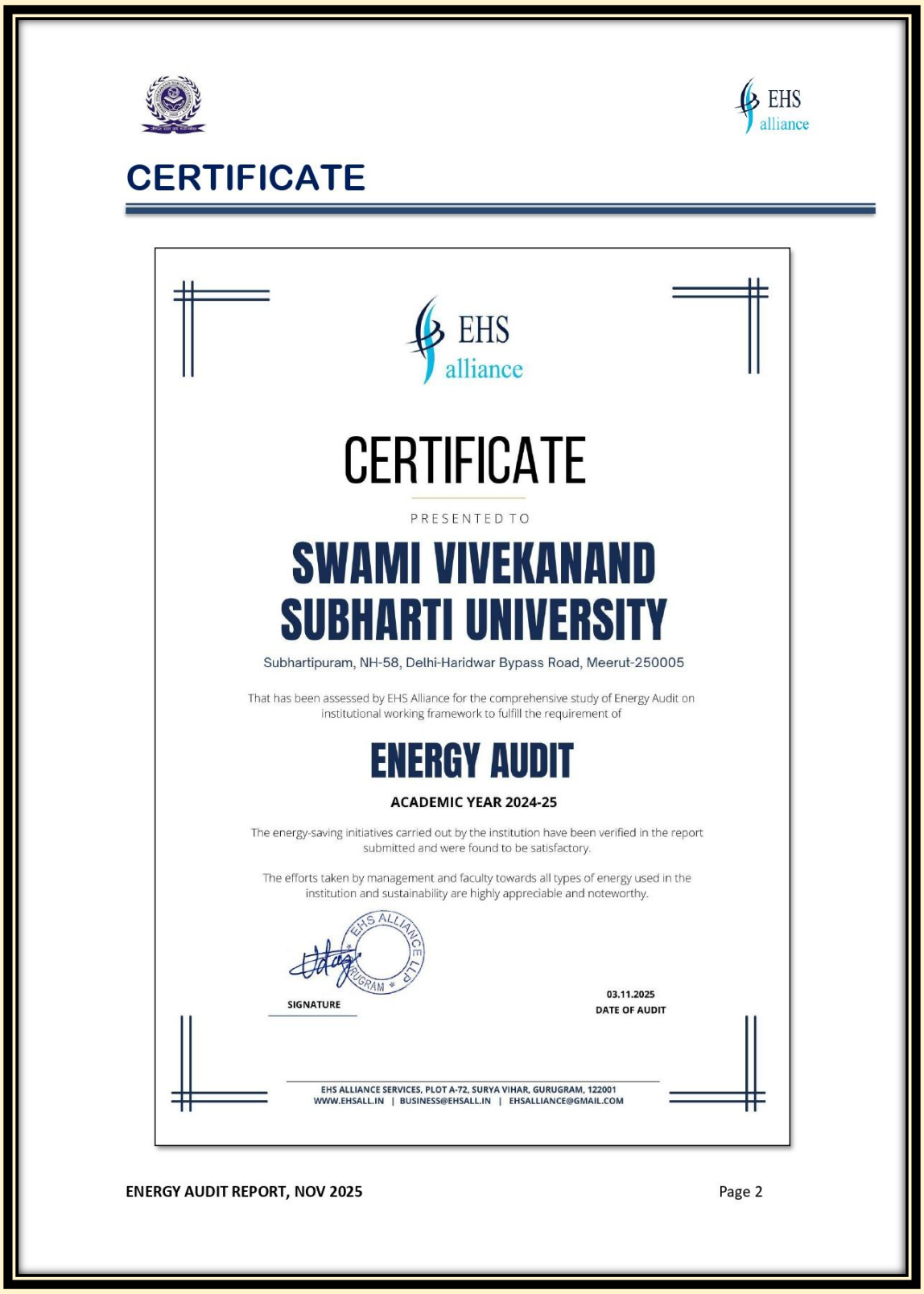
5. Roles and Responsibilities

- **Environment, Construction and Maintenance Department:** Oversee policy implementation, monitoring, and reporting for accreditation and sustainability purposes.
- **Construction and Maintenance Department:** Ensure compliance during construction, renovation, and maintenance activities.
- **Energy Department:** Follow all energy efficiency guidelines during planning, procurement, and execution.

6. Monitoring and Review

The university will periodically review this policy and update it based on new technologies, standards, and sustainability goals. Energy audits will be conducted regularly as and when new guidelines received from state/central govt. on the subject to evaluate effectiveness and identify areas for improvement.





CERTIFICATE

EHS alliance

CERTIFICATE

PRESENTED TO

SWAMI VIVEKANAND SUBHARTI UNIVERSITY

Subhartipuram, NH-58, Delhi-Haridwar Bypass Road, Meerut-250005

That has been assessed by EHS Alliance for the comprehensive study of Energy Audit on institutional working framework to fulfill the requirement of

ENERGY AUDIT

ACADEMIC YEAR 2024-25

The energy-saving initiatives carried out by the institution have been verified in the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards all types of energy used in the institution and sustainability are highly appreciable and noteworthy.

EHS ALLIANCE LLP GURUGRAM

SIGNATURE

03.11.2025
DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

ENERGY AUDIT REPORT, NOV 2025 Page 2

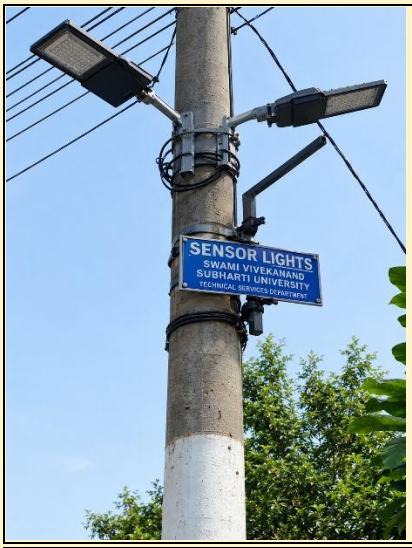
Figure 1: Certificate of Energy Audit: Academic Year 2024–25

Table 3: Summary of Energy Audit Observations and Recommended Measures for Improving Energy Efficiency and Reducing Electricity Consumption

Audit Observation	**Recommendation**
Assessment of lighting levels in classrooms, laboratories, parking areas, and common areas.	Increase the use of motion sensor-based lighting in libraries, corridors, and washrooms to reduce unnecessary electricity consumption.
Evaluation of outdoor lighting.	Install additional solar-powered lighting in parking areas, streets, and open spaces.
Assessment of existing lighting systems.	Continue replacing conventional lighting with LED luminaires to improve energy efficiency and reduce electricity consumption.
Assessment of electrical equipment and support systems.	Establish regular maintenance schedules and replace ageing electrical equipment with energy-efficient alternatives.

Table 4: List of Energy-Efficient Renovations and Building Upgradation Initiatives Implemented at Swami Vivekanand Subharti University

S. No.	List	Picture
1.	Rooftop Solar PV Installation on University Buildings	
2.	Energy-Efficient LED Lighting in Classrooms and Corridors	
3.	Replacement of Conventional Lights with LED Lights	
4.	Installation of Energy-Efficient Fans and BEE Star-Rated ACs	

5.	Natural Lighting and Ventilation in University Buildings	
6.	Installation of Solar Streetlights and Energy-Efficient Outdoor Lighting	
7.	Upgradation of Electrical Panels and Energy Management Systems	

7.2.2 Plan to Upgrade Building to Higher Energy Efficiency

The University is committed to continuously upgrading its existing buildings to improve energy efficiency and promote sustainable campus operations. The University has implemented several energy conservation measures, including the installation of LED lighting systems, rooftop solar photovoltaic systems, solar-powered street lights, and energy-efficient air-conditioning and electrical equipment across academic, administrative, residential, and healthcare buildings. Building designs emphasize natural lighting and ventilation to reduce dependence on artificial lighting and cooling systems. Regular energy audits and smart energy monitoring are undertaken to identify opportunities for reducing energy consumption and improving overall building performance, thereby supporting the University's commitment to UN SDG 7 – Affordable and Clean Energy.

Table 5: Implemented Energy-Efficiency Measures for Upgradation of University Buildings at Swami Vivekanand Subharti University

S. No.	Implemented Energy-Efficiency Measure	Description
1	Energy Conservation through Sensor-Controlled Lighting	Sensor-controlled lighting systems have been implemented in designated areas of the University to minimise unnecessary electricity consumption and improve energy efficiency.
2	Implementation of LED Lighting	Energy-efficient LED lights have been installed in classrooms, corridors, offices, and other university facilities to reduce electricity consumption.
3	Solar Energy System	Rooftop solar photovoltaic (PV) systems and solar streetlights have been installed to promote renewable energy utilisation and reduce dependence on conventional electricity.
4	Energy-Efficient Ventilation	Natural ventilation and energy-efficient ventilation practices have been adopted in university buildings to improve indoor airflow and reduce dependence on mechanical cooling systems.

5	Energy Management System Certification (ISO 50001:2018)	An ISO 50001:2018-based Energy Management System has been implemented to monitor energy performance, identify improvement opportunities, and support continuous energy-efficiency improvements.

1. Energy Conservation through Sensor-Controlled Lighting:

The University has installed sensor-based lighting systems at strategic locations across the campus, including academic buildings and outdoor spaces. These lights automatically switch on and off based on occupancy or daylight availability, minimizing unnecessary electricity consumption. In addition, 50 sensor-based street lights equipped with automatic daylight control systems have been installed to further improve energy efficiency.



Figure 2A: Sensor-Based Lights on Campus



Figure 2B: Sensor-Based Lights on Campus

2. Implementation of LED Lighting:

The University has replaced conventional lighting with energy-efficient LED lights across the campus. As per the Energy Audit (2023–24), the campus has 11,890 LED tube lights (20W) and 240 LED street lights (100W). The University also procures BEE star-rated air conditioners and electrical appliances to ensure efficient energy utilization.

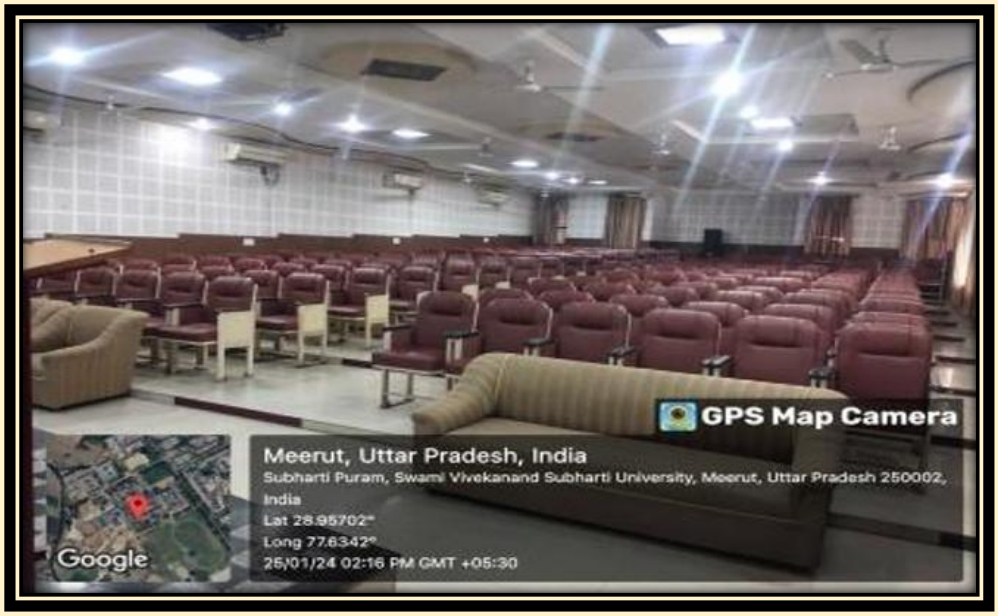


Figure 3A: Adoption of LED Lighting for Lecture Theatre Sustainability



Figure 3B: Adoption of LED Lighting for Lecture Theatre Sustainability

3. Solar Energy System:

The University has installed rooftop solar photovoltaic systems to reduce dependence on conventional electricity and promote renewable energy. These systems contribute to meeting the University's energy requirements while reducing carbon emissions and operational costs.



Figure 4A: Rooftop Solar Photovoltaic System and Solar-Powered Street Lights Installed at The University



Figure 4B: Rooftop Solar Photovoltaic System and Solar-Powered Street Lights Installed at The University



Figure 4C: Rooftop Solar Photovoltaic System and Solar-Powered Street Lights Installed at The University

4. Energy-Efficient Ventilation:

To ensure thermal comfort with minimum energy consumption, The University has adopted energy-efficient ventilation systems across its academic, administrative, residential, and

healthcare buildings. The campus is equipped with 10,512 ceiling fans, 515 bracket fans, and 94 pedestal fans, providing effective air circulation while reducing dependence on mechanical cooling systems. Building designs also promote natural ventilation through adequate windows, ventilators, and open spaces to maximize airflow and minimize the need for air-conditioning. Regular maintenance and the periodic replacement of older equipment with energy-efficient models further enhance operational efficiency and support the University's commitment to sustainable campus development.



Figure 5: Energy-Efficient Ventilation Systems and Natural Ventilation Features across the University Campus

5. Energy Management System Certification (ISO 50001:2018)

The University has implemented an Energy Management System (EnMS) conforming to ISO 50001:2018, demonstrating a systematic institutional approach towards managing and improving energy performance. The certification covers the University’s educational operations and provides a structured framework for monitoring, controlling and improving energy use and energy efficiency across its facilities. The Energy Management System supports the identification of opportunities for energy performance improvement and promotes the systematic management of energy resources within the University.



Figure 6: ISO 50001:2018 Certification demonstrating the implementation of an Energy Management System at The University

7.2.3 Carbon Reduction and Emission Reduction Process

Swami Vivekanand Subharti University undertakes various initiatives to reduce carbon emissions, minimise environmental pollution, and promote sustainable campus practices. These initiatives include Environment and Green Audits, plastic-free campus practices, plantation and green cover development, promotion of paper bags, biogas utilisation, battery-operated vehicles, community tree plantation, cleanliness campaigns, and educational visits to sewage treatment plants and waste management facilities. Collectively, these efforts support carbon reduction, responsible waste management, and environmental sustainability in alignment with UN SDG 7 – Affordable and Clean Energy.

Table 6: Initiatives Undertaken by Swami Vivekanand Subharti University for Carbon and Emission Reduction under UN SDG 7.2.3 (Academic Year 2024–25)

S. No.	Initiative	Description
1.	Environment Audit	The University conducts an Environment Audit to assess environmental performance and identify opportunities for emission reduction and resource efficiency.
2.	Green Audit	The University undertakes Green Audit activities to evaluate environmental practices, resource conservation, and campus sustainability.
3.	Plastic-Free Campus Initiative	The University promotes a plastic-free campus by discouraging single-use plastics and encouraging eco-friendly alternatives.
4.	Landscaping, Plantation and Green Cover Development	Plantation and landscaping activities enhance green cover, support carbon sequestration, and improve the campus environment.
5.	National Bag Day – Promotion of Paper Bags	Paper bags are promoted as alternatives to plastic bags to reduce plastic pollution and encourage sustainable practices.

6.	Biogas-Based Carbon Reduction Initiative	Biogas utilisation supports organic waste management and reduces dependence on conventional energy sources.
7.	Battery-Operated Vehicles for Emission Reduction	Battery-operated vehicles promote cleaner campus mobility and help reduce direct vehicular emissions.
8.	World Environment Day Campaign – Community Tree Plantation	Community tree plantation activities promote environmental awareness, enhance green cover, and support carbon sequestration.
9.	Swachhata Hi Seva Campaign	Cleanliness and waste-management activities encourage responsible waste disposal and contribute to a cleaner campus environment.
10.	Educational Visits to Sewage Treatment Plant (STP) and Waste Management Facilities	Educational visits familiarise students with wastewater treatment, waste management, and sustainable environmental practices.

1. Environment Audit Conducted by the University for Carbon and Emission Reduction

The university conducts an Environmental Audit to assess its environmental performance and identify opportunities to reduce carbon emissions and minimize environmental impacts. The audit certificate serves as evidence of the university's commitment to environmental sustainability, responsible resource management, and continuous improvement in carbon and emission reduction practices, supporting the objectives of SDG 7.2.3: Carbon Reduction and Emission Reduction Process.



Figure 7: Certificate of Environment Audit: Academic Year 2024–25

2. Environment Audit Conducted by the University for Carbon and Emission Reduction

The university conducts a Green Audit to assess its environmental practices and identify opportunities to conserve natural resources, improve energy efficiency, reduce carbon emissions,

and promote sustainable waste management. The Green Audit certificate serves as evidence of the university's commitment to environmental sustainability and continuous improvement in reducing its environmental footprint, supporting SDG 7.2.3: Carbon Reduction and Emission Reduction Process.



CERTIFICATE

EHS alliance

CERTIFICATE

PRESENTED TO

SWAMI VIVEKANAND SUBHARTI UNIVERSITY

Subhartipuram, NH-58, Delhi-Haridwar Bypass Road, Meerut-250005

Has been assessed by EHS Alliance for the comprehensive study of environmental impacts on institutional working framework to fulfill the requirement of

GREEN AUDIT

ACADEMIC YEAR 2024-25

The green initiatives carried out by the institution have been verified on the report submitted and was found to be satisfactory.

The efforts taken by the management and the faculty towards environment and sustainability are appreciated and noteworthy.

EHS ALLIANCE PVT. LTD. GURUGRAM

SIGNATURE

03.11.2025
DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

Green Audit Report, Nov 2025 Page 2

Figure 8: Certificate of Green Audit: Academic Year 2024–25

3. Plastic-Free Campus Initiative:

The University has implemented a Plastic-Free Campus initiative through an official notice and display of awareness signage across the campus. The initiative encourages students, faculty, staff, and visitors to reduce the use of single-use plastics and adopt sustainable alternatives. This contributes to minimizing plastic waste and the emissions associated with its production and disposal, thereby supporting the University's efforts towards carbon reduction and environmentally sustainable campus practices.



Figure 9: Plastic-Free Campus signage displayed across the University campus.

