MEDHAVI SKILLS UNIVERSITY

Skill • Empower • Liberate

REPORT ON SUSTAINABLE DEVELOPMENT



7 AFFORDABLE AND CLEAN ENERGY



GOAL 7

SDG 7 – Affordable and Clean Energy

Sustainable and affordable energy is an essential foundation for inclusive economic development, environmental sustainability and improved quality of life. Sustainable Development Goal 7 (SDG 7) aims to ensure access to affordable, reliable, sustainable and modern energy for all. Access to clean energy, together with improvements in energy efficiency and the increased use of renewable and low-carbon energy sources, plays an important role in addressing environmental challenges and supporting sustainable development.

Medhavi Skills University recognises the importance of responsible energy use and the role of higher education and skill-based learning institutions in promoting energy efficiency, clean-energy awareness and sustainable practices. As a skills-focused university, MSU can contribute to SDG 7 by integrating sustainability and energy-related concepts into education, training, research, innovation, campus practices and community engagement.

The University's contribution to SDG 7 can be reflected through energy-efficient infrastructure, responsible electricity consumption, renewable-energy initiatives, energy audits, conservation measures and awareness programmes. Academic and skill-development activities can also provide students with opportunities to understand emerging clean-energy technologies, energy efficiency and sustainable practices relevant to industry and communities.

Through research, innovation, experiential learning, industry collaboration and community outreach, Medhavi Skills University support the development of knowledge and skills required for a cleaner and more energy-efficient future. Documentation of institutional policies, energy data, audit reports, activities, partnerships, photographs, and other supporting evidence provides a structured basis for assessing the University's contribution to SDG 7.

This report presents the University's initiatives and evidence related to affordable and clean energy, energy efficiency, renewable energy, low-carbon practices, research, skill development and community engagement, supporting the broader objectives of SDG 7.

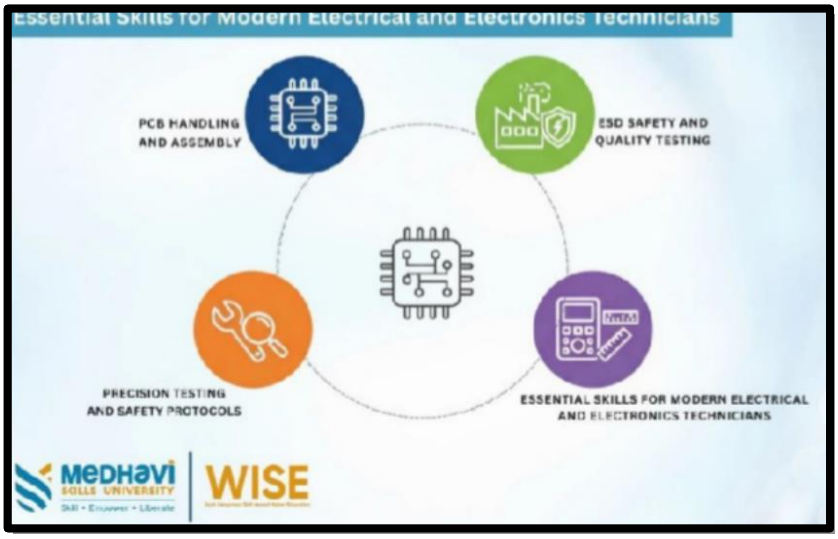
Academic Contribution

Medhavi Skills University (MSU) contributes to **SDG 7: Affordable and Clean Energy** through industry-integrated programmes that develop competencies in electrical systems, electronics, renewable energy, automation, and sustainable manufacturing. The University's **D.Voc. in Electrical and Electronics** programme equips learners with practical and technical skills relevant to modern industries, including **electronics manufacturing, renewable energy, and automation**, thereby preparing a skilled workforce to support the transition towards clean and sustainable energy solutions.

In addition, MSU offers the **B.Voc. in Automotive Manufacturing Technology**, which focuses on advanced manufacturing technologies and industry-oriented technical skills. The programme contributes to sustainable industrial development and supports the adoption of energy-efficient technologies in the automotive sector, an important component of the transition to cleaner mobility solutions.