SWAMI VIVEKANAND
SUBHARTI UNIVERSITY
Subhartipuram, NH-58, Delhi Haridwar Meerut Bypass Road, Meerut-250005
Ph. 0121-2439043, 2439052, 3058031, 3058032; Telefax : 0121-2439067
e-mail: subharti@subharti.org, Website : www.subharti.org

Ref.: No. SVSU/2017/2226 Date: 06.06.2017

नोटिस

विषयः– सुभारती विश्वविद्यालय परिसर के अन्दर होने वाले कार्यक्रम में प्लास्टिक डिस्पोजेबल का प्रयोग न करने के सन्दर्भ में।

महोदय,

भारत सरकार के निर्देशानुसार पर्यावरण के संरक्षण हेतु डिस्पोजेबल प्लास्टिक पर लगाए गये प्रतिबंध को स्वामी विवेकानन्द सुभारती विश्वविद्यालय प्रोत्साहित कर रहा है। जिसके लिये स्वच्छता एवं पर्यावरण को प्रदूषण रहित बनाने हेतु डिस्पोजेबल प्लास्टिक के त्याग की आवश्यकता है। इस परिपेक्ष में प्रबन्धन के आदेशानुसार मुझे यह कहने का निर्देश प्राप्त हुआ है, कि संस्था के अन्दर होने वाले सभी कार्यक्रम में प्रयोग होने वाले प्लास्टिक डिस्पोजेबल पर प्रतिबन्ध लगाया जाता है। क्योकि प्लास्टिक डिस्पोजेबल पर्यावरण के दृष्टिकोण से उचित नहीं है। जबकि सुभारती विश्वविद्यालय परिसर पूर्व में ही प्लास्टिक रहित घोषित किया जा चुका है।

डॉ0 (कर्नल) एन0 के0 त्यागी)
मुख्य प्रशासनिक अधिकारी

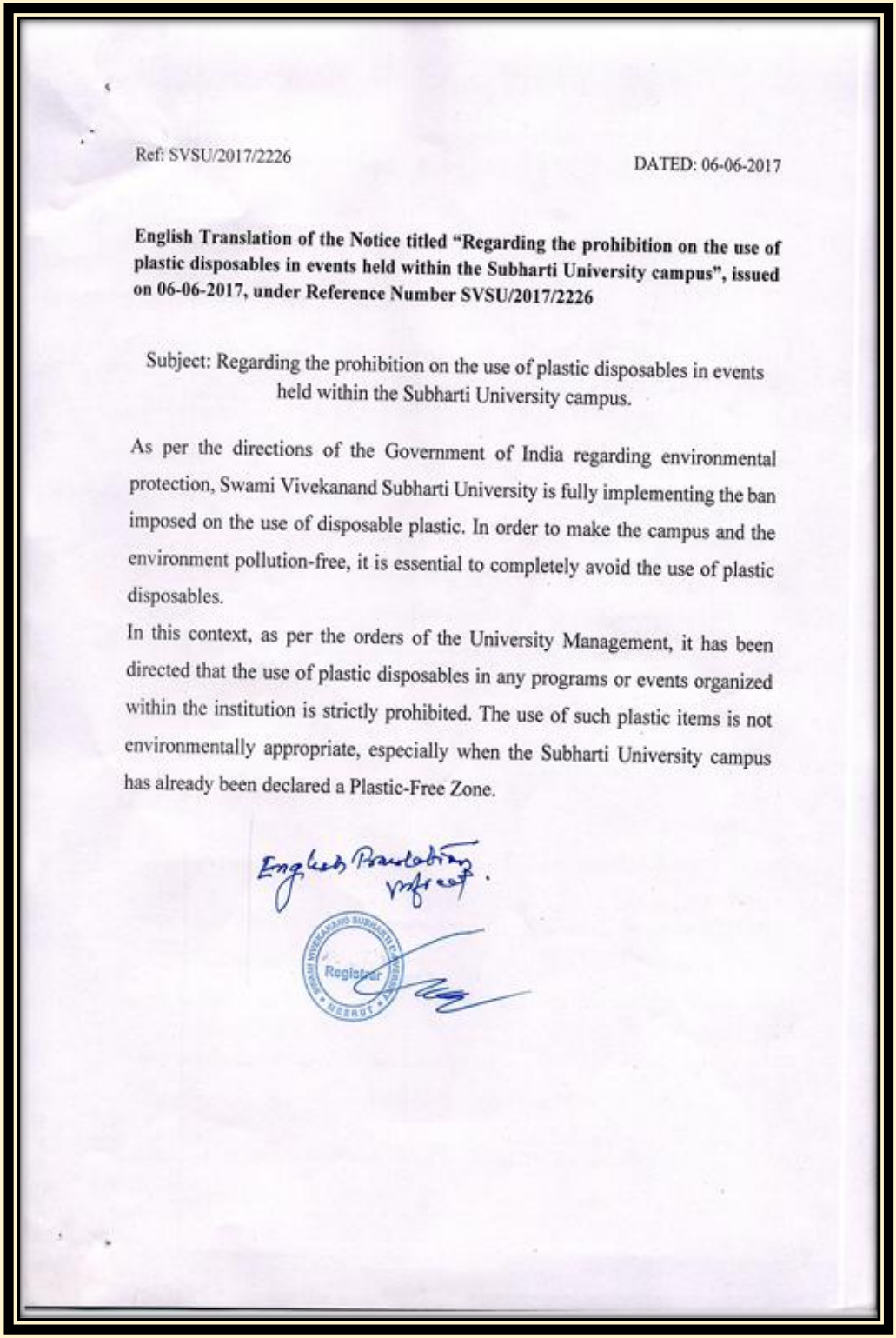
प्रतिलिपि सूचनार्थ हेतु प्रेषितः–

- माननीय कुलपति महोदय
- चिकित्सा अधीक्षक – छत्रपति शिवाजी सुभारती विश्वविद्यालय
- कुलसचिव – स्वामी विवेकानन्द सुभारती विश्वविद्यालय
- सभी संकायाध्यक्ष/विभागाध्यक्ष
- मुख्य सुरक्षा अधिकारी
- अनुरक्षण विभाग
- बागवानी विभाग

डॉ0 (कर्नल) एन0 के0 त्यागी)

Figure 10A: Notice regarding implementation of a Plastic-Free Campus initiative.

English Translation of the Notice on Plastic-Free Campus



Ref: SVSU/2017/2226

DATED: 06-06-2017

English Translation of the Notice titled "Regarding the prohibition on the use of plastic disposables in events held within the Subharti University campus", issued on 06-06-2017, under Reference Number SVSU/2017/2226

Subject: Regarding the prohibition on the use of plastic disposables in events held within the Subharti University campus.

As per the directions of the Government of India regarding environmental protection, Swami Vivekanand Subharti University is fully implementing the ban imposed on the use of disposable plastic. In order to make the campus and the environment pollution-free, it is essential to completely avoid the use of plastic disposables.

In this context, as per the orders of the University Management, it has been directed that the use of plastic disposables in any programs or events organized within the institution is strictly prohibited. The use of such plastic items is not environmentally appropriate, especially when the Subharti University campus has already been declared a Plastic-Free Zone.

English Translation
Registrar

Figure 10B: Notice regarding implementation of a Plastic-Free Campus initiative.

4. Landscaping, Plantation and Green Cover Development

The University promotes green landscaping, systematic plantation, and development of green spaces across the campus. Landscaped areas with trees, shrubs, hedges, native plants, and maintained gardens have been developed around academic buildings, pedestrian pathways, and open spaces. The University maintains plantation records covering fruit-bearing, evergreen, and ornamental trees. These green landscapes provide natural shade, reduce heat absorption, improve the campus microclimate, and contribute to CO_2 absorption and carbon sequestration. Vegetation also helps reduce heat-related cooling requirements and supports sustainable campus development. Collectively, these initiatives contribute to the University's efforts towards carbon and emission reduction and sustainable environmental management



Figure 11A: Landscaping with Trees and Plants Green landscaping with trees and plants across the University campus.



Figure 11B: Landscaping with Trees and Plants Green landscaping with trees and plants across the University campus.

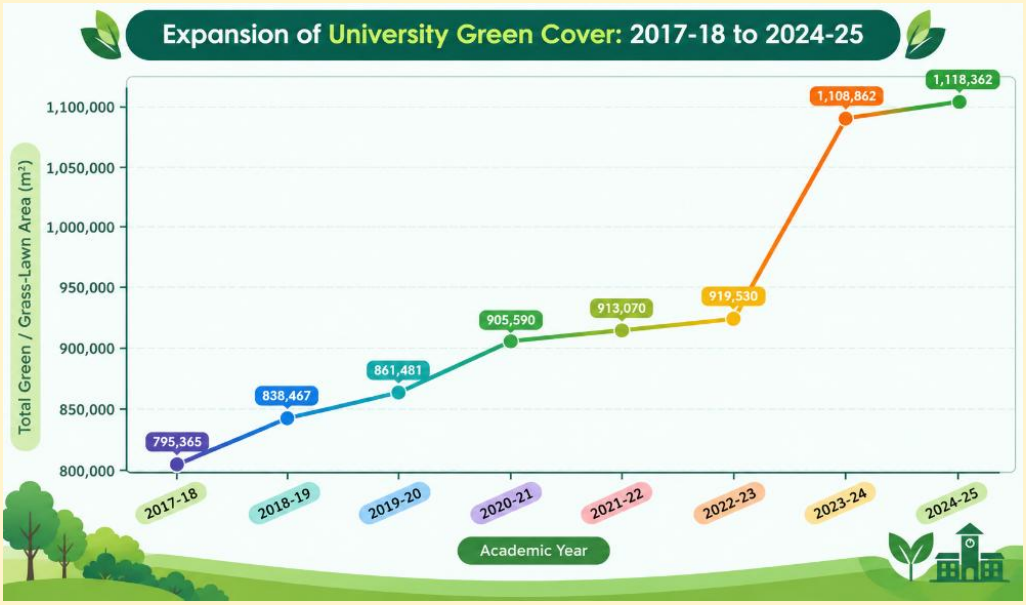


Figure 12: Expansion of University Green Cover: 2017-18 to 2024-25

Table 7: Year-wise Green Cover Area and Plant Species Diversity at SVSU (2017–18 to 2024–25)

S. No.	Year	No. of Fruit-bearing, Evergreen & Ornamental Trees	Hedge/ Shrub Area (sq. ft.)	Hedge/ Shrub Area (sq. m.)	Creeper/Ground Cover Area (sq. ft.)	Creeper/Ground Cover Area (sq. m.)	Grass Lawn Area (sq. ft.)	Grass Lawn Area (sq. m.)	Total Area (sq. ft.)	Total Area (sq. m.)	Estimated No. of Species
1	2017–18	4,415	66,696	6,199	11,895	1,105	716,774	66,615	795,365	73,918.6803	15
2	2018–19	5,230	73,365	6,818	12,489.75	1,160	752,612.7	69,945	838,467.45	77,924.4842	18
3	2019–20	6,425	80,702	7,500	13,114.2375	1,220	767,664.954	71,344	861,481.1915	80,063.30776	20
4	2020–21	10,400	85,772	7,971	13,769.94938	1,280	806,048.2017	74,911	905,590.1511	84,162.65345	25
5	2021–22	13,060	88,345.16	8,211	14,183.04786	1,318	810,542	75,329.1822	913,070.2079	84,857.82601	40
6	2022–23	15,801	89,149	8,285	14,281	1,327	816,100	75,845.7249	919,530	85,458.17844	60
7	2023–24	19,975	118,541	11,016.8	15,321	1,424	975,000	90,613.3829	1,108,862	103,054.0892	75
8	2024–25	21,719	124,541	11,574	15,821	1,470.35	978,000	90,892.2	1,118,362	103,937	79

5. National Bag Day – Promotion of Paper Bags

The University observed National Bag Day to promote the use of eco-friendly paper bags as an alternative to single-use plastic bags. The initiative created awareness among students and staff about reducing plastic consumption and adopting sustainable alternatives. By encouraging reusable and paper-based bags, the activity contributes to waste reduction, reduced environmental impact, and the University's efforts towards carbon and emission reduction.



Figure 13: National Bag Day awareness banner promoting the use of paper bags as an alternative to plastic bags.

6. Biogas-Based Carbon Reduction Initiative

The University has a biogas plant for the conversion of organic waste into biogas, providing a cleaner and more sustainable source of energy. This initiative supports waste-to-energy practices, reduces dependence on conventional fossil fuels, and helps minimize associated greenhouse gas emissions. Thus, the biogas plant contributes to the University's efforts towards carbon and emission reduction.



Figure 14A: University Biogas Plant for Sustainable Waste-to-Energy Generation



Figure 14B: University Biogas Plant for Sustainable Waste-to-Energy Generation



Figure 14C: University Biogas Plant for Sustainable Waste-to-Energy Generation

7. Battery-Operated Vehicles for Emission Reduction

The University promotes the use of battery-operated vehicles within the campus to reduce dependence on conventional fuel-based transportation. These vehicles help reduce direct vehicular emissions and support cleaner and more sustainable mobility, contributing to the University's efforts towards carbon and emission reduction



Figure 15A: Battery-operated vehicles promoting clean and low-emission transportation on the University campus.



Figure 15B: Battery-operated vehicles promoting clean and low-emission transportation on the University campus.



Figure 15C: Battery-operated vehicles promoting clean and low-emission transportation on the University campus.

8. **World Environment Day Campaign: Community Tree Plantation for Carbon Reduction**

On 5 June 2024, Bhikaji Cama Subharti College of Hotel Management, SVSU, organized a World Environment Day Campaign at Kalanjari Village, Jani Khurd, Meerut, focusing on environmental conservation and carbon-footprint reduction. The campaign involved students,

faculty members, school students, and local villagers in awareness sessions and a community-based tree plantation drive. As part of the initiative, more than 100 saplings of mango, neem and banyan trees were planted to enhance green cover, support ecological balance and contribute to the reduction of carbon footprints through increased vegetation. The campaign also promoted responsible environmental practices, including waste reduction, water conservation and protection of natural resources. The initiative demonstrates the University's efforts towards carbon reduction, environmental conservation and strengthening local green cover through community participation.



Figure 16A: Community outreach and tree plantation drive conducted at Kalanjari Village, Meerut, promoting carbon reduction and environmental sustainability.



Figure 16B: Community outreach and tree plantation drive conducted at Kalanjari Village, Meerut, promoting carbon reduction and environmental sustainability.

9. Swachhata Hi Seva Campaign

The Swachhata Hi Seva Campaign promoted sustainable environmental practices through waste reduction, source-level waste segregation, recycling and zero-waste initiatives. The Green Campus activities also introduced participants to wastewater treatment and reuse, rainwater harvesting and renewable energy systems, including the solar panel-equipped parking facility. These practices contribute to reducing resource consumption, minimizing waste-related environmental impacts and supporting low-carbon campus operations. The awareness generated among students and faculty encouraged responsible resource use and sustainable practices that can contribute to long-term carbon and emission reduction.



Figure 17A: Promotion of Waste Reduction, Resource Conservation and Renewable Energy Practices for Carbon and Emission Reduction



Figure 17B: Promotion of Waste Reduction, Resource Conservation and Renewable Energy Practices for Carbon and Emission Reduction

10. **Educational Visits to Sewage Treatment Plant (STP) and Waste Management Facilities**

The university organized educational visits to the Sewage Treatment Plant (STP), Solid and Biomedical Waste Management Plant, Biogas Plant, Solar Panel-equipped Parking Facility, Garbage Segregation House and Rainwater Harvesting Systems to familiarize students with the institution's environmental sustainability and resource management practices. The STP facilitates the treatment and recycling of wastewater, thereby reducing environmental pollution and promoting sustainable resource utilization. The waste management facilities promote source segregation, recycling, scientific treatment and responsible disposal of solid and biomedical waste, reducing the environmental impacts associated with improper waste disposal.

A significant carbon-reduction component of the initiative was the Biogas Plant, which converts organic waste into renewable energy for cooking, thereby reducing dependence on conventional fuel sources. The solar-panel-equipped parking facility further demonstrates the use of renewable energy and supports the reduction of carbon emissions associated with conventional energy generation. Through integrated waste management, waste-to-energy practices and renewable energy utilization, the initiative contributes to the university's efforts towards reducing environmental impacts, resource consumption and carbon emissions and promoting a low-carbon campus.



Figure 18A: Educational Visit to STP, Waste Management Facility, Biogas Plant and Solar Energy Facility for Promoting Sustainable Resource Management and Carbon Reduction



Figure 18B: Educational Visit to STP, Waste Management Facility, Biogas Plant and Solar Energy Facility for Promoting Sustainable Resource Management and Carbon Reduction

7.2.4 Plan to Reduce Energy Consumption

Swami Vivekanand Subharti University, Meerut, is committed to reducing energy consumption through systematic energy management and sustainable campus initiatives. The University conducts energy, green, and environmental audits to identify opportunities for improving energy efficiency and promoting responsible resource utilization. Initiatives such as the continuation of Car-Free Day, limited vehicle access, battery-operated transportation, CNG-operated transport, pedestrian-friendly pathways, and cycling awareness encourage sustainable mobility and reduce dependence on conventional fuels. Furthermore, the implementation of solar power systems and the adoption and monitoring of GAIL natural gas support the use of alternative energy sources. Environmental awareness activities, green gardening, and campus sustainability measures further reinforce the University's commitment to energy conservation and the promotion of a cleaner, more sustainable campus in alignment with UN Sustainable Development Goal 7 (Affordable and Clean Energy).