Through its Work Integrated Skill-Based Higher Education (WISE) model, MSU combines academic learning with practical industry exposure, enabling students to gain hands-on experience in technology- driven sectors that advance energy efficiency, innovation, and sustainable development. These programmes collectively strengthen the University's contribution to SDG 7 by building capacity in energy-related technologies and fostering industry-ready professionals capable of supporting clean energy and sustainable industrial growth.

S.No	Programme	SDG 7	Evidence
1	**D.Voc. in Electrical and Electronics**	Develops skills in electrical systems, electronics manufacturing, renewable energy, and automation, supporting the clean energy sector.	Inside the D.Voc. in Electrical and Electronics: Skills for Modern Technicians
2	**B.Voc. in Automotive Manufacturing Technology**	Provides industry-oriented skills in automotive manufacturing and advanced technologies that support energy-efficient and sustainable mobility solutions.	B.Voc. in Automotive Manufacturing Technology


Essential Skills for Modern Electrical and Electronics Technicians
PCB HANDLING AND ASSEMBLY
ESD SAFETY AND QUALITY TESTING
PRECISION TESTING AND SAFETY PROTOCOLS
ESSENTIAL SKILLS FOR MODERN ELECTRICAL AND ELECTRONICS TECHNICIANS
MEDHAVI SKILLS UNIVERSITY
WISE


MEDHAVI SKILLS UNIVERSITY
WISE

University Measures Towards Affordable and Clean Energy

Medhavi Skills University is committed to promoting affordable, reliable, sustainable, and clean energy through energy-efficient campus operations and the adoption of renewable energy sources. As identified in the Energy Audit Report, the University utilizes a combination of grid electricity, solar energy, and backup power systems while continuously monitoring and optimizing energy consumption. The campus operates a **6.6 kWp rooftop solar photovoltaic system**, generating approximately **5,500 kWh of clean electricity annually**, contributing **3.60% of the University's total energy consumption** and reducing dependence on conventional energy sources.

Key energy conservation measures include the use of **LED lighting**, energy-efficient electrical equipment, smart boards, projectors, and digital infrastructure that support low-energy academic operations. The University maintains regular monitoring of electricity consumption across its facilities and promotes energy conservation among students, faculty, and staff through awareness initiatives and sustainable practices.

During the audit period (August 2025-July 2026), the University recorded a total energy consumption of **1,52,818 kWh equivalent**, with an energy use intensity of **70.52 kWh per student per year**, establishing a baseline for continuous improvement in energy efficiency and sustainability. The University is also committed to expanding renewable energy integration and strengthening energy management practices to support SDG 7 and its broader sustainability goals.

Energy-Efficient Renovation and Building

Medhavi Skills University integrates energy efficiency principles into campus infrastructure development, renovation, and facility management to reduce energy consumption and environmental impact. The University prioritizes the use of **LED lighting systems, energy-efficient electrical equipment, smart classrooms, and digital learning technologies** that minimize energy demand while enhancing educational outcomes.

During building renovations and infrastructure upgrades, energy-saving measures such as **improved lighting efficiency, optimized ventilation, reflective roofing materials, natural daylight utilization, and regular maintenance of electrical systems** are incorporated wherever feasible. The University also promotes efficient space utilization and adopts sustainable building practices that reduce overall energy requirements.

The campus supports clean energy generation through a **6.6 kWp rooftop solar photovoltaic system**, which contributes renewable electricity to campus operations and helps lower greenhouse gas emissions. Energy consumption is regularly monitored through internal audits and assessments, enabling the identification of opportunities for further efficiency improvements.

By combining renewable energy adoption, energy-efficient technologies, and sustainable building practices, Medhavi Skills University demonstrates its commitment to creating a low-carbon campus environment and advancing the objectives of **SDG 7: Affordable and Clean Energy** and **SDG 13: Climate Action**.

Infrastructure	Capacity / Rating	Quantity	Purpose / Remarks
Grid supply	Single- and three-phase supply	9	Primary power supply
DG sets	40 kVA each	3	Backup power supply
Rooftop solar PV	6.6 kWp	1	On-site renewable generation

Upgrade Buildings to Higher Energy Efficiency

Medhavi Skills University is committed to continuously upgrading campus buildings and facilities to achieve higher levels of energy efficiency and environmental sustainability. The University undertakes periodic assessments of energy consumption and implements improvement measures that reduce electricity demand while maintaining a comfortable and productive learning environment.

Key initiatives include the replacement of conventional lighting with **LED fixtures**, installation of **energy-efficient electrical appliances and equipment**, optimization of classroom and office energy use, and the adoption of **digital technologies** that reduce resource consumption. The University also emphasizes the use of **natural daylight, efficient ventilation systems, and routine maintenance of electrical infrastructure** to enhance overall building performance.

In addition, the University's **rooftop solar photovoltaic system** contributes renewable energy to campus operations, supporting the transition towards cleaner energy sources and reducing the carbon footprint of campus buildings. Energy audits and regular monitoring help identify opportunities for further retrofitting and efficiency upgrades, ensuring continual improvement in energy performance.

Through these measures, Medhavi Skills University enhances the energy efficiency of its buildings, lowers operational costs, reduces greenhouse gas emissions, and supports the objectives of **SDG 7 (Affordable and Clean Energy)** and **SDG 13 (Climate Action)**.

Carbon Reduction and Emission Reduction Process

Medhavi Skills University is committed to reducing its carbon footprint and minimizing greenhouse gas (GHG) emissions through sustainable energy management, resource conservation, and environmentally responsible campus operations. The University follows a proactive approach that combines energy efficiency, renewable energy adoption, sustainable transportation practices, and environmental awareness initiatives.

Key measures include:

- **Renewable Energy Adoption:** The University operates a **6.6 kWp rooftop solar photovoltaic system**, generating clean electricity and reducing reliance on conventional grid power.
- **Energy Efficiency Measures:** Installation of **LED lighting**, energy-efficient appliances, smart classrooms, and regular energy audits help lower electricity consumption and associated carbon emissions.
- **Digital Transformation:** Adoption of digital learning platforms, electronic communication, and paperless administrative processes reduces resource consumption and indirect emissions.
- **Sustainable Transportation:** The University encourages carpooling, public transport usage, virtual meetings, and online academic activities where appropriate to reduce transportation-related emissions.
- **Waste Management Practices:** Segregation of waste, recycling initiatives, and responsible disposal of electronic waste help prevent environmental pollution and reduce emissions from waste disposal.
- **Green Campus Development:** Tree plantation drives, landscaping with native species, and maintenance of green spaces enhance carbon sequestration and improve the campus environment.
- **Resource Conservation:** Water conservation, rainwater harvesting, wastewater reuse, and efficient resource management contribute indirectly to emission reduction by lowering energy demand for water extraction and treatment.

The University regularly monitors energy consumption and environmental performance through audits and sustainability assessments to identify opportunities for continuous improvement. Through these initiatives, Medhavi Skills University supports climate mitigation efforts and contributes to **SDG 7 (Affordable and Clean Energy)** and **SDG 13 (Climate Action)** by promoting a low-carbon and environmentally sustainable campus.