Table 8: Initiatives Undertaken by Swami Vivekanand Subharti University to Reduce Energy Consumption under UN SDG 7.2.4 (Academic Year 2024–25)

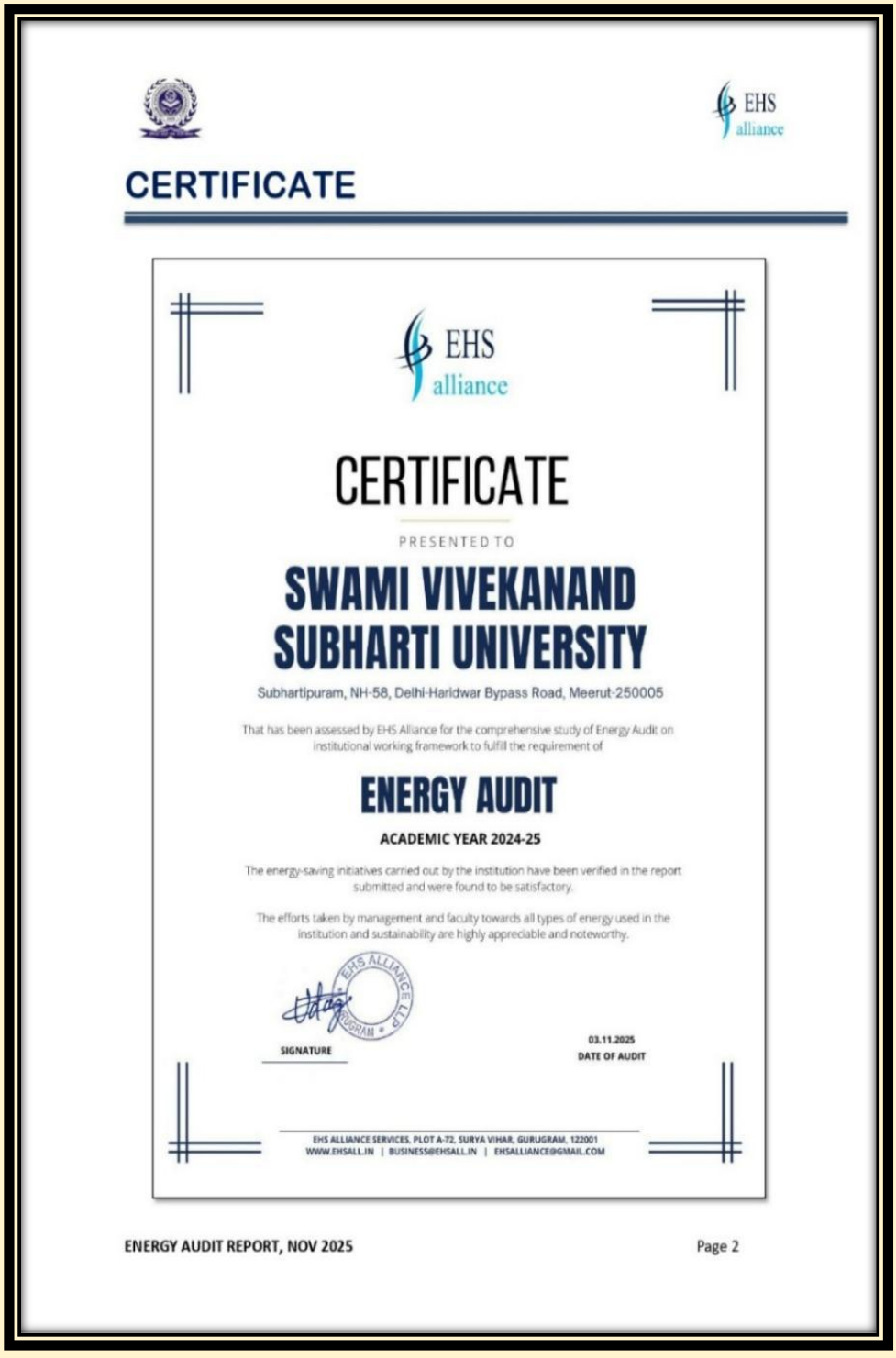
S. No.	Initiatives	Contribution to Energy Consumption Reduction
1	Energy Audit (2024–25)	Identifies energy consumption patterns and opportunities to improve energy efficiency.
2	Green Audit Conducted (2024–25)	Supports sustainable campus practices and promotes the efficient use of resources.
3	Environment Audit Conducted (2024–25)	Assesses environmental practices and identifies opportunities to reduce environmental impacts.
4	Crop Cafeteria and Green Gardening	Promotes green spaces and sustainable campus development.
5	World Environment Day Celebration	Creates awareness about environmental

		sustainability and responsible resource use.
6	World Bicycle Day Celebration	Encourages cycling as an energy-efficient and low-emission mode of transportation.
7	Limited Vehicle Access and Sustainable Transportation for Energy Conservation	Reduces unnecessary vehicle movement and fuel consumption on campus.
8	Policy Continuation of Car Free Day	Encourages reduced dependence on personal vehicles and promotes energy conservation.
9	Battery-Operated Transportation Service	Promotes electric mobility and reduces direct fossil-fuel consumption.
10	Pedestrian-Friendly Pathways	Encourages walking for short-distance travel within the campus, reducing vehicle use.
11	CNG-Operated Transport	Supports the use of an alternative fuel for transportation and helps reduce reliance on conventional fuels.
12	Implementation of Solar Power Systems	Utilizes renewable solar energy and reduces dependence on conventional electricity sources.
13	Adoption and Monitoring of GAIL Natural Gas	Supports the use and monitoring of natural gas as an alternative fuel for applicable campus operations.

1. **Energy Audit (2024–25)**

The University conducts periodic Energy Audits to evaluate energy consumption, assess the efficiency of existing systems, and identify opportunities for energy conservation. The Energy Audit (Academic Year 2024–25), conducted by EHS Alliance, verified the University's energy management practices and energy-saving initiatives. The audit provides recommendations for continuous improvement, supporting the University's efforts to reduce overall energy

consumption and enhance sustainable campus operations in alignment with UN SDG 7 – Affordable and Clean Energy**.**



CERTIFICATE

EHS alliance

CERTIFICATE

PRESENTED TO

SWAMI VIVEKANAND SUBHARTI UNIVERSITY

Subhartipuram, NH-58, Delhi-Haridwar Bypass Road, Meerut-250005

That has been assessed by EHS Alliance for the comprehensive study of Energy Audit on institutional working framework to fulfill the requirement of

ENERGY AUDIT

ACADEMIC YEAR 2024-25

The energy-saving initiatives carried out by the institution have been verified in the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards all types of energy used in the institution and sustainability are highly appreciable and noteworthy.

EHS ALLIANCE LLP GURUGRAM

SIGNATURE

03.11.2025
DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

ENERGY AUDIT REPORT, NOV 2025 Page 2

Figure 19: Certificate of Energy Audit: Academic Year 2024–25

2. Green Audit Conducted (2024–25)

The University successfully conducted the Green Audit for the academic year 2024–25, assessed by EHS Alliance Services. The audit involved a comprehensive evaluation of the university's environmental practices, focusing on energy conservation, waste management, water usage, and overall sustainability measures within the campus. The report findings were verified and found satisfactory, reflecting the institution's continuous commitment to maintaining an eco-friendly campus environment. The efforts of the management and faculty in promoting sustainable operations and environmental stewardship were recognized and appreciated as noteworthy by the audit team.



Figure 20: Certificate of Green Audit: Academic Year 2024–25

3. Environment Audit Conducted (2024–25)

The University successfully conducted the Environment Audit for the academic year 2024–25, carried out by EHS Alliance Services. The audit involved a comprehensive assessment of the university's environmental policies, legal compliance, and sustainable initiatives implemented across the campus. The findings confirmed that the institution's environmental management

practices were satisfactory and aligned with sustainability goals. The audit appreciated the proactive measures taken by the management and faculty in maintaining eco-friendly operations, reducing environmental impact, and promoting a green and sustainable learning environment.



Figure 21: Certificate of Environment Audit: Academic Year 2024–25

4. Crop Cafeteria and Green Gardening

The University has developed a Crop Cafeteria (Kitchen Garden) along with extensive green gardens, landscaped areas, and tree plantations as part of its commitment to sustainable campus development. The kitchen garden promotes the cultivation of fresh produce within the campus,

reducing transportation-related energy consumption while encouraging sustainable agricultural practices. Together, these initiatives contribute to energy conservation, improve environmental quality, support biodiversity, and strengthen the University's efforts towards sustainable resource management and reduce overall energy consumption.



Figure 22A: Sustainable Green Initiatives through Crop Cafeteria, Kitchen Garden, Landscaping and Tree Plantation at the University Campus



Figure 22B: Sustainable Green Initiatives through Crop Cafeteria, Kitchen Garden, Landscaping and Tree Plantation at the University Campus

5. World Environment Day Celebration

The University observes World Environment Day every year to promote environmental awareness and encourage responsible resource utilization among students, faculty, and staff. The celebration includes activities such as tree plantation drives, awareness campaigns, sustainability pledges, and educational programmes focusing on energy conservation, renewable energy, waste reduction, and environmental protection. These initiatives foster responsible energy-use practices and support the University's Energy Efficiency Plan by encouraging the campus community to adopt sustainable lifestyles that contribute to reducing overall energy consumption.



Figure 23: World Environment Day celebration promoting energy conservation and environmental sustainability.

6. World Bicycle Day Celebration

The University celebrates World Bicycle Day to encourage the use of bicycles as an environmentally friendly and energy-efficient mode of transportation within the campus. The initiative promotes sustainable mobility, reduces dependence on fuel-based vehicles, and encourages students and staff to adopt low-carbon commuting practices. By promoting non-motorized transportation, the University contributes to reducing energy consumption and greenhouse gas emissions while supporting its campus-wide Energy Efficiency Plan.



Figure 24A: World Bicycle Day celebration promoting sustainable mobility and low-carbon transportation on campus



Figure 2B4: World Bicycle Day celebration promoting sustainable mobility and low-carbon transportation on campus

7. Limited Vehicle Access and Sustainable Transportation for Energy Conservation

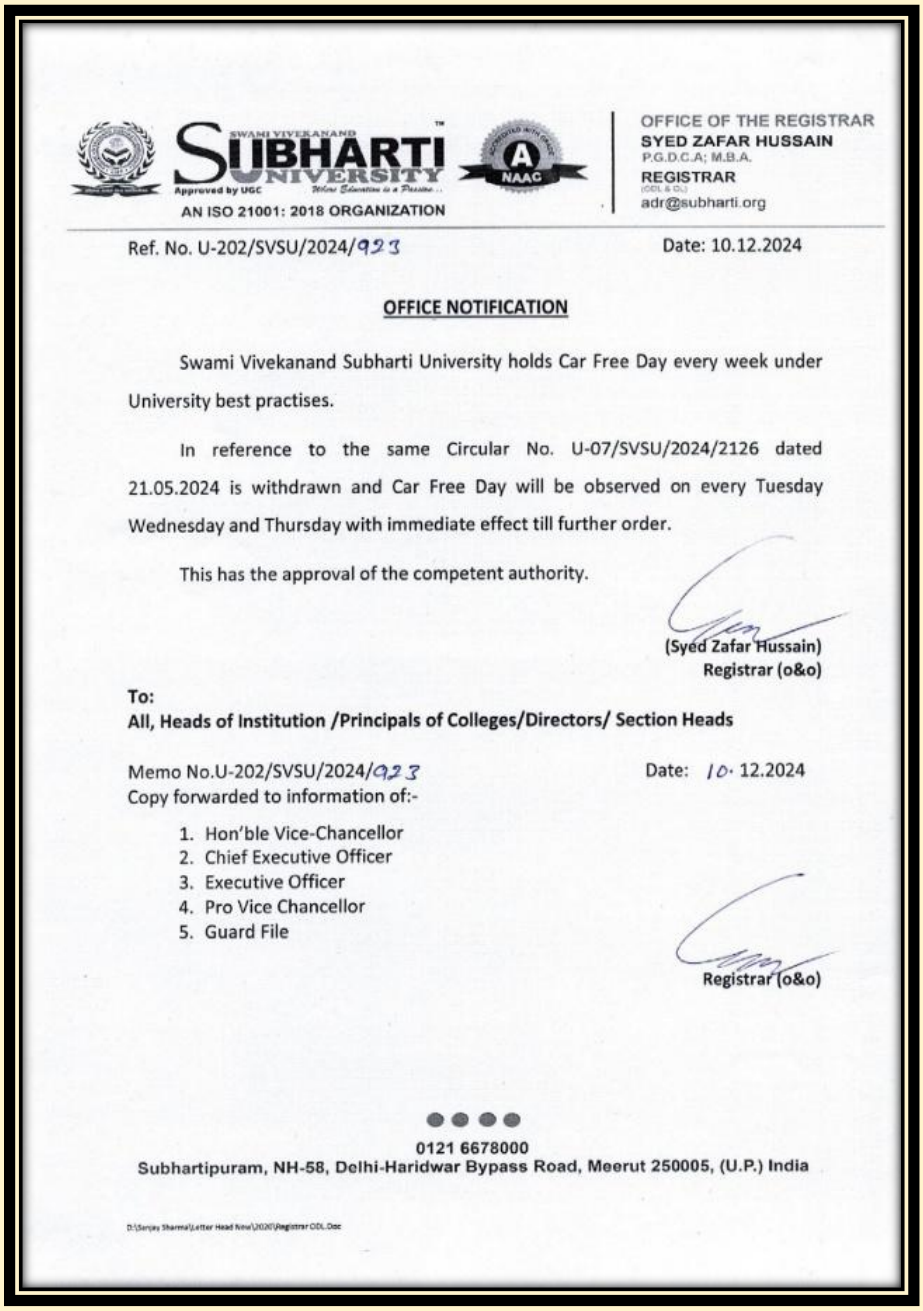
The University has implemented measures to reduce energy consumption and vehicular emissions by encouraging staff and students to use university transport instead of private vehicles for safety, security, fuel conservation, and pollution reduction. University vehicles are regularly checked for pollution by an authorized agency. Hostel students are encouraged to use bicycles for commuting between hostels and departments. The University also follows a “Car Free Day” every Tuesday and Wednesday, along with regulated vehicle access within the campus. These initiatives help reduce unnecessary fuel consumption and support the University's plan for energy conservation and emission reduction



Figure 25: Sustainable Mobility Practices Supporting Fuel Conservation and Reduction of Vehicular Emissions on Campus

8. Policy Continuation of Car Free Day

The university promotes energy conservation through the continuation of Car-Free Day, as outlined in the official notice. This initiative encourages faculty members, staff, and students to reduce the use of personal vehicles on designated days, thereby minimizing fuel consumption and associated carbon emissions. The initiative supports sustainable mobility, reduces dependence on fossil fuels, and contributes to the university’s commitment to energy efficiency and environmental sustainability.



SWAMI VIVEKANAND SUBHARTI UNIVERSITY
Approved by UGC
AN ISO 21001: 2018 ORGANIZATION
NAAC

OFFICE OF THE REGISTRAR
SYED ZAFAR HUSSAIN
P.G.D.C.A; M.B.A.
REGISTRAR
adr@subharti.org

Ref. No. U-202/SVSU/2024/923 Date: 10.12.2024

OFFICE NOTIFICATION

Swami Vivekanand Subharti University holds Car Free Day every week under University best practises.

In reference to the same Circular No. U-07/SVSU/2024/2126 dated 21.05.2024 is withdrawn and Car Free Day will be observed on every Tuesday Wednesday and Thursday with immediate effect till further order.

This has the approval of the competent authority.

(Syed Zafar Hussain)
Registrar (o&o)

To:
All, Heads of Institution /Principals of Colleges/Directors/ Section Heads

Memo No.U-202/SVSU/2024/923 Date: 10. 12.2024
Copy forwarded to information of:-

1. Hon'ble Vice-Chancellor
2. Chief Executive Officer
3. Executive Officer
4. Pro Vice Chancellor
5. Guard File

Registrar (o&o)

0121 6678000
Subhartipuram, NH-58, Delhi-Haridwar Bypass Road, Meerut 250005, (U.P.) India

D:\Sanjay Sharma\Letter Head New\2024\Registrar ODL.Doc

Figure 26: Car-Free Day Notice Promoting Sustainable Transportation and Emission Reduction.

9. Battery-Operated Transportation Service

The University promotes sustainable campus transportation through the use of battery-operated vehicles for internal mobility. These vehicles reduce dependence on conventional fuel-powered

transportation, improve energy efficiency, and support the University's efforts to minimize overall energy consumption. By encouraging cleaner and more efficient modes of transport, the University strengthens its Energy Efficiency Plan while promoting a sustainable and environmentally responsible campus.



Figure 27: Battery-operated vehicles used for internal campus transportation to promote energy-efficient mobility and reduce dependence on conventional fossil fuels.

10. Pedestrian Friendly Pathways

The University has developed pedestrian-friendly pathways across the campus to encourage walking as a safe, convenient, and sustainable mode of transportation. Well-planned walkways connecting academic buildings, hostels, healthcare facilities, and other campus amenities reduce the need for motorized transportation for short-distance travel. By promoting walking, the University minimizes energy consumption associated with internal transportation, supports sustainable mobility, and contributes to the objectives of its Energy Efficiency Plan.



Figure 28: Pedestrian-friendly pathways developed across the campus to encourage walking, reduce dependence on motorized transportation, and support the University's Energy Efficiency Plan.

11. CNG-Operated Transport

The University promotes sustainable and energy-efficient transportation through the use of CNG-operated vehicles for institutional mobility. The adoption of Compressed Natural Gas (CNG) as an alternative fuel helps reduce dependence on conventional petrol and diesel, lowers fuel consumption, and minimizes greenhouse gas emissions. By integrating cleaner transportation into its campus operations, the University supports its Energy Efficiency Plan, reduces the overall energy demand associated with transportation, and contributes to a cleaner and more sustainable campus environment.



Figure 29: CNG-Operated University Bus Promoting Energy-Efficient and Sustainable Transportation

12. Implementation of Solar Power Systems

The University has implemented solar power systems across the campus as part of its Energy Efficiency Plan to reduce overall energy consumption and dependence on conventional grid electricity. The generation and utilization of clean, renewable solar energy help meet a portion of the University's daily electricity requirements, reduce operational energy demand, and promote sustainable energy management. This initiative reflects the University's commitment to improving energy efficiency and supporting environmentally responsible campus operations.



Figure 30: **Solar power systems installed across the campus to generate clean energy, reduce dependence on conventional electricity, and support the University's Energy Efficiency Plan.**

13. Adoption and Monitoring of GAIL Natural Gas

The University has adopted GAIL Natural Gas (PNG) as a cleaner and energy-efficient fuel for institutional operations in Bhawans (Building):

- *Ambedkar Bhawan*
- *Raja Ram Mohan Rai Bhawan*
- *Mahaveer Bhawan*
- *Narayan Guru Bhawan*
- *Shraddha Nand Bhawan*
- *Sant Ravi Das Bhawan*
- *Ramanand Bhawan*
- *Swami Ram Tirth Bhawan*
- *Sant Kabir Das Bhawan*

The use of PNG helps reduce dependence on conventional fuels and promotes efficient and sustainable energy utilization. PNG consumption is systematically monitored through gas bills, meter readings, and consumption records to track usage and identify opportunities for minimizing unnecessary consumption and wastage. This initiative supports responsible energy management and contributes to the University's Energy Efficiency Plan



Figure 31: GAIL Natural Gas metering system demonstrating the University's adoption of cleaner fuel for sustainable and energy-efficient campus operations.

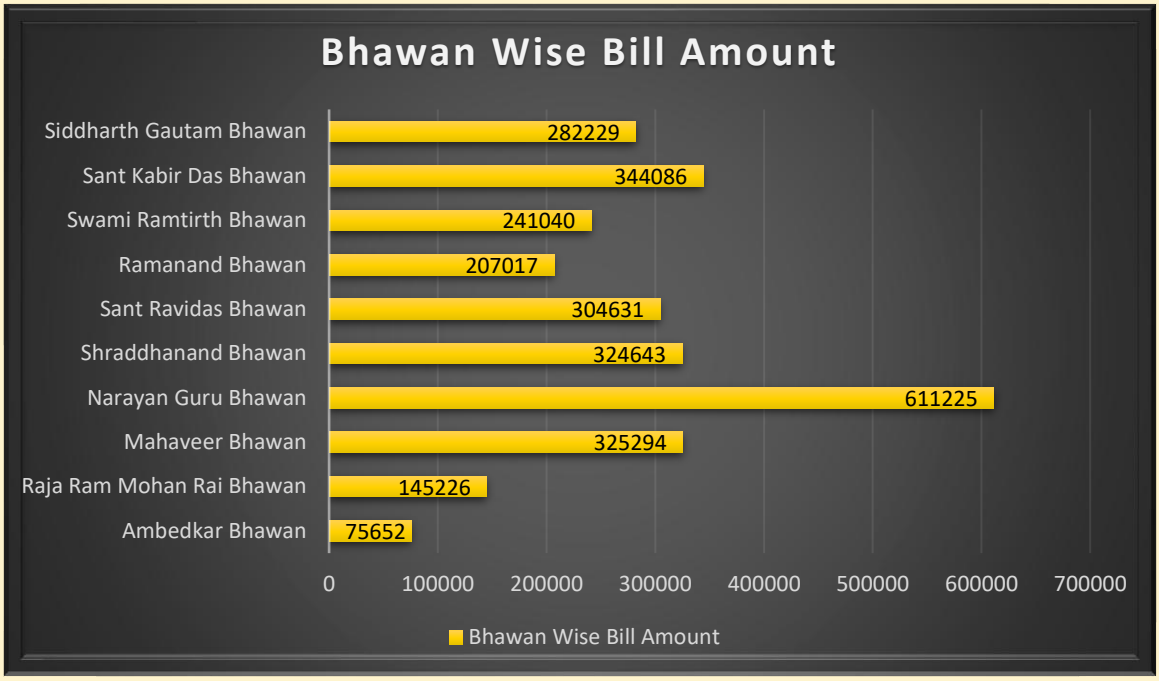


Figure 32. Bhawan-wise electricity bill analysis for monitoring and planning energy consumption reduction.

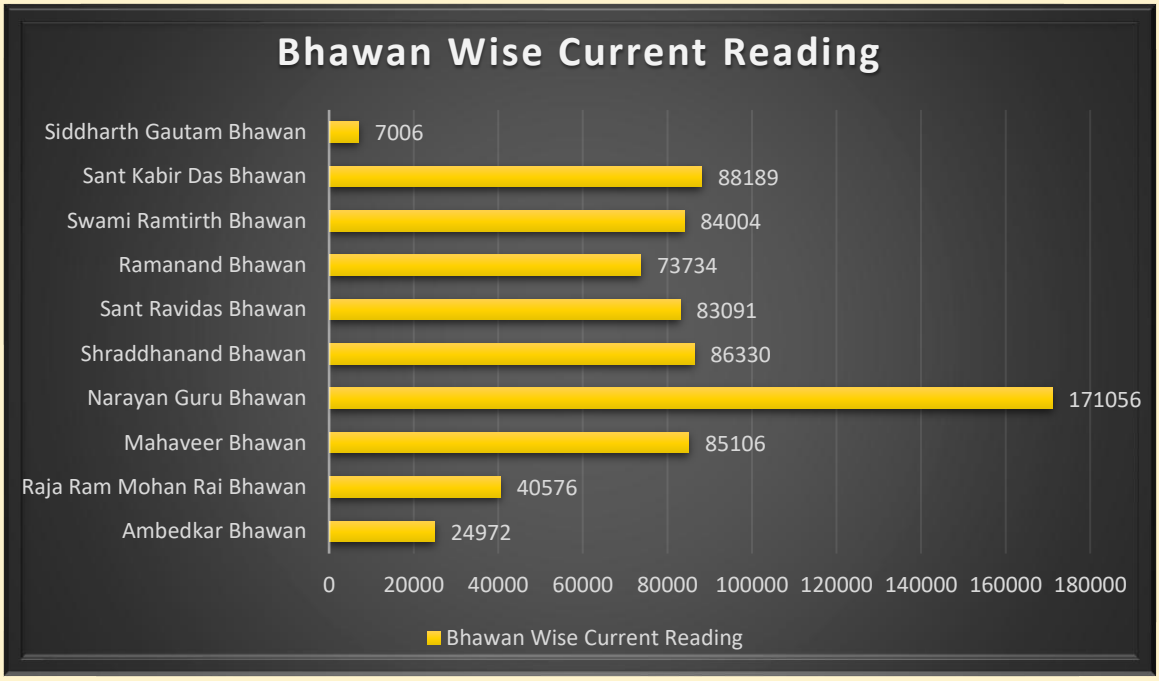
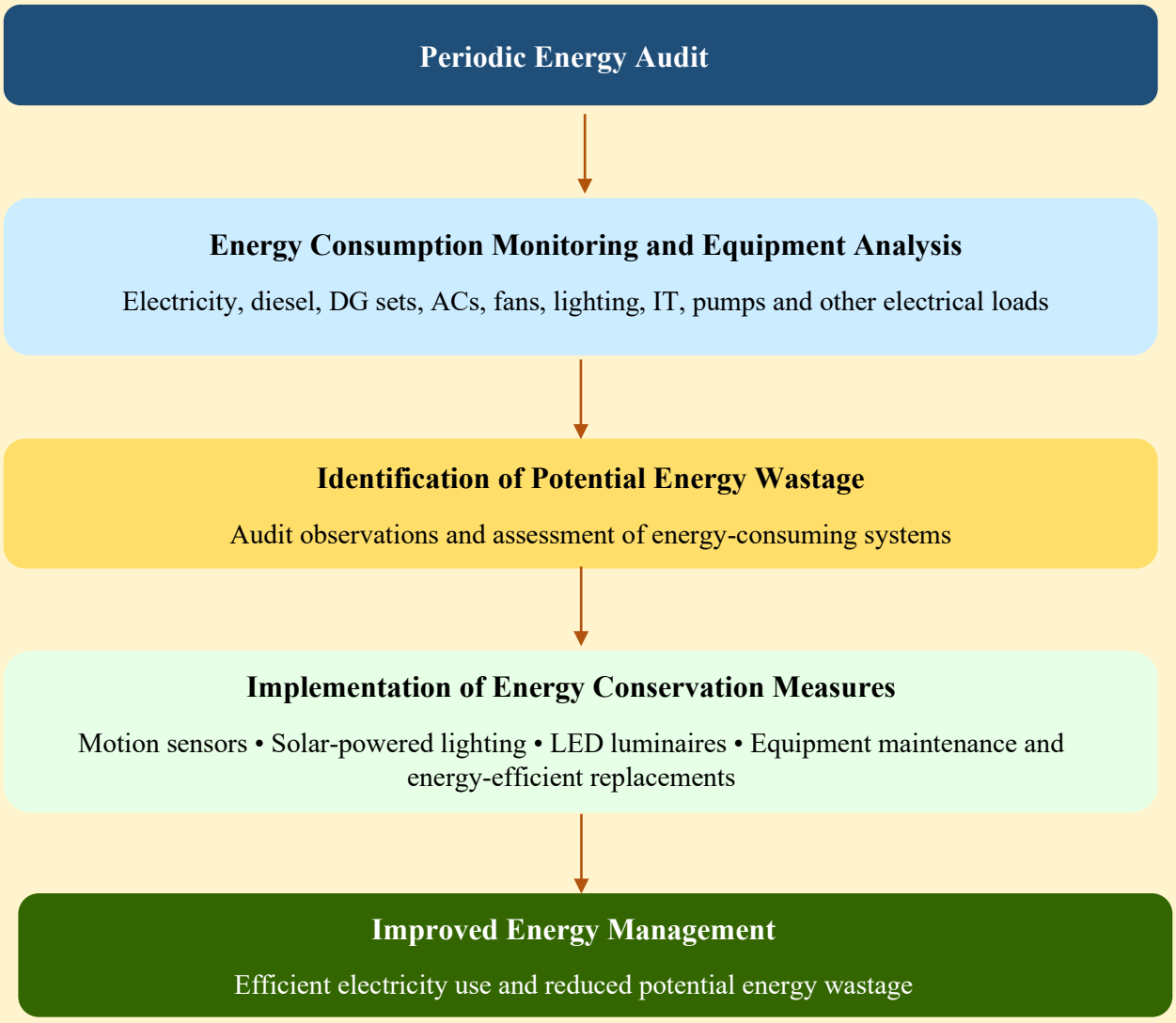


Figure 33. Bhawan-wise electricity consumption readings for energy monitoring and management.

7.2.5 University Energy Audit for Identifying Energy-Wastage Hotspots

The University has established a systematic process for identifying energy wastage across the campus through periodic Energy Audits and regular inspections of electrical infrastructure and energy-consuming equipment. The audits evaluate the efficiency of lighting systems, electrical distribution networks, ventilation equipment, and major energy-consuming installations to identify areas of unnecessary energy consumption. Based on the audit findings, recommendations are made to improve operational efficiency, minimize energy losses, and strengthen the University's energy management practices.

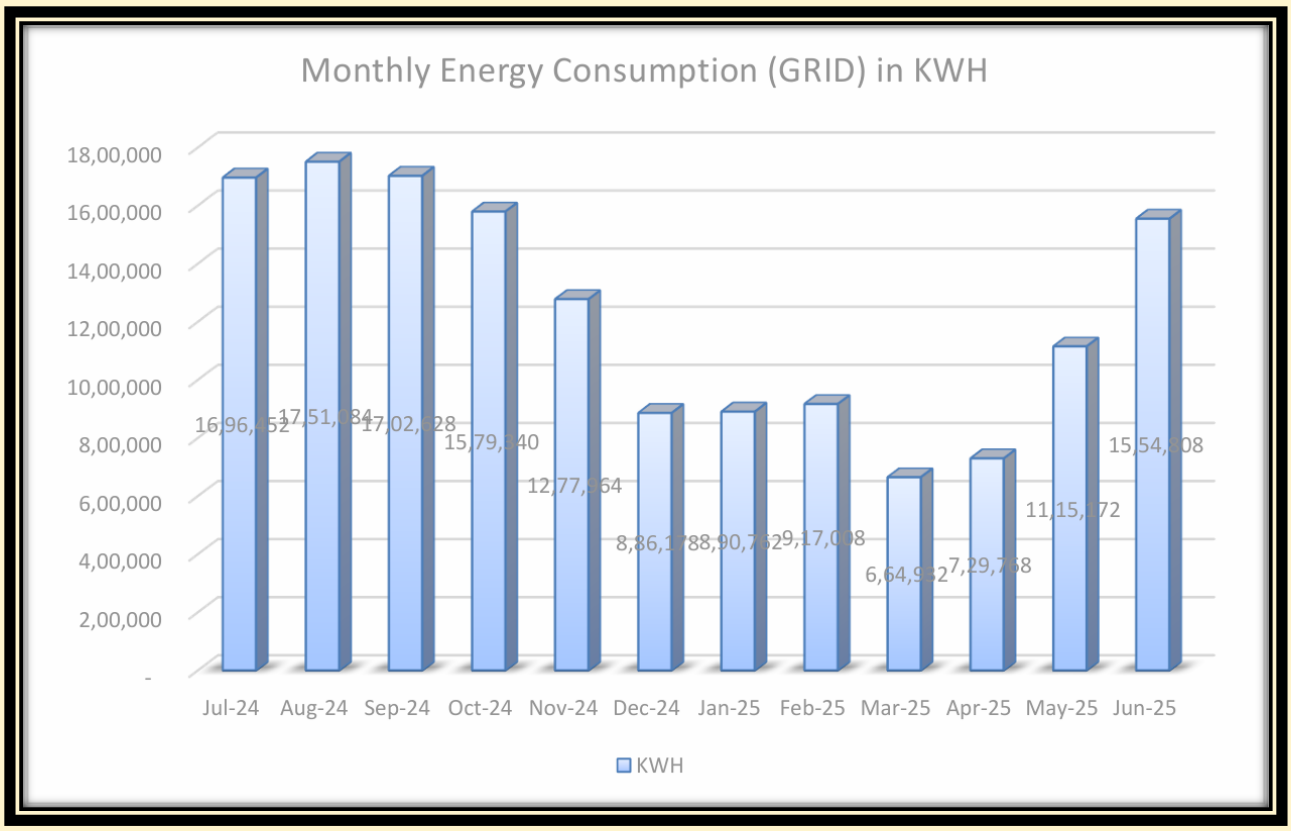


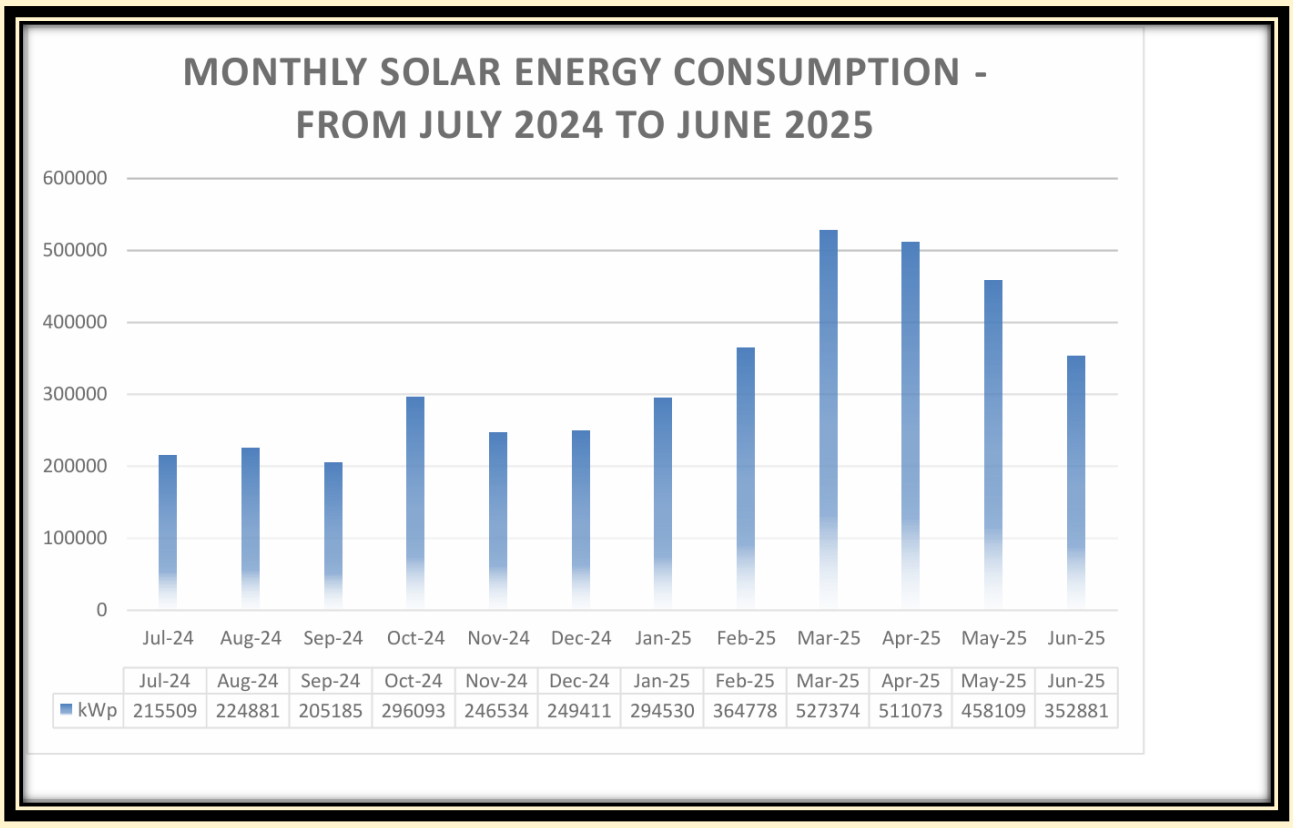
Monthly Electricity Consumption Monitoring for Identification of Energy Wastage

The University systematically monitors its monthly electricity consumption to understand energy-use trends and identify areas of excessive or unnecessary energy consumption. Monthly electricity bills and consumption data for the 12-month period from July 2024 to June 2025 have been compiled and analysed to establish the energy consumption baseline. The records include monthly grid electricity consumption, solar generation/export data, and corresponding electricity billing amounts. Regular monitoring of these consumption patterns enables the University to identify variations, unusually high consumption, and potential areas of energy wastage, thereby supporting corrective measures and efficient energy management. This systematic monitoring contributes to the University's efforts towards energy conservation under UN SDG 7.2.5 - Energy Wastage Identification.