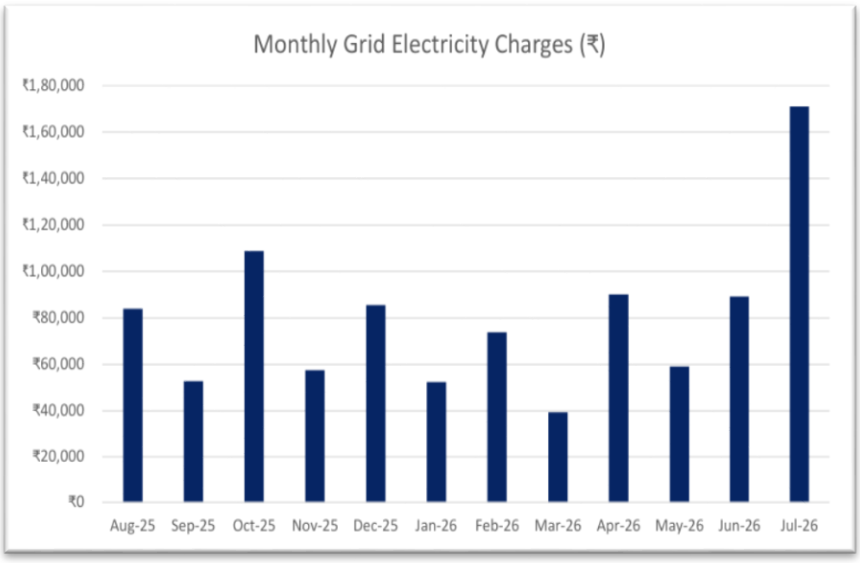
Plan to Reduce Energy Consumption

Medhavi Skills University has established a systematic approach to reducing energy consumption through energy conservation, efficient resource utilization, renewable energy adoption, and continuous monitoring of campus energy performance. The University aims to minimize energy demand while maintaining a high-quality academic and administrative environment.

The University's energy reduction plan includes:

- **Expansion of Renewable Energy:** Increase the utilization of rooftop solar power and explore additional renewable energy opportunities to reduce dependence on conventional electricity sources.
- **Energy-Efficient Equipment:** Replace older electrical appliances, lighting fixtures, and campus equipment with energy-efficient alternatives, including LED lighting and star-rated devices.
- **Smart Energy Management:** Conduct periodic energy audits, monitor electricity consumption patterns, and implement corrective measures to eliminate energy wastage.
- **Sustainable Building Operations:** Maximize natural daylight and ventilation, optimize air-conditioning usage, and integrate energy-efficient practices in future building upgrades and renovations.
- **Digital Transformation:** Promote paperless administration, online meetings, digital learning resources, and automated systems that reduce energy and resource consumption.
- **Awareness and Behavioural Change:** Conduct awareness campaigns, training programmes, and sustainability initiatives to encourage students, faculty, and staff to adopt energy-saving practices.
- **Preventive Maintenance:** Regular maintenance of electrical infrastructure, computers, laboratory equipment, and HVAC systems to ensure optimal energy performance.
- **Green Campus Initiatives:** Enhance greenery and tree plantation efforts to improve the campus microclimate and reduce cooling energy requirements.

Through these measures, Medhavi Skills University seeks to achieve continuous reductions in energy consumption, lower operational costs, reduce greenhouse gas emissions, and strengthen its contribution to **SDG 7 (Affordable and Clean Energy)** and **SDG 13 (Climate Action)**.



Energy Wastage Identification

Medhavi Skills University identifies energy wastage through regular energy audits, monitoring of electricity consumption, inspection of lighting and electrical equipment, and assessment of idle power usage. The University encourages students and staff to adopt energy-saving practices and implements corrective measures such as LED lighting, efficient equipment operation, and preventive maintenance to reduce unnecessary energy consumption and improve overall energy efficiency.