Table 9: Monthly Electricity Consumption and Total Bill Amount from July 2024 to June 2025

Month	Grid Units	Amount	Solar Units	Export kWh	Amount
Jul-24	1,696,452	10.00	215509	0	16,964,520.00
Aug-24	1,751,084	10.00	224881	0	17,510,840.00
Sep-24	1,702,628	10.00	205185	0	17,026,280.00
Oct-24	1,579,340	10.00	296093	0	15,793,400.00
Nov-24	1,277,964	10.00	246534	0	12,779,640.00
Dec-24	886,178	10.00	249411	0	8,861,776.00
Jan-25	890,762	10.00	294530	0	8,907,624.00
Feb-25	917,008	10.00	364778	0	9,170,080.00
Mar-25	664,932	10.00	527374	0	6,649,320.00
Apr-25	729,768	10.00	511073	0	7,297,680.00
May-25	1,115,172	10.00	458109	0	11,151,720.00
Jun-25	1,554,808	10.00	352881	0	15,548,080.00
SUM	**14,766,096.00**		**3,946,359**	**-**	**147,660,960.00**





	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25
kWp	215509	224881	205185	296093	246534	249411	294530	364778	527374	511073	458109	352881

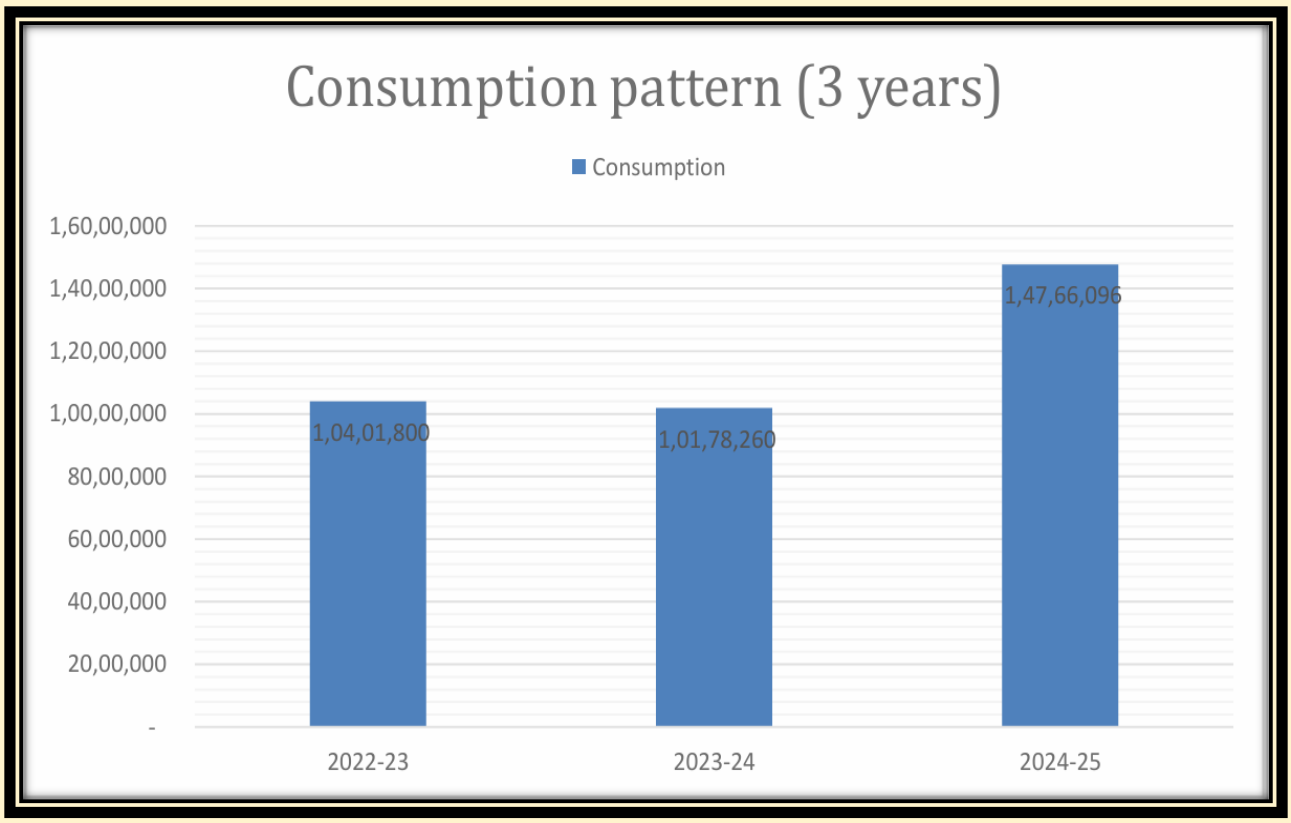


Figure 34: Comparative Analysis of Electricity Consumption for the Years 2022–23 to 2024–25

Diesel Consumption Monitoring

"The University systematically monitors diesel consumption to assess fuel-use patterns and identify variations in energy consumption associated with institutional transportation and other operations. The University recorded a total diesel consumption of 310,093 litres during the period from July 2024 to June 2025, with monthly consumption records maintained throughout the year. Analysis of month-wise diesel consumption helps identify periods of relatively high fuel usage and provides a basis for monitoring excessive consumption and improving fuel efficiency. Such systematic monitoring supports the identification of potential energy wastage and facilitates appropriate measures for reducing unnecessary fuel consumption

Table 10: Month-wise Diesel Consumption from July 2024 to June 2025

Month	Diesel (Liters)
Jul-24	28,769
Aug-24	44,987
Sep-24	32,201
Oct-24	25,967
Nov-24	19,021
Dec-24	20,022
Jan-25	18,090
Feb-25	16,949
Mar-25	12,882
Apr-25	28,565
May-25	38,399
Jun-25	24,241
Total	**3,10,093**

Analysis of DG Sets

The University has multiple Diesel Generator (DG) sets installed across various campus facilities, including Hotel Management, Mangalam, Auditorium, Medical and other institutional buildings, to provide backup electricity during grid power failures. The total installed capacity of the DG sets across the campus is 8,765 kVA, with individual DG sets having rated capacities ranging from 125 kVA to 1,500 kVA. The University maintains technical and performance-related details of these DG sets, including rated capacity, operating voltage, power factor, phase, RPM, current, make, and serial numbers. Systematic monitoring of DG set capacity and operational performance enables the University to assess backup power requirements, optimize the utilization of DG sets, and identify potential inefficiencies or unnecessary fuel and energy consumption. This systematic assessment supports efficient energy management and contributes to the University's efforts towards identification and reduction of potential energy wastage under Energy Wastage Identification.

Table 11: Technical Specifications and Performance Details of DG Sets Installed on the University Campus

DG Set Performance		Dental		Hospital	
Description	Unit	DG Station -1		DG Station -2	
Design details:					
Rated capacity	kVA	500 KVA	500 KVA	1500 KVA	810 KVA
Hz		50 Hz	50 Hz	50 Hz	50 Hz
Sl No.				N12K485827	N10J19297
Make		Kriloskar	Cummins	Cummins	Cummins
Volts	Volts	440 V	440 V	440 V	440 V
PF		0.85	0.85	0.85	0.85
Phase		3 Phase	3 Phase	3 Phase	3 Phase
RPM		High Speed	High Speed	High Speed 1500	1500
Amps	Amps	650A	650A	2086.8 A	1113 A

DG Set Performance	Hotel Management			Mangalam Auditorium		Medical	
Description	DG Station -3			DG Station -4		DG Station -5	
Rated capacity	1250 KVA	1250 KVA	1250 KVA	1010 KVA	320 KVA	250 KVA	125 KVA
Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Sl No.	CIK-14020650						
Make	Cummins	Cummins	Cummins	Cummins	Cummins	Cummins	Kirloskar
Volts	440 V	440 V	440 V	440 V	440 V	440 V	440 V
PF	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Phase	3 Phase	3 Phase	3 Phase	3 Phase	3 Phase	3 Phase	3 Phase
RPM	1500	1500	1500	High Speed	High Speed	High Speed	High Speed
Amps	1739 A	1739 A	1739 A	1300 A	400 A	325 A	150 A
Mfg.							

Analysis of Air-Conditioning (AC) Systems

The University has installed Split and Window Air-Conditioning (AC) systems of different capacities across various locations on the campus. The University maintains an inventory of AC systems, including their location/identification, type, quantity, and cooling capacity of 1 Ton, 1.5 Ton and 2 Ton. Maintaining location-wise and capacity-wise records enables the University to

monitor the deployment and utilization of AC systems and identify areas with a relatively high concentration of cooling equipment. Such systematic inventory and monitoring provide a basis for assessing energy-use patterns and taking appropriate measures to avoid unnecessary operation and potential energy wastage. This supports the University's efforts towards efficient energy management under UN SDG 7.2.5 – Energy Wastage Identification

Table 12: Capacity Details of Split and Window AC Systems

AC	QTY	1 Ton	1.5 Ton	2 Ton
Split	492	327	910	330
Window	1076			
Total	1568			

Analysis of Fans and Energy-Saving Potential

The University has undertaken an assessment of the fans installed across various academic, administrative and residential facilities to evaluate their energy consumption and identify potential energy-saving opportunities. The University has 11,115 fans, comprising 10,512 ceiling fans, 515 bracket fans and 88 pedestal fans. The assessment indicates that replacement of existing 60W ceiling fans with BEE 5-Star rated 30W fans can reduce the connected load by approximately 3,15,360 watts, based on the reported assessment. Considering the specified operating hours and days, the assessment estimates annual electricity-cost savings of Rs. 45,41,184, with a reported payback period of 4.63 years. This quantified assessment helps identify energy-saving potential associated with existing electrical appliances and supports measures for reducing unnecessary energy consumption under Energy Wastage Identification.

Table 13: Location-wise Inventory and Energy-Saving Analysis of Fans Installed Across the University Campus

Sl. No.	Location/ Identification	60W Ceiling Fan	45W Bracket Fan	60W Pedestal Fan
1	Dental College	702	40	8
2	Management College	740	35	6
3	Engineering College	750	31	5
4	Law College & Monglaya Auditorium	810	31	7
5	Fine Arts College	775	30	6
6	Polytechnic College	750	34	5
7	BCA College	600	35	6
8	Buddhist College	575	32	5
9	Rani Chninimya Girl's Hostel	640	33	4
10	Bhagwati Nivedia Girl's Hostel	525	31	5
11	Rani Gurgawati Girl's Hostel	600	31	4
12	Begam Hazrat Girl's Hostel	550	32	6
13	Savitri BaiGirl's Hostel	650	34	5
14	Sangha Boy's Hostel	680	28	7
15	Madan Lal Dhingra Boy's Hostel	550	31	5
16	Veer Hakikat Rai Boy's Hostel	615	27	4
	TOTAL	**10512**	**515**	**88**

Table 14: Estimated Energy and Cost Savings through Replacement of Existing Ceiling Fans with BEE 5-Star Rated Fans

Total no of Ceiling Fans (60W)	=	10,512	Nos.
Total wattage of 60W Ceiling Fans	=	6,30,720	Watt
Total wattage of BEE 5 Star rated Fans (30W)	=	3,15,360	Watt
Total saving in Wattage after replacement	=	3,15,360	Watt
Operating hours per day	=	8	Hours
Operating days per annum	=	180	Days
Energy charges per unit in Rs.	=	10	INR
Saving in Rs./annum	=	45,41,184	INR
Investment INR		2,10,24,000	INR
Payback period: - Months		**4.63**	**Years**

Analysis of Lighting System

The University has undertaken a systematic assessment of its campus lighting system to evaluate lighting requirements and identify opportunities for efficient energy utilization. An inventory of the installed lighting systems has been prepared, comprising 11,890 units of 20W LED tube lights and 250 units of 100W LED streetlights across various academic, administrative and residential facilities. In addition, lux-level measurements have been carried out at the working level using a lux meter across classrooms, offices, corridors, washrooms and outdoor areas. The recorded illumination levels range from 120–235 lux in classrooms, 130–240 lux in offices, 35–90 lux in corridors, 45–76 lux in washrooms and 36–95 lux in outdoor areas, with the assessed levels reported as acceptable. This systematic inventory and illumination assessment provides a basis for identifying areas of excessive or inadequate lighting and supports appropriate measures for efficient lighting operation and reduction of potential energy wastage.

Table 15: Inventory of LED Lighting Systems Installed Across Various University Facilities

Sl. No.	Location/ Identification	20W LED Tube Light	100W Street Light (LED)
1	Dental College	750	20
2	Management College	900	14
3	Engineering College	740	15
4	Law College & Monglaya Auditorium	880	18
5	Fine Arts College	830	16
6	Polytechnic College	800	17
7	BCA College	665	14
8	Buddhist College	800	16
9	Rani Chninimya Girl's Hostel	725	17
10	Bhagwati Nivedia Girl's Hostel	590	14
11	Rani Gurgawati Girl's Hostel	675	13
12	Begam Hazrat Girl's Hostel	630	16
13	Savitri BaiGirl's Hostel	780	17
14	Sangha Boy's Hostel	790	15
15	Madan Lal Dhingra Boy's Hostel	620	14
16	Veer Hakikat Rai Boy's Hostel	715	14
	TOTAL	11890	250

Table 16: Lux-Level Measurement and Assessment of Lighting at Different Campus Locations

Description	Lux	Remark
Class Rooms	120 to 235	Acceptable
Offices	130 to 240	Acceptable
Corridors	35 to 90	Acceptable
Washrooms	45 to 76	Acceptable
Outdoor	36 to 95	Acceptable
Computer Lab	150 to 289	Acceptable
Parking area	45 to 94	Acceptable
Canteen	69 to 185	Acceptable

Analysis of IT Infrastructure and Power Consumption

The University has undertaken an inventory assessment of its IT infrastructure across various academic, administrative, library, hospital and residential facilities to understand the distribution of electricity-consuming electronic equipment. The inventory covers 777 office PCs, 392 departmental PCs and 770 laboratory PCs, with a total of 1,939 PCs, along with projectors, servers and printers/scanners installed at different locations. Location-wise documentation of these electrical and electronic devices provides a systematic basis for monitoring equipment deployment and assessing associated power consumption. The inventory also supports identification of areas with a higher concentration of electricity-consuming equipment, enabling the University to plan appropriate measures such as efficient utilization, switching off equipment when not in use and avoiding unnecessary energy consumption. Thus, the assessment serves as supporting evidence for the University's energy-management efforts under Energy Wastage Identification.

Table 17: Location-wise Inventory of IT Infrastructure and Electricity-Consuming Equipment

S/No	College Name	Office Pc Detalis	Pc Details Of Deptt	Lab Pc Detalis	Total Pc Details	Projector	Server	Printer/ Scanner
1	Faculty Of Science	5	24	61	90	20		12
2	Pharmacy College	4	8	10	22	2		6
3	Management College	4	11	40	55	14		8
4	Site College	9	44	175	228	21		12
5	Law College	11	6	25	42	13		7
6	Mass com	2	2	31	35	3		4
7	Polytechnic College	6	6	70	82	2		13
8	Fine Art College	14	14	60	88	4		10
9	Home Science	2	10		12	7		2
10	Buddhist Education	3	5		8	3		4
11	It Infotech	21			21	-	3	4
12	Political & Sociology	2	12	11	25	-		3
13	Distance Education	4	60		64	4	4	8
14	Ol	2	2		4	-		1
15	Fm Radio	5	2		7	-		1
16	Dental College	30	20		50	14		18
17	Nursing College	10	11	40	61	15		12
18	Physiotherapy	6	8		14	3		7
19	Naturopathy	8	30		38	4		5
20	Hotel Management	6	10	15	31	4		5
21	Paramedical	3	5	20	28	3		4
22	Medical College	13	52	14	79	14		15
23	Central Library	11		44	55	1		4
24	Exam Section	40			40	-		4
25	Account Section	62			62	-		8
26	Purchase	8			8	-		3
27	Transport	2			2	-		1
28	Maintenance	1			1	-		1
29	Construction	2			2	-		1
30	Security	2			2	-		1
31	Jim	1			1	-		-
32	Cctv Camera	5			5	-		-
33	Girsl Hostel	11			11	-		1
34	Boys Hostel	6			6	-		1
35	Legal	2			2	-		1
37	Electrical	1			1	-		1
38	Dispatch	1			1	-		1
39	Vc Office	15			15	1		1

40	Admin Block	15			15	-		8
41	Iqac	12			12	1		14
42	Ppd	7			7	-		2
43	President Office	6			6	-		3
44	Fire	1			1	-		1
45	Hospital	330			330	8	6	18
46	Cric	2	5	14	21	1		3
47	Dhillon Library	3	10	29	42	-		2
48	Defence Academy	7			7	-		
49	Foe	6	29	41	76	10		12
50	Library Science	5			5	1		8
51	Language Deptt.	6			6	1		2
52	Placement Cell	4			4	-		2
53	Polytechnic College	6	6	70	82	2		7
54	Disability	6			6	-		1
55	Security					-		1
56	Scholarship Deptt.	2			2	-		1
57	Isgr Deptt.	5			5	-		1
58	Admission Cell	14			14	-		6
	Total	**777**	**392**	**770**	**1939**	**176**	**13**	**282**

Analysis of Water Pumping System

The University has undertaken an assessment of the water pumping systems installed across the campus to evaluate their operational and energy-use characteristics. The assessment records the rated motor power, motor efficiency, pump type and other technical parameters of the installed water pumps. The identified pumps are monoblock type with a rated motor power of 33 HP and reported motor efficiency of 99%. Maintaining technical details of water pumping equipment provides a systematic basis for assessing their energy performance, monitoring their operation and identifying potential opportunities for reducing unnecessary energy consumption. This assessment therefore serves as supporting evidence for energy management and potential energy wastage identification.

Table 18: Technical Details and Energy-Efficiency Parameters of Water Pumping Systems

Sr. No.	Description	Unit	Pump No.-1	Pump No.-2
1	Rated Power of Motor	KW	33 HP	33 HP
2	Motor Eff.	%	99%	99%
3	Discharge Head	m		
4	Suction Head	m	8" Outlet	6" Outlet
5	Pump Type	Submersible/Monoblock/Centrifugal Etc.	Monoblock	Monoblock

Analysis of Other Electrical Loads

The University has undertaken an assessment of other electrical loads installed across various academic, administrative and residential facilities to monitor the distribution of energy-consuming equipment. The assessment includes 60W and 160W exhaust fans, 200W water coolers and 180W desert coolers, with location-wise inventories maintained across different campus facilities. The inventory records a total of 252 units of 60W exhaust fans, 360 units of 160W exhaust fans, 48 water coolers and 152 desert coolers. Such location-wise assessment of connected electrical loads helps in identifying areas with higher equipment concentration and provides a basis for monitoring unnecessary operation and potential energy wastage. The assessment therefore supports the University's energy-management initiatives.

*Table 19: Location-wise Inventory and Rated Power Details of Other Electrica*l Loads

Sl. No.	Location/ Identification	60W Exaust Fan	160W Exaust Fan	200W Water Cooler	180W Desert Cooler
1	Dental College	32	40	3	10
2	Management College	30	38	2	6
3	Engineering College	26	30	4	12
4	Law College & Monglaya Auditorium	20	28	3	10
5	Fine Arts College	19	29	2	7
6	Polytechnic College	18	26	4	13
7	BCA College	22	30	4	12
8	Buddhist College	19	27	3	10
9	Rani Chninimya Girl's Hostel	6	14	2	6
10	Bhagwati Nivedia Girl's Hostel	8	12	3	10
11	Rani Gurgawati Girl's Hostel	10	16	2	7
12	Begam Hazrat Girl's Hostel	9	13	4	12
13	Savitri BaiGirl's Hostel	9	17	3	9
14	Sangha Boy's Hostel	7	12	4	12
15	Madan Lal Dhingra Boy's Hostel	9	15	3	9
16	Veer Hakikat Rai Boy's Hostel	8	13	2	7
	TOTAL	**252**	**360**	**48**	**152**

Analysis of Capacitor Bank System

The University has installed capacitor banks at various electrical installations, including Dental DG Sets, Hospital DG Sets, SPICE Canteen, Media and Chiller Plant, to support effective reactive power management and improve the efficiency of the electrical system. The installed capacitor banks have capacities ranging from 200 KVAR to 320 KVAR, depending on the connected electrical installation. Maintaining details of capacitor bank capacity provides a basis for monitoring power factor management and efficient utilization of electrical power. Such measures help in minimizing avoidable electrical losses associated with poor power factor and support the identification and reduction of potential energy wastage. Therefore, the capacitor

bank assessment can be included as supporting evidence under UN SDG 7.2.5 – Energy Wastage Identification.