Divestment Policy

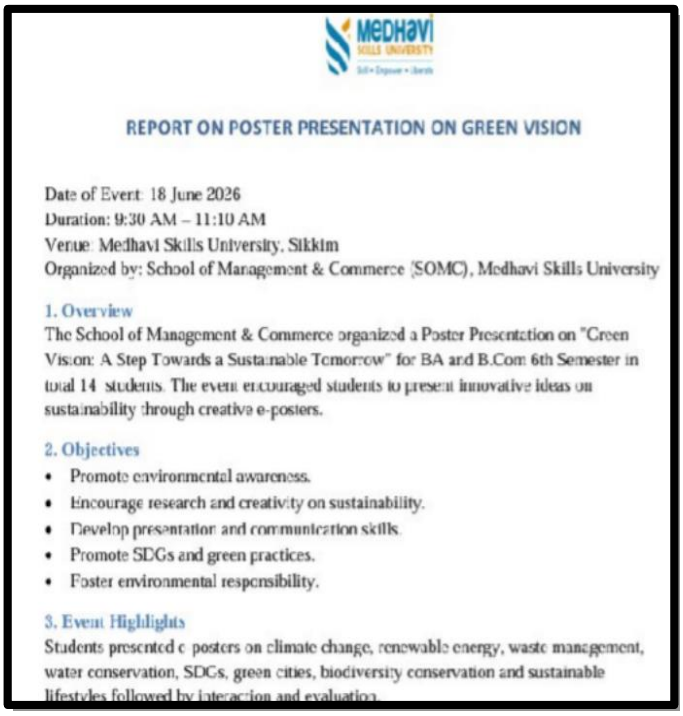
Medhavi Skills University is committed to responsible and sustainable financial practices. The University seeks to support environmental sustainability by promoting investments and procurement decisions that align with ethical, social, and environmental principles. The University discourages financial engagement with activities that significantly contribute to environmental degradation, excessive carbon emissions, or unsustainable resource use. Through its sustainability framework, the University prioritizes resource-efficient operations, renewable energy adoption, and environmentally responsible partnerships, supporting its commitment to **SDG 7 (Affordable and Clean Energy)** and **SDG 13 (Climate Action)**.

Energy Use Density

Medhavi Skills University Monitors **Energy Use Density (EUD)** as a key indicator of campus energy efficiency. Based on the latest energy audit, the University's total annual energy consumption was **1,52,818 kWh equivalent**, with an **energy use intensity of 70.52 kWh per student per year**. Monitoring energy use density helps the University identify efficiency improvement opportunities, optimize resource utilization, and evaluate the effectiveness of energy conservation measures such as LED lighting, energy-efficient equipment, and renewable energy integration. Through regular energy assessments, the University strives to continuously improve energy performance and reduce its environmental footprint.

Local Community Outreach for Energy Efficiency

Medhavi Skills University promotes awareness of energy efficiency and environmental sustainability through community outreach, awareness campaigns, and experiential learning activities. The University organized the **Poster Presentation on "Green Vision – A Step Towards a Sustainable Tomorrow"**, which encouraged students to explore sustainable development, resource conservation, and environmentally responsible practices. This initiative helped spread awareness about sustainability among the university community and beyond.



REPORT ON POSTER PRESENTATION ON GREEN VISION

Date of Event: 18 June 2026
Duration: 9:30 AM – 11:10 AM
Venue: Medhavi Skills University, Sikkim
Organized by: School of Management & Commerce (SOMC), Medhavi Skills University

1. Overview

The School of Management & Commerce organized a Poster Presentation on "Green Vision: A Step Towards a Sustainable Tomorrow" for BA and B.Com 6th Semester in total 14 students. The event encouraged students to present innovative ideas on sustainability through creative e-posters.

2. Objectives

- Promote environmental awareness.
- Encourage research and creativity on sustainability.
- Develop presentation and communication skills.
- Promote SDGs and green practices.
- Foster environmental responsibility.

3. Event Highlights

Students presented c posters on climate change, renewable energy, waste management, water conservation, SDGs, green cities, biodiversity conservation and sustainable lifestyles followed by interaction and evaluation.



The University also observed **World Environment Day**, providing a platform to sensitize students and community members about environmental protection, responsible energy consumption, and the importance of adopting sustainable lifestyles.

Further, through the **Industrial Visit to V-Guard Industries Ltd., Majitar, East Sikkim**, students gained practical exposure to electrical products and technologies used in modern industry. Such interactions enhance understanding of energy-efficient technologies and their role in promoting sustainable development.







Industry Collaborations Supporting Affordable and Clean Energy

Medhavi Skills University advances the objectives of **SDG 7: Affordable and Clean Energy** through strategic collaborations with leading industry and technology organizations. Partnerships with **Bosch**, **JBM Group**, and **AEQUS Aerospace** provide students with exposure to modern engineering practices, sustainable manufacturing technologies, industrial automation, and energy-efficient systems. These collaborations help bridge academia and industry while developing a skilled workforce capable of supporting emerging clean-energy and green-technology sectors.