Table 20: Location-wise Details and Capacity of Capacitor Banks Installed Across the University

Sl. No.	Location/ Identification	Capacity in KVAR
1	Dental D. G. Set 1000 KVA	320 KVAR
2	Dental D. G. Set 630 KVA	200 KVAR
3	Hospital D. G. Set 1000 KVA	320 KVAR
4	Hospital D. G. Set 1000 KVA	320 KVAR
5	Hospital D. G. Set 630 KVA	200 KVAR
6	SPICE Canteen 630 KVA	200 KVAR
7	Media 400 KVA	200 KVAR
8	Chiller Plant 1000 KVA	320 KVAR
9	Chiller Plant 1000 KVA	320 KVAR
10	Chiller Plant 1000 KVA	320 KVAR

Inspection of Electrical Infrastructure - The University's electrical infrastructure, including Low Tension (LT) Panels and the Single Line Diagram (SLD), is periodically inspected to identify energy losses, load distribution issues, and operational inefficiencies. These inspections support effective energy management by ensuring safe, reliable, and efficient operation of the campus electrical distribution system.



Figure 35: Inspection of LT Panels and Single Line Diagram (SLD) for Efficient Energy Management.

7.2.6 Divestment Policy

Institutional Commitment and Initiatives Towards Divestment Policy for Sustainable and Responsible Investment

Swami Vivekanand Subharti University is committed to responsible and sustainable financial practices in alignment with SDG 7 – Affordable and Clean Energy. Through its Policy on Divestment from Carbon-Intensive Energy Industries (Coal & Oil), the University promotes responsible investment decisions that minimize exposure to environmentally harmful and fossil-fuel-intensive activities, wherever feasible. The policy encourages consideration of energy efficiency, renewable energy, clean technologies and environmental sustainability in relevant financial decisions.

In line with this commitment, during the Academic Year 2024–25, the University undertook significant investments in renewable energy infrastructure and emission-control technologies. These include an investment of ₹6,16,30,800 in a 1,667.5 kWp On-Grid Solar Rooftop System supplied by Chakr Innovation Private Limited and ₹1,20,33,832.50 towards the procurement of nine Chakr Shield 2.0 Retrofitted Emission Control Devices (RECD) for diesel generator sets.

The combined investment of ₹7,36,64,632.50 reflects the University's efforts to promote clean energy adoption, support emission-control measures and strengthen environmentally responsible infrastructure. Through periodic review of its financial practices and continued support for sustainable technologies, the University aims to reduce environmental and climate-related risks and contribute to a low-carbon and sustainable future.

SWAMI VIVEKANAND SUBHARTI UNIVERSITY™

Approved by UGC

Where Education is a Passion...

Policy on Divestment from Carbon-Intensive Energy Industries (Coal & Oil)

Policy on Divestment from Carbon-Intensive Energy Industries (Coal & Oil)

SI. No.	Particulars	Description
1	Policy Number	U-07/SVSU/2024/829
2	Policy Structure	The policy is designed to guide the University in phasing out financial or operational associations with carbon-intensive energy industries, including those involved in coal, oil, and non-renewable fossil fuels. It ensures that investments, partnerships, and procurement decisions are aligned with the University's commitment to sustainability, renewable energy promotion, and carbon neutrality goals. The policy establishes a transparent framework for ethical investment practices, encouraging funds and collaborations that support green technologies, clean energy, and sustainable development initiatives. Clear procedures are outlined for the evaluation, approval, and monitoring of institutional financial activities to ensure compliance with environmental and ethical standards.
3	Scope of the Policy	This policy applies to all financial investments, funding partnerships, procurement decisions, and institutional collaborations undertaken by the University. It covers all departments, administrative units, and constituent institutions to ensure that no direct or indirect association exists with carbon-intensive energy sectors such as coal, oil, and non-renewable fossil fuels. The policy extends to promoting responsible investment practices, supporting renewable energy projects, and aligning all University activities with its sustainability and carbon neutrality commitments.
4	Policy Status	Original
5	Originated By	IQAC
6	Reviewed By	Environment Committee and Registrar
7	Approving Authority	Hon'ble Vice Chancellor
8	Effective Date of Policy	16.03.2024
9	Policy Review Date	30.01.2025

30.01.2025

1. **Purpose**

The purpose of this policy is to formalize Swami Vivekanand Subharti University's commitment to sustainability and climate responsibility by ensuring that the university's investments do not support carbon-intensive energy industries, including coal, oil, and other fossil fuels. This aligns with Sustainable Development Goal 7 (Affordable and Clean Energy) and the university's broader environmental and social responsibility goals.

2. Scope

This policy applies to:

- Endowment funds, reserves, and other financial investments held by the university.
- Investment strategies to promote renewable energy.

3. Policy Statement

Swami Vivekanand Subharti University is committed to:

1. Phasing out investments in companies or funds primarily engaged in the extraction, production, or distribution of coal, oil, and other carbon-intensive energy sources.
2. Prioritizing investments in renewable energy, low-carbon technologies, and environmentally responsible funds.
3. Integrating environmental, social, and governance (ESG) criteria into investment decision-making processes.

4. Guidelines and Procedures

- **Investment Review:** The Finance Committee will review all existing and proposed investments to identify holdings in carbon-intensive energy industries.
- **Divestment Plan:** Investments identified in fossil fuel sectors will be phased out over a defined period (e.g., within 3–5 years) to minimize financial disruption.
- **Responsible Investment:** New investments will gradually exclude companies whose primary business involves coal, oil, or other carbon-intensive energy sources. Preference will be given to green bonds, ESG-compliant funds, and renewable energy projects.
- **Monitoring and Reporting:** The finance committee of the university will monitor its investment portfolio annually.

5. Roles and Responsibilities

- **Finance Committee and Executive Council:** Oversee policy implementation, conduct investment reviews, and ensure compliance.
- **Governing Board:** Approve divestment strategy and monitor alignment with sustainability goals.
- **Finance Department:** Ensure adherence to divestment policy when advising or managing university funds.

6. **Monitoring and Review**

This policy will be reviewed as and when required to incorporate evolving best practices in sustainable finance and to assess progress toward divestment goals pertaining to coal, oil, and other fossil fuels. Adjustments will be made as necessary to ensure alignment with sustainability objectives and global climate targets.

SWAMI VIVEKANAND SUBHARTI UNIVERSITY
Registr...
30.01.2025

Details of Investments Supporting the Divestment Policy

The following investments reflect the University's initiatives towards renewable energy adoption and emission-control technology.

Table 21: Investment in Renewable Energy and Clean Technologies

S. No.	Investment / Initiative	Details	Investment Amount
1	On-Grid Solar Rooftop System	Supply of 1,667.5 kWp On-Grid Solar Rooftop System by Chakr Innovation Private Limited	₹6,16,30,800
2	Chakr Shield 2.0 – RECD	Procurement of 9 Retrofitted Emission Control Devices for Diesel Generator Sets	₹1,20,33,832.50
	Total Investment		₹7,36,64,632.50

Table 22: Details of Chakr Shield 2.0 Emission Control Devices

Supplier: Chakr Innovation Private Limited

S. No.	Product Code	Product Description	DG Set Capacity
1	50000462	CKRSLD2.0-500KVA-M2	500 kVA
2	50001474	CKRSLD2.0-1250KVA-M2	1,250 kVA
3	50001474	CKRSLD2.0-1250KVA-M2	1,250 kVA
4	50001474	CKRSLD2.0-1250KVA-M2	1,250 kVA
5	50001476	CKRSLD2.0-1500KVA-M2	1,500 kVA
6	50000582	CKRSLD2.0-800KVA-M2	800 kVA
7	50001470	CKRSLD2.0-1010KVA-M2	1,010 kVA
8	50000462	CKRSLD2.0-500KVA-M2	500 kVA

9	50000358	CKRSLD2.0-320KVA-M2	320 kVA
		Total Units	9

7.3 Energy Use Density

Energy use density focuses on optimizing the amount of energy consumed per unit area or activity to promote efficiency and sustainability. At the University, efforts are made to reduce unnecessary energy consumption across academic blocks, hostels, and laboratories by using energy-efficient appliances and smart lighting systems. The university monitors energy usage to identify areas with higher energy density and implements corrective measures. Awareness programs are conducted to encourage responsible energy use among students and staff. Renewable energy sources, such as solar panels, further help in lowering overall energy consumption. These practices support a greener campus environment and align with the vision of UAffordable and Clean Energy, promoting sustainable energy management within the institution.

7.3.1 Energy use density

For the year 2024, Swami Vivekanand Subharti University reported total energy consumption of 53,240 GJ across a total building floor area of 358,433.95 m². These figures provide the basis for assessing the University's energy usage per square metre and monitoring energy efficiency across its campus buildings.

- **Total Energy Used: - 53240**
- **Total floor area: - 3,58,433.95 square meters (m²)**.

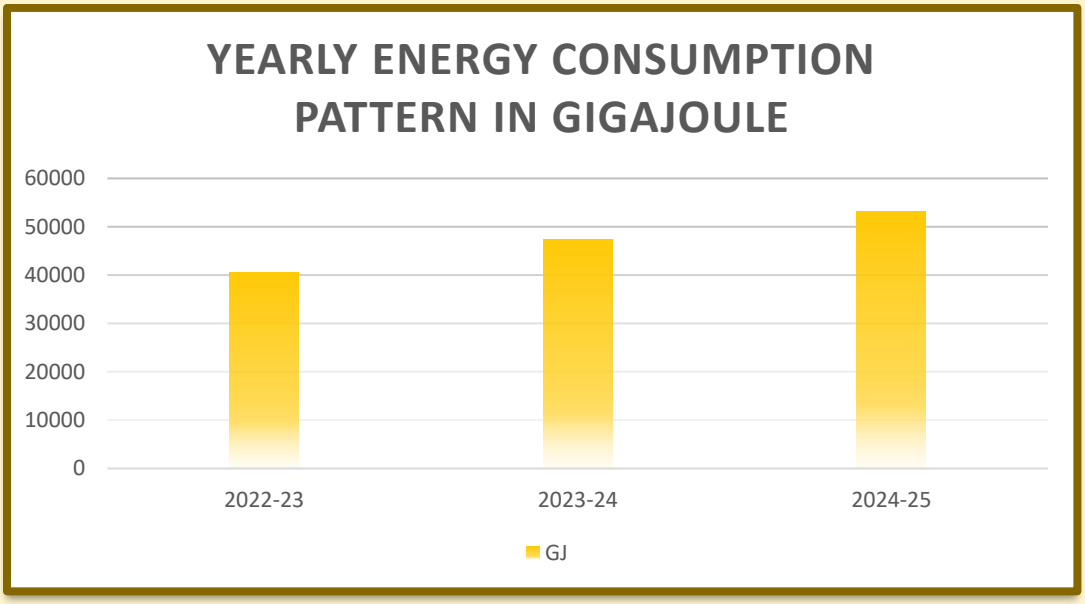


Figure 36: Year-wise Energy Consumption Pattern of the University (A.Y. 2022–23, 2023–24 and 2024–25) in Gigajoules (GJ).

7.4 Energy and the Community

The University actively promotes energy awareness, energy efficiency, renewable energy adoption, and low-carbon innovation through academic, community, industrial, and institutional initiatives. The University integrates energy-related concepts into academic curricula across various disciplines, enabling students to understand energy conservation, renewable energy technologies, sustainable development, and efficient resource utilization. Through outreach initiatives and collaborations with external organizations, the University extends this knowledge beyond the campus and supports awareness and capacity building in the wider community.

The University also encourages its students and stakeholders to contribute towards a sustainable energy future through 100% Renewable Energy Pledge initiatives, awareness programmes, and sustainability-oriented activities. These initiatives aim to develop responsible attitudes towards energy conservation and promote the adoption of cleaner energy practices.

In addition, the University provides energy-efficiency services to external industries through technical training, demonstrations, process optimization, and energy-conservation recommendations. For example, an energy-efficiency training and technical guidance programme was conducted for M/G Engineering Works, Partapur, focusing on lathe machine operations. The programme addressed energy losses arising from idle machine operation, cutting practices, machinery maintenance, lighting, and electrical systems, and provided recommendations such as optimized machine operation, LED lighting, energy monitoring, power-factor improvement, efficient motors, VFDs, and preventive maintenance.

The University has further strengthened its commitment to clean energy through a Policy on Development for Clean Energy Technology, which provides an institutional framework for promoting clean-energy technologies and sustainable energy practices. Alongside policy measures, research and innovation activities focus on solar energy, electric mobility, energy-efficient systems, energy harvesting, hydrogen fuel-cell technologies, photovoltaic applications, and sustainable energy materials. Patents, research publications, and technological innovations in these areas contribute to the development and advancement of low-carbon and clean-energy solutions.

Through these combined efforts in academic learning, community outreach, renewable-energy awareness, industrial energy-efficiency services, institutional policy, research, and technological innovation, The University demonstrates its commitment to strengthening the role of energy in sustainable community development and supporting the objectives of UNSDG 7 – Affordable and Clean Energy.

7.4.1 Educational Initiatives for Promoting Sustainable Energy Practices

Swami Vivekanand Subharti University promotes energy efficiency and sustainable energy practices through energy-related courses and MoU-driven collaborations with local communities and partner organizations. These initiatives aim to enhance awareness, develop knowledge, and encourage the adoption of energy-efficient technologies and energy conservation practices. Through educational activities, collaborative programmes, and community outreach initiatives, the University contributes to building a more energy-conscious society and supports the objectives of Sustainable Development Goal 7

Courses Conducted by the University Related to Energy

The University conducts educational programmes and training courses related to energy conservation, renewable energy, energy management, and sustainable development to enhance awareness and promote energy-efficient practices among the local community. These programmes provide participants with knowledge of clean energy technologies, efficient energy utilization, and sustainable resource management. By extending energy-related education beyond the University campus, the institution encourages the adoption of energy-efficient practices within the surrounding community and contributes to the achievement of Sustainable Development Goal 7.

Table 23: Courses Emphasizing Energy Conservation, Renewable Energy, and Sustainable Development

S. No.	Name of Faculty	Name of Course	Relevance to SDG
1	Faculty of Engineering & Technology	Basic Electrical & Electronics Engineering	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.

2	Faculty of Engineering & Technology	Basic Electrical & Electronics Engineering Lab	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
3	Faculty of Engineering & Technology	Electromagnetic Waves	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
4	Faculty of Engineering & Technology	Electrical Machines-I	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
5	Faculty of Engineering & Technology	Electrical Circuit Analysis	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
6	Faculty of Engineering & Technology	Electromagnetic Field Theory	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of

			resilient infrastructure.
7	Faculty of Engineering & Technology	Electrical Machines Lab -I	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
8	Faculty of Engineering & Technology	Electrical Circuit Analysis Lab	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
9	Faculty of Engineering & Technology	Electrical Workshop	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
10	Faculty of Engineering & Technology	Electrical Machines-Ii	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
11	Faculty of Engineering & Technology	Electrical Measurements & Instrumentation	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital

			systems, manufacturing or development of resilient infrastructure.
12	Faculty of Engineering & Technology	Electrical Machines Lab-II	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
13	Faculty of Engineering & Technology	Electrical Measurements & Instrumentation Lab	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
14	Faculty of Engineering & Technology	Basic Electrical Engineering	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
15	Faculty of Engineering & Technology	Power Electronics	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
16	Faculty of Engineering & Technology	Electrical Machine Design	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports

			engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
17	Faculty of Engineering & Technology	Wind And Solar Energy Systems	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
18	Faculty of Engineering & Technology	Industrial Electrical Systems	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
19	Faculty of Engineering & Technology	Power System I	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
20	Faculty of Engineering & Technology	Power System II	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
21	Faculty of Engineering &	Computational Electromagnetics	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy

	Technology		or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
22	Faculty of Engineering & Technology	Modeling and Analysis of Electrical Machines	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
23	Faculty of Engineering & Technology	Electrical Drives Lab	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
24	Faculty of Engineering & Technology	Electrical Machines Lab	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
25	Faculty of Engineering & Technology	Power Electronics Lab	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure.
26	Faculty of	Energy &	SDG 7: Supports energy generation, energy

	Engineering & Technology	Environment	efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure. SDG 13: Addresses climate change, environmental protection, pollution reduction, sustainability, conservation or climate resilience.
27	Faculty of Science	Renewable Energy and Green Technology	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure. SDG 13: Addresses climate change, environmental protection, pollution reduction, sustainability, conservation or climate resilience.
28	Faculty of Science	Renewable Energy and Green Technology Practical	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies. SDG 9: Supports engineering, technology, innovation, digital systems, manufacturing or development of resilient infrastructure. SDG 13: Addresses climate change, environmental protection, pollution reduction, sustainability, conservation or climate resilience.
29	Faculty of Science	Electromagnetic Theory & Modern Optics	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies.

30	Faculty of Science	Electromagnetic Theory & Modern Optics	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies.
31	Faculty of Science	Electromagnetic Theory	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies.
32	Faculty of Science	Electromagnetic Theory	SDG 7: Supports energy generation, energy efficiency, electrical systems, renewable energy or clean-energy technologies.

MoU-Driven Collaborations for Promoting Energy Efficiency in Local Communities

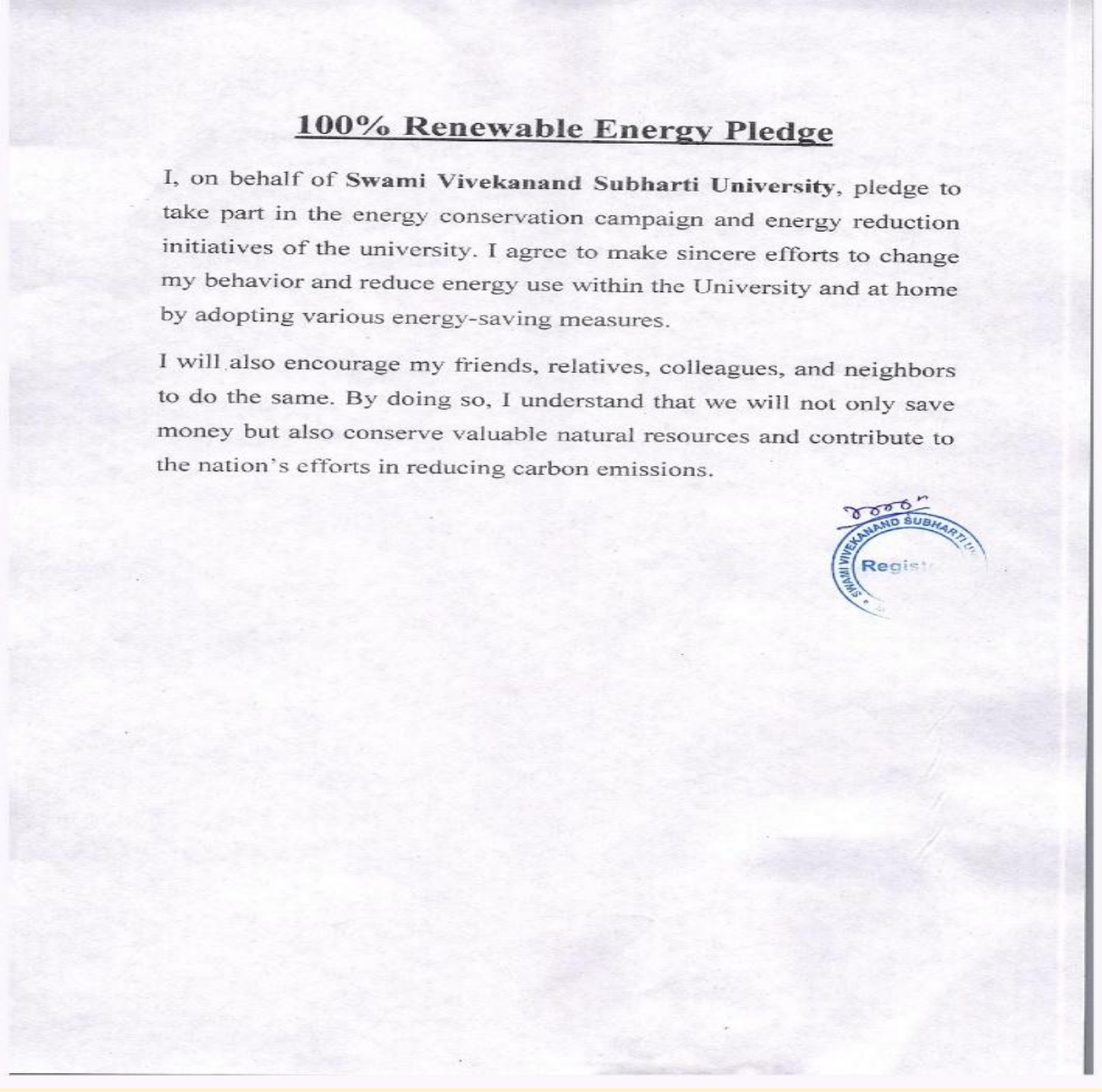
The University has established MOU-based collaborations that support local community outreach in energy efficiency and clean energy. These collaborations promote awareness and practical approaches related to sustainable waste-to-energy practices, energy recovery, energy-efficient technologies, energy audits, renewable energy, and clean electric mobility. The initiatives provide a platform for knowledge sharing, capacity building, and dissemination of energy-conscious practices among students, staff, and the wider community.

Table 24: MOUs and Their Linkage with Energy Efficiency and Clean Energy Outreach under SDG 7.4.1

S.No	MOU	Relevance to SDG	Evidence
1	Synergy Waste Management, New Delhi	Sustainable waste-to-energy practices, renewable energy integration, and energy recovery processes.	MOU-Synergy (f).pdf
2	Institute for Industrial Research & Toxicology, Ghaziabad	Industrial sustainability, energy-efficient technologies, energy audits, and energy optimization.	MOU\Institute for Industrial Research & Toxicology, Ghaziabad.pdf
3	PlusX Electric Private Limited, Gurugram, Haryana	Clean energy and electric mobility solutions, with a focus on energy efficiency in transportation and renewable power systems.	PlusX Electric Private Ltd. India.pdf

7.4.2 100%Renewable Energy Pledge

The University promotes awareness and commitment towards affordable and clean energy through energy-related pledges conducted across all departments of the University. As part of the Orientation Programme, students and staff participated in the pledge and committed to responsible energy use, conservation of electricity, and adoption of sustainable practices. These activities help strengthen the University's institutional commitment towards Affordable and Clean Energy and encourage the university community to contribute towards a cleaner and more sustainable future.



100% Renewable Energy Pledge

I, on behalf of **Swami Vivekanand Subharti University**, pledge to take part in the energy conservation campaign and energy reduction initiatives of the university. I agree to make sincere efforts to change my behavior and reduce energy use within the University and at home by adopting various energy-saving measures.

I will also encourage my friends, relatives, colleagues, and neighbors to do the same. By doing so, I understand that we will not only save money but also conserve valuable natural resources and contribute to the nation's efforts in reducing carbon emissions.

SWAMI VIVEKANAND SUBHARTI U
Regist



Figure 37: Sardar Patel Subharti Institute of LAW Supporting the University's Vision for 100% Renewable Energy Pledge



Figure 38: Nandlal Bose Subhari Colege of Fine Arts and Fashion Design Supporting the University's Vision for 100% Renewable Energy Pledge



Figure 39: Faculty of Engineering & Technology Supporting the University's Vision for 100% Renewable Energy Pledge



Figure 40: Shaheed Baba Deep Singh Department of Home Science, Supporting the University's Vision for 100% Renewable Energy Pledge



Figure 41: Department of Liberal Arts and Humanities Supporting the University's Vision for 100% Renewable Energy Pledge



Figure 42: Bhikaji Cama Subharti College of Hotel Management Supporting the University's Vision for 100% Renewable Energy Pledge



Figure 43: Subharti Institute of Law Supporting the University's Vision for 100% Renewable Energy Pledge

7.4.3 Energy Efficiency Services for Industry

Technical Training and Process Optimization for Energy-Efficient Lathe Machine Operations

The University provided energy-efficiency technical services to M/G Engineering Works, Partapur, Uttar Pradesh, on 05 November 2024 through a training and demonstration programme on process optimization of lathe machine operations. The programme involved 10 industry personnel and focused on identifying energy losses and improving energy-efficient practices such as reducing idle machine running, optimizing cutting parameters, maintaining tools and machinery, improving lubrication, and reducing non-productive operating time. Technical recommendations were also provided for LED lighting, energy monitoring, power-factor improvement, efficient motors, VFDs and preventive maintenance. Parameters such as kWh/day, idle time, power factor and specific energy consumption (kWh/piece) were suggested for monitoring. The activity directly supports UNSDG 7.4.5 – Energy Efficiency Services for Industry by providing technical guidance, training and process-optimization recommendations to an external industrial unit for improving energy efficiency and reducing energy consumption.



Figure 44: Technical Demonstration on Energy-Efficient Lathe Machine Operations

Energy Efficiency and Conservation Services Provided to EPACK PREFAB Technologies Limited

The Department of Mechanical Engineering, Faculty of Engineering & Technology, Swami Vivekanand Subharti University, provided technical consultancy and energy conservation services to EPACK PREFAB Technologies Limited, Gujarat, on 19 April 2025. The initiative focused on promoting energy efficiency in industrial manufacturing processes through technical guidance and recommendations for optimizing energy consumption. The services covered energy-efficient electrical equipment and motors, welding machines, air compressors, CNC machines, LED lighting, ventilation systems, material processing, and regular monitoring of electricity consumption. Recommendations included minimizing equipment idle running, preventing air leakage, optimizing operating pressure, reducing material wastage, and improving equipment maintenance and utilization. The initiative aimed to reduce industrial energy consumption and operational costs, minimize energy losses and carbon emissions, and promote sustainable manufacturing practices. This industry-oriented technical service demonstrates the University's contribution towards SDG 7 - Affordable and Clean Energy, by promoting energy efficiency and supporting industries in adopting energy-efficient operational practices.



Figure 45: Energy Conservation Services at EPACK PREFAB Technologies Limited, Gujarat (19 April 2025).

Energy Efficiency and Conservation Services Provided to Kesaria Rubber Industries Pvt. Ltd.

The Department of Mechanical Engineering, Faculty of Engineering & Technology, Swami Vivekanand Subharti University, provided technical consultancy and energy conservation services to Kesaria Rubber Industries Pvt. Ltd., Pirthla, Haryana, on 12 December 2024. The initiative focused on identifying potential energy losses and recommending energy-efficient practices in the manufacturing of rubber seals and O-rings. Technical guidance covered rubber mixing machines, hydraulic moulding presses, multi-cavity compression moulding, vulcanization equipment, electric motors, air compressors, heating systems, pumps, fans and lighting. Recommendations included optimizing moulding temperature, pressure and curing time, improving thermal insulation, preventing hydraulic and compressed-air leakage, adopting energy-efficient motors, minimizing machine idle time, and implementing preventive maintenance and energy performance monitoring. These measures aim to reduce electricity consumption, thermal losses and operational costs while improving equipment efficiency and productivity. The initiative contributes to SDG 7 – Affordable and Clean Energy, particularly by promoting industrial energy efficiency and sustainable manufacturing practices.



Figure 46A: Energy Conservation and Efficiency Services at Kesaria Rubber Industries Pvt. Ltd., Haryana (12 December 2024).



Figure 46B: Energy Conservation and Efficiency Services at Kesaria Rubber Industries Pvt. Ltd., Haryana (12 December 2024).

7.4.4 Policy Development for Clean Energy Technology

The University has established a Policy on the Development of Clean Energy Technology to promote the adoption, development, and effective utilization of clean and renewable energy technologies across the University. The policy provides a structured framework for reducing dependence on conventional energy sources, improving energy efficiency, and encouraging sustainable energy practices.

The policy focuses on promoting solar energy, energy-efficient technologies, renewable energy applications, energy conservation, and sustainable infrastructure. It encourages the University to adopt appropriate clean-energy solutions in its buildings and facilities and to continuously identify opportunities for improving energy performance.

The University has implemented initiatives such as solar energy systems, LED lighting, sensor-based lighting, and other energy-efficient measures, in alignment with the objectives of the policy. These measures contribute towards reducing conventional electricity consumption and promoting cleaner energy use.

The policy also encourages awareness, capacity building, monitoring, and continual improvement related to clean energy technologies among students, faculty, staff, and other stakeholders. Through these initiatives, the University aims to strengthen its commitment to sustainable energy management and contribute to SDG 7: Affordable and Clean Energy.

SWAMI VIVEKANAND
SUBHARTI
UNIVERSITY
UGC Approved Meerut



POLICY ON THE DEVELOPMENT FOR CLEAN ENERGY TECHNOLOGY

POLICY ON THE DEVELOPMENT FOR CLEAN ENERGY TECHNOLOGY

Sl. No.	Particulars	Description
1	Policy Number	U-07/SVSU/2024/493
2	Policy Structure	The Clean Energy Technology Policy is structured to guide research, education, infrastructure development, and community engagement in clean and renewable energy. It outlines objectives, governance mechanisms, roles and responsibilities, and compliance measures. The policy ensures systematic planning, implementation, and monitoring to achieve sustainable energy solutions.
3	Scope of the Policy	This policy applies to all departments, faculty, researchers, students, and stakeholders at Swami Vivekanand Subharti University involved in clean energy-related activities. It covers research, academic programs, infrastructure upgrades, partnerships, and outreach efforts. The scope extends to promoting sustainability, innovation, and responsible energy practices within and beyond the university campus.
4	Policy Status	Original
5	Originated By	IQAC, R&D Cell and Energy Department
6	Reviewed By	Environment Committee and Registrar
7	Effective Date of Policy	08.07.2024
8	Approving Authority	Hon'ble Vice Chancellor
9	Policy Review Date	04.02.2025

1. Purpose

Swami Vivekanand Subharti University recognizes the growing global need to transition towards sustainable and clean energy solutions in response to climate change, environmental degradation, and energy security challenges. The university is committed to promoting research, innovation, and responsible practices in clean energy technologies as part of its broader mission to serve society, protect the environment, and foster knowledge-driven development.

This policy provides a framework for advancing clean energy technology research, education, partnerships, and community engagement, while aligning with national and international sustainability goals.

2. Objectives

A. **Research and Innovation**

- Encourage fundamental and applied research in renewable energy sources such as solar, biomass, geothermal, and hydrogen.
- Support emerging technologies such as energy storage, smart grids, and energy management systems.
- Facilitate access to funding opportunities, patents, and intellectual property protection.

B. **Academic Programs**

- Develop new courses, certifications, and degree programs focused on energy science, clean technology, and sustainability.
- Encourage interdisciplinary research projects across engineering, environmental sciences, economics, and policy.

C. **Infrastructure and Operations**

- Promote the installation and use of renewable energy systems within university facilities.
- Enhance energy efficiency and implement sustainability measures in campus infrastructure.

D. **Collaboration and Outreach**

- Build partnerships with industry, government bodies, and NGOs to scale clean energy solutions.
- Organize workshops, seminars, and conferences to disseminate knowledge and best practices.

E. **Community Engagement**

- Raise awareness on clean energy and climate change through public education campaigns.
- Support rural and underserved communities in adopting affordable and sustainable energy solutions.

3. Governance and Implementation

A. **Clean Energy Committee**

- The Environment committee will have a subcommittee as Clean Energy Committee, comprising faculty members, researchers, and external experts.
- This subcommittee will oversee implementation, monitoring, and reporting.

B. **Funding and Grants**

- The university will allocate resources to support clean energy initiatives.
- The committee will actively seek external grants and sponsorships.

C. **Monitoring and Evaluation**

- Key performance indicators (KPIs) will be established for research output, student engagement, infrastructure development, and outreach.
- Annual progress reports will be submitted to the office of the Vice Chancellor.

D. **Ethics and Sustainability**

- All projects will adhere to ethical research standards and environmental regulations.
- Projects must demonstrate measurable benefits toward reducing carbon footprint and improving energy access.

4. Responsibilities

A. **Faculty Members:** Conduct research, mentor students, and integrate clean energy topics into curricula.

B. **Students:** Participate in projects, internships, and community outreach initiatives.

C. **Administrative Staff:** Facilitate funding, infrastructure upgrades, and regulatory compliance.

D. **University Leadership:** Provide strategic direction, resource allocation, and institutional support.

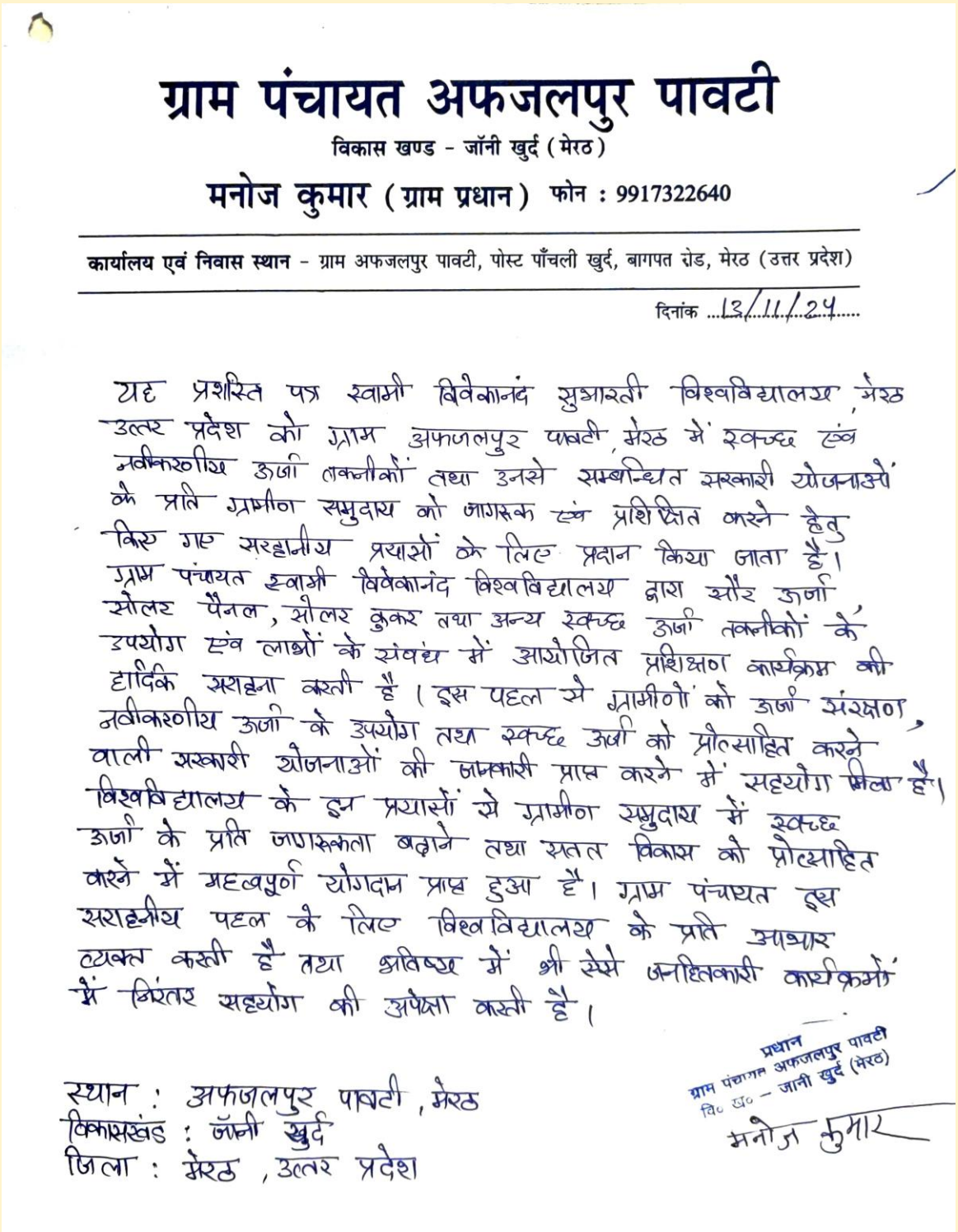
5. Compliance and Reporting

- All activities under this policy must comply with national policies, environmental laws, and university guidelines. Regular reporting mechanisms will ensure transparency and accountability.

6. Review

- Policy will be reviewed as and when required by the University.