The University's collaboration with **JBM Group** strengthens learning opportunities related to electric mobility and sustainable transportation technologies, while its association with **Bosch** enhances exposure to advanced engineering solutions, automation, and energy-efficient industrial practices. Collaboration with **AEQUS Aerospace** further promotes innovation and sustainable manufacturing through industry-integrated learning and skill development initiatives.

Additionally, strategic partnerships with organizations such as **NSDC**, **CEMS**, and **Subros Limited** contribute to workforce development in technical and industrial domains that support sustainable growth and responsible resource utilization. Collectively, these collaborations reinforce the University's commitment to fostering innovation, technical capacity, and industry readiness in areas aligned with affordable, reliable, and sustainable energy solutions.

Collaboration	SDG 7 Relevance
MoU with Bosch	Bosch is globally recognized for energy-efficient technologies, industrial automation, smart manufacturing, and sustainable engineering solutions. This is one of the strongest SDG 7 collaborations.
MoU with JBM Group	JBM is actively involved in electric mobility, EV manufacturing, and sustainable transportation solutions, making it directly relevant to clean energy and low-carbon technologies.
MoU with AEQUS Aerospace	Supports advanced manufacturing technologies and resource-efficient industrial practices. Relevant to sustainable industrial innovation.
MoU with CEMS (Centre of Excellence in Maritime & Shipbuilding)	Contributes to sustainable maritime technologies, industrial efficiency, and modern engineering skills.
MoU with NSDC / National Skill Development Corporation	Supports skilling programmes in emerging technology sectors, including electrical, electronics, manufacturing, and renewable-energy-related occupations.
MoU with Subros Limited	Associated with automotive thermal and energy-efficient technologies, supporting sustainable mobility.



MoU with JBM Group



Innovation and Entrepreneurship Support for Sustainable Technologies

Through its Incubation Cell & Innovation Council, Medhavi Skills University fosters innovation, entrepreneurship, and technology-driven problem-solving among students. The platform encourages learners to develop innovative ideas and sustainable solutions addressing societal and environmental challenges. By nurturing innovation-oriented thinking and supporting emerging technologies, the University contributes to the development of future solutions aligned with sustainable development goals, including affordable and clean energy.



Low-Carbon Energy Use

Medhavi Skills University promotes low-carbon energy use through the adoption of renewable energy, energy-efficient technologies, and sustainable campus operations. The University operates a **6.6 kWp rooftop solar photovoltaic (PV) system**, which generates approximately **5,500 kWh of clean electricity annually**. Solar energy contributes about **3.60% of the University's total annual energy consumption**, helping reduce dependence on conventional grid electricity and lowering greenhouse gas emissions.

In addition, the University has implemented **LED lighting**, energy-efficient electrical equipment, smart classrooms, and digital learning platforms to reduce energy demand. Regular energy audits and monitoring of electricity consumption support continuous improvement in energy performance and carbon reduction. Through these initiatives, Medhavi Skills University advances its commitment to **SDG 7 (Affordable and Clean Energy)** and **SDG 13 (Climate Action)** by fostering a cleaner and more sustainable energy future.

Calculations:

- Total Energy Used = 152,818 × 0.0036 = **550.14 GJ**
- Low-Carbon Energy Used = 5,500 × 0.0036 = **19.80 GJ**
- Share of Low-Carbon Energy = (19.80 ÷ 550.14) × 100 = **3.60%**

Metric	Data Required	MSU Value	Unit
Low-carbon energy use	Total energy used	**550.14**	GJ
Low-carbon energy use	Total energy used from low-carbon sources (Solar PV)	**19.80**	GJ
Low-carbon energy use	Share of low-carbon energy	**3.60**	%



Reg.: ECPL/CERT/2026/MSU/03 Issue date:10/10/2026

enviraj

GWCN

CERTIFICATE

This is to certify that

MEDHAVI SKILLS UNIVERSITY
Sikkim, India

has been assessed for its energy management practices and energy performance.