SWAMI VIVEKANAND SUBHARTI UNIVERSITY
Registrar
MEERUT



ग्राम पंचायत अफजलपुर पावटी

विकास खण्ड - जॉनी खुर्द (मेरठ)

मनोज कुमार (ग्राम प्रधान) फोन : 9917322640

कार्यालय एवं निवास स्थान - ग्राम अफजलपुर पावटी, पोस्ट पाँचली खुर्द, बागपत रोड, मेरठ (उत्तर प्रदेश)

दिनांक 13/11/24

यह प्रशस्ति पत्र स्वामी विवेकानंद सुभारती विश्वविद्यालय, मेरठ उत्तर प्रदेश को ग्राम अफजलपुर पावटी, मेरठ में स्वच्छ एवं नवीकरणीय ऊर्जा तकनीकों तथा उनसे सम्बन्धित सरकारी योजनाओं के प्रति ग्रामीण समुदाय को जागरूक एवं प्रशिक्षित करने हेतु किए गए सराहनीय प्रयासों के लिए प्रदान किया जाता है।
ग्राम पंचायत स्वामी विवेकानंद विश्वविद्यालय द्वारा सौर ऊर्जा सोलर पैनल, सोलर कुकर तथा अन्य स्वच्छ ऊर्जा तकनीकों के उपयोग एवं लाभों के संबंध में आयोजित प्रशिक्षण कार्यक्रम की हार्दिक सराहना करती है। इस पहल से ग्रामीणों को ऊर्जा संरक्षण, नवीकरणीय ऊर्जा के उपयोग तथा स्वच्छ ऊर्जा को प्रोत्साहित करने वाली सरकारी योजनाओं की जानकारी प्राप्त करने में सहयोग मिला है।
विश्वविद्यालय के इन प्रयासों से ग्रामीण समुदाय में स्वच्छ ऊर्जा के प्रति जागरूकता बढ़ाने तथा सतत विकास को प्रोत्साहित करने में महत्वपूर्ण योगदान प्राप्त हुआ है। ग्राम पंचायत इस सराहनीय पहल के लिए विश्वविद्यालय के प्रति आभार व्यक्त करती है तथा भविष्य में भी ऐसे जनहितकारी कार्यक्रमों में निरंतर सहयोग की अपेक्षा करती है।

प्रधान
ग्राम पंचायत अफजलपुर पावटी
वि० खं० – जानी खुर्द (मेरठ)

स्थान : अफजलपुर पावटी, मेरठ
विकासखंड : जॉनी खुर्द
जिला : मेरठ, उत्तर प्रदेश

मनोज कुमार

Figure 47: Certificate of Appreciation for Training and Awareness Programme on Clean and Renewable Energy Technologies and Related Government Schemes at Village Afzalpur Pawti, Meerut.

English Translation of the Certificate

Date: 13-11-2024

CERTIFICATE OF APPRECIATION

This Certificate of Appreciation is hereby awarded to Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, in recognition of its commendable efforts in creating awareness and providing training to the rural community regarding clean and renewable energy technologies and related government schemes in Village Afzalpur Pawti, Meerut.

The Gram Panchayat sincerely appreciates the training programme organized by Swami Vivekanand Subharti University on the use and benefits of solar energy, solar panels, solar cookers and other clean energy technologies. This initiative has helped villagers gain valuable knowledge about energy conservation, the use of renewable energy and various government schemes promoting clean energy.

The University's efforts have made a significant contribution towards enhancing awareness of clean energy within the rural community and promoting sustainable development. The Gram Panchayat expresses its gratitude to the University for this commendable initiative and looks forward to its continued support and collaboration in similar public welfare programmes in the future.

Place: Village Afzalpur Pawti, Meerut

Village Head / Sarpanch
Gram Panchayat: Afzalpur Pawti
Development Block: Jani Khurd
District: Meerut, Uttar Pradesh

अनिल कुमार
ग्राम प्रधान
मो.- 9719201025

ग्राम–पेपला, ब्लाक–रोहटा
जिला–मेरठ (उ0 प्र0)

क्रमांक :

दिनांक : 22/10/24

यह प्रशस्ति पत्र स्वामी विवेकानंद सुभारती विश्वविद्यालय, मेरठ उत्तर प्रदेश को ग्राम पेपला, मेरठ में ऑर्जा एवं अर्जा-कुशल तकनीकों के उपयोग को प्रोत्साहित करने तथा अर्जा संरक्षण के प्रति जन-जागरूकता विकसित करने हेतु किए गए सराहनीय प्रयासों के लिए प्रदान किया जाता है

ग्राम पंचायत स्वामी विवेकानंद सुभारती विश्वविद्यालय द्वारा ग्रामीण समुदाय को सौर अर्जा, सोलर स्ट्रीट लाइट, LED लाइट तथा अर्जा-कुशल घरेलू उपकरणों के महत्व एवं लाभों के प्रति जागरूक करने के लिए आयोजित अभियान की हार्दिक सराहना करती है। इस पहल से ग्रामीणों को बिजली की बचत, अर्जा के विवेकपूर्ण उपयोग तथा पर्यावरण के अनुकूल तकनीकों को अपनाने के प्रति प्रेरणा मिली है। विश्वविद्यालय के इन प्रयासों से अर्जा की बर्बादी कम करने, पारंपरिक अर्जा स्त्रोतों पर निर्भरता घटाने तथा स्वस्थ एवं हरित पर्यावरण के निर्माण के प्रति जागरूकता बढ़ाने में महत्वपूर्ण सहयोग प्राप्त हुआ है। ग्राम पंचायत इस सराहनीय योगदान के लिए विश्वविद्यालय के प्रति आभार व्यक्त करती है तथा भविष्य में भी ऐसे पर्यावरण संरक्षण संबंधी कार्यक्रमों में सहयोग की अपेक्षा करती है।

स्थान : ग्राम पेपला, मेरठ

अनिल कुमार

अनिल कुमार (प्रधान)
ग्राम पंचायत पेपला
वि० ख० रोहटा, जिला मेरठ

Figure 48: Certificate of Appreciation for Promoting Solar Energy, Energy-Efficient Technologies and Public Awareness on Energy Conservation at Village Pepla, Meerut.

English Translation of the Certificate

Date: 22-10-2024

CERTIFICATE OF APPRECIATION

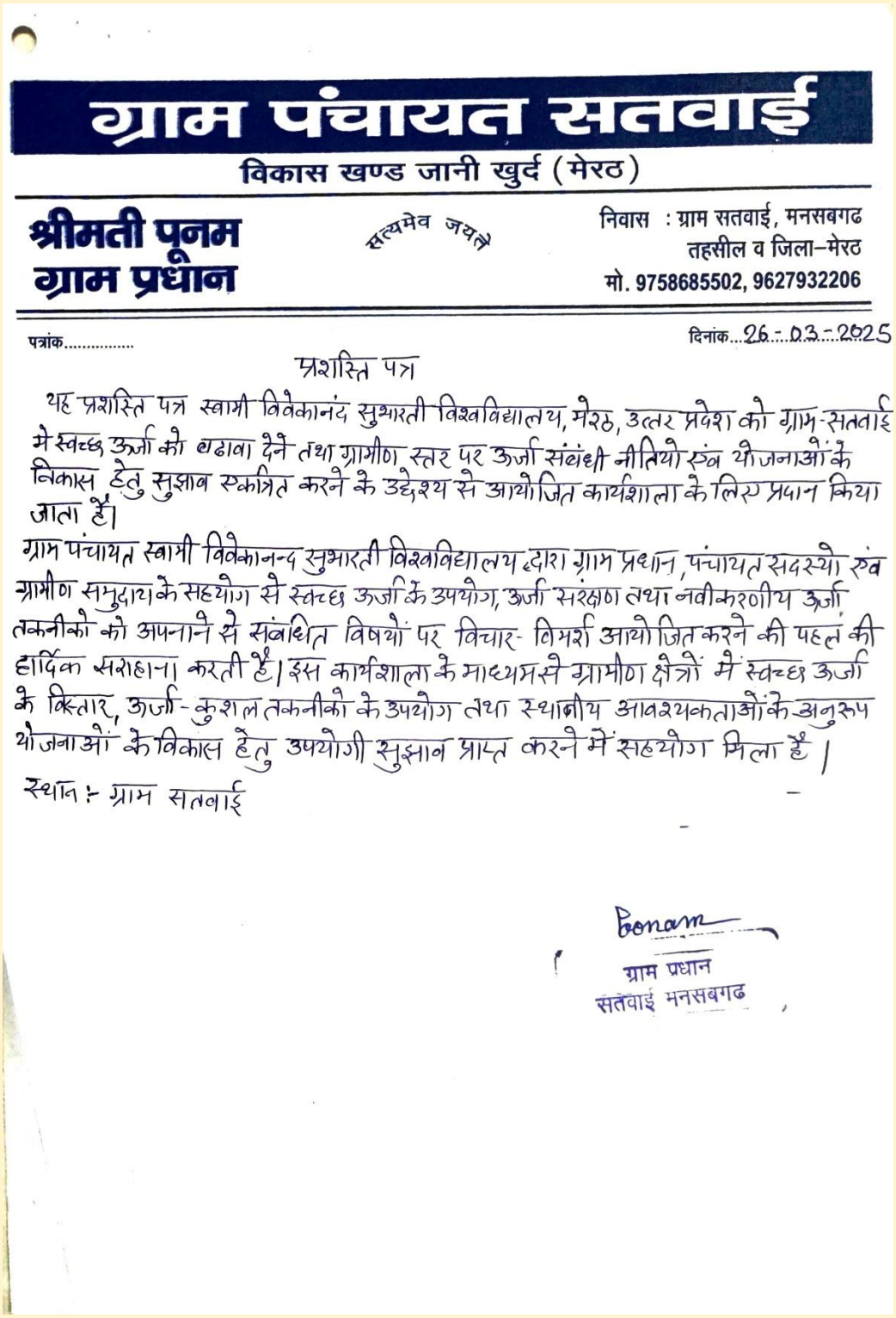
This Certificate of Appreciation is hereby awarded to Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, in recognition of its commendable efforts in promoting the use of solar energy and energy-efficient technologies and creating public awareness about energy conservation in Village Pepla, Meerut.

The Gram Panchayat sincerely appreciates the awareness campaign organized by Swami Vivekanand Subharti University to educate the rural community about the importance and benefits of solar energy, solar street lights, LED lights and energy-efficient household appliances. This initiative has inspired villagers to save electricity, use energy responsibly and adopt environmentally friendly technologies.

The University's efforts have made a significant contribution towards reducing energy wastage, decreasing dependence on conventional energy sources and enhancing awareness about creating a clean and green environment. The Gram Panchayat expresses its gratitude to the University for this valuable contribution and looks forward to its continued support in similar environmental conservation programmes in the future.

Place: Village Pepla, Meerut

Village Head / Sarpanch
Gram Panchayat: Pepla
Development Block: Rohta
District: Meerut, Uttar Pradesh



ग्राम पंचायत सतवाई

विकास खण्ड जानी खुर्द (मेरठ)

श्रीमती पूनम
ग्राम प्रधान

सत्यमेव जयते

निवास : ग्राम सतवाई, मनसबगढ
तहसील व जिला–मेरठ
मो. 9758685502, 9627932206

पत्रांक.....

दिनांक...26-03-2025

प्रशस्ति पत्र

यह प्रशस्ति पत्र स्वामी विवेकानंद सुभारती विश्वविद्यालय, मेरठ, उत्तर प्रदेश को ग्राम-सतवाई मे स्वच्छ ऊर्जा को बढावा देने तथा ग्रामीण स्तर पर ऊर्जा संबंधी नीतियो एंव योजनाओं के विकास हेतु सुझाव एकत्रित करने के उद्देश्य से आयोजित कार्यशाला के लिए प्रदान किया जाता है।

ग्राम पंचायत स्वामी विवेकानन्द सुभारती विश्वविद्यालय द्वारा ग्राम प्रधान, पंचायत सदस्यो एंव ग्रामीण समुदाय के सहयोग से स्वच्छ ऊर्जा के उपयोग, ऊर्जा संरक्षण तथा नवीकरणीय ऊर्जा तकनीको को अपनाने से संबंधित विषयों पर विचार- विमर्श आयोजित करने की पहल की हार्दिक सराहना करती है। इस कार्यशाला के माध्यमसे ग्रामीण क्षेत्रों में स्वच्छ ऊर्जा के विस्तार, ऊर्जा-कुशल तकनीको के उपयोग तथा स्थानीय आवश्यकताओं के अनुरूप योजनाओं के विकास हेतु उपयोगी सुझाव प्राप्त करने में सहयोग मिला है।

स्थान :- ग्राम सतवाई

Ponam

ग्राम प्रधान
सतवाई मनसबगढ

Figure 49: Certificate of Appreciation for the Workshop on Promoting Clean Energy and Collecting Suggestions for Rural-Level Energy Policy and Scheme Development at Village Satwai, Meerut.

English Translation of the Certificate

Date: 26-03-2025

CERTIFICATE OF APPRECIATION

This Certificate of Appreciation is hereby awarded to Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, in recognition of its commendable initiative in organizing a workshop in Village Satwai to promote clean energy and collect suggestions for the development of energy-related policies and schemes at the rural level.

The Gram Panchayat sincerely appreciates the initiative taken by Swami Vivekanand Subharti University, in collaboration with the Village Head, Panchayat members and the rural community, to organize discussions on the use of clean energy, energy conservation and the adoption of renewable energy technologies. The workshop helped gather valuable suggestions for expanding clean energy access in rural areas, promoting energy-efficient technologies and developing schemes in accordance with local needs.

The University's initiative to understand the needs of the rural community and communicate suggestions related to clean energy to the concerned government departments is a commendable step towards sustainable development. The Gram Panchayat expresses its gratitude to the University for this valuable contribution and looks forward to its continued support in similar policy-oriented and public welfare initiatives in the future.

Place: Village Satwai, Meerut

Village Head / Sarpanch
Gram Panchayat: Satwai
Development Block: Jani Khurd
District: Meerut, Uttar Pradesh

7.4.5 Assistance to Low Carbon Innovation

Patented Innovations Supporting Energy Efficiency and Low-Carbon Technology

Swami Vivekanand Subharti University promotes low-carbon innovation through patented technologies and designs related to solar energy, electric mobility, hydrogen fuel cells, and energy-efficient systems. These innovations support clean energy adoption, energy conservation, and the transition towards a sustainable, low-carbon economy.

Table 25: Patents and Designs Supporting Low-Carbon Innovation and Sustainable Energy Technologies

S. No.	Patent / Design Title	Author	Relevance to SDG 7.4.5	Assistance Provided
1	Biodegradable Solar Panel with Enhanced Efficiency	Pankaj Kumar, Sandeep Kumar, Rahul Kumar	Promotes renewable solar energy and low-carbon energy technology.	2500/- Rs.
2	AI Based Integrating Energy Systems for Electric Vehicles	Er. Harshit Gupta, Er.Kajal Kumari, Er.Amit Kumar"	Supports energy-efficient EV systems and clean transportation.	4000/- Rs.
3	Ecofriendly Solar Cooker with Reflectors	Pankaj Kumar, Rahul Kumar, Sandeep Kumar	Utilizes solar energy for cooking and reduces dependence on conventional energy sources.	4000/- Rs.
4	Solar Based Electric Mobile	Harshit Gupta,	Provides a renewable-energy-based charging	4000/- Rs.

S. No.	Patent / Design Title	Author	Relevance to SDG 7.4.5	Assistance Provided
	Charger	Dr. S. C. Tiwari, Amit Kumar	solution using solar power.	
5	Optimised Energy Management Control System for Hydrogen Fuel Cell Electric Vehicles	Harshit Gupta, Dr. S. C. Tiwari, Amit Kumar, Shubham Tyagi	Supports hydrogen-based clean mobility and efficient energy management.	4000/- Rs.
6	Low-Speed Electric Passenger Mini Vehicle	Swami Vivekanad Subharti University, Meerut. Er. Sachin Kumar. Dr. Sanjeev Kumar Er. Krishna Kumar Sharma Er. Guru Sewak Kesharwani6. Er. Juhi Verma Dr. Vikas Sharma Er. Shallender Singh Bhati. Er. Vivek Bhardwaj	Promotes electric mobility as an alternative to fossil-fuel-based transportation.	5000/- Rs.
7	Three-Wheeled Electric Commuter Cycle	Swami Vivekanand Subharti University, Prof. Manoj Kapil, Er. Ajay Kumar,	Supports clean and low-carbon electric transportation.	5000/- Rs.

S. No.	Patent / Design Title	Author	Relevance to SDG 7.4.5	Assistance Provided
		Dr. Sanjeev Kumar, Er. Krishna Kumar Sharma, Er. Sachin Kumar, Mr. Ratnesh Kumar, Mr. Rohit Kumar, Mr. Satyam Kumar, Mr. Vikas Kumar, Mr. Rishi Kumar, Mr. Kishan Kumar		
8	Portable Solar-Powered IoT System for Plant Health Monitoring	Dr. Himanshu Agarwal	Combines solar power with IoT technology, promoting renewable-energy applications.	4000/- Rs.
9	Smart Electronic Fan	Dr. Nisha Rana	Has potential to improve energy efficiency through smart electronic control.	6000/- Rs.
10	Adaptive Energy-Efficient Antenna System for Smart Homes	Er. Harshit Gupta, Dr. S. C. Tiwari, Er. Amit Kumar	Supports energy-efficient operation in smart-home applications.	1000/- Rs.
11	Portable Device for Measuring Air Conditioner Heat Exhaust	Dr. Anshu Kumar Singh	Can support monitoring and assessment related to energy/heat efficiency.	240/- Rs.

S. No.	Patent / Design Title	Author	Relevance to SDG 7.4.5	Assistance Provided
12	Method for Reducing Boiler Feedwater Scaling	Pankaj Kumar, Rahul Kumar, Sandeep Kumar Gupta, Sandeep Kumar	Can contribute indirectly to improved boiler efficiency and reduced energy wastage.	4000/- Rs.
13	Portable Microalgae Bioreactor System	Dr. Nisha Rana, Dr. Joginder Singh, Dr. Aasha, Dr. Nagendra Kumar Lohia	Has a potential sustainability and low-carbon technology linkage.	5000/- Rs.

7.5 Low-Carbon Energy Use

The University promotes the use of low-carbon energy sources, particularly solar energy, to reduce dependence on conventional energy and minimize carbon emissions. Solar energy systems have been installed on campus to support clean, sustainable and environmentally responsible energy consumption.

7.5.1 Low Carbon Energy Use

The University promotes low-carbon energy consumption through the utilization of renewable energy sources, particularly solar energy. During the reporting period, total energy consumption was 53,240 GJ, with solar energy contributing to the University's efforts towards reducing dependence on conventional energy sources and minimizing carbon emissions.

Total Energy Used: - 53240 Gigajoule