Energy Audit

Based on the assessment and findings documented in the Energy Audit Report, the institute has demonstrated satisfactory implementation of energy management practices and initiatives aimed at improving energy efficiency, promoting renewable energy use, and conserving energy resources.

enviraj CONSULTING

Audit Period: *August 2025 - July 2026* ***Audit Date:*** *28/09/2026*

Scan to verify

Rajdeep Pandey
Director
Environmental Consultant & Auditor
ISO 14001:2015 & ISO 50001:2018

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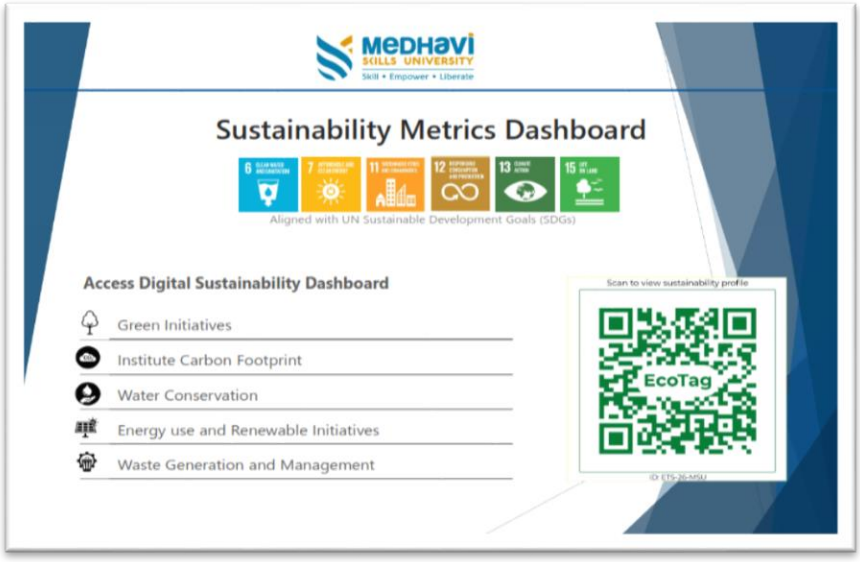
Digital Sustainability Dashboard for Energy Use and Renewable Energy Monitoring

Medhavi Skills University uses a digital Sustainability Metrics Dashboard to present its environmental sustainability initiatives, including energy use and renewable energy. Through its EcoTag Sustainability Profile, the University provides a digital platform for displaying information related to energy consumption, renewable energy generation and other energy-related indicators.

The dashboard provides a framework for monitoring energy-related indicators and presenting environmental information in a structured manner. This initiative supports the University's efforts towards responsible energy use, energy conservation and the adoption of renewable energy sources.

The University also uses the dashboard to bring together information on its wider environmental initiatives, including green initiatives, water conservation and waste management.

Weblink of the Dashboard: https://ecotag.com/id/ets-26-msu



EcoTag

MEDHAVI SKILLS UNIVERSITY

Sikkim, India • EcoTag ID: ETS-26-MSU

Period: August 2025 - July 2026

Gross GHG Emissions (Scope 1-2)

Independently verified

104.02 tCO_2e

Renewable Energy Share

Independently verified

3.6%

Carbon Intensity

Independently verified

48 $kg\ CO_2e$ / student

1 Climate Impact

2 Energy

Consumption and renewable share.

Total energy (MWh)	Renewable used (MWh)	Renewable share
152.82	5.5	3.6%

3 Water

4 Waste & Materials

5 Reporting Scope

6 Data Transparency

Time coverage + evidence for transparency.

Reporting period coverage	Data origin
100%	Third Party Verified

Comparisons are valid only where functional units and boundaries are equivalent.

7 Compliance & Certifications

8 Environmental Actions

Footnotes

Record: ETS-26-MSU • Category: Site • Period: August 2025 - July 2026

“Clean energy powers more than our homes; it powers a sustainable future. Medhavi Skills University inspires learners to embrace innovation, energy efficiency, and responsible solutions that can drive progress while protecting our planet for future generations.”

Medhavi Skills University

www.msu.edu.in

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