[CORE] Social Responsibility (SR)

Sub Criterion: 5.3

SR4 Environmental impact

Sustainability Report

**Report on Energy Conservation
Practices at SRHU**

Energy Conservation Practices at Swami Rama Himalayan University (SRHU)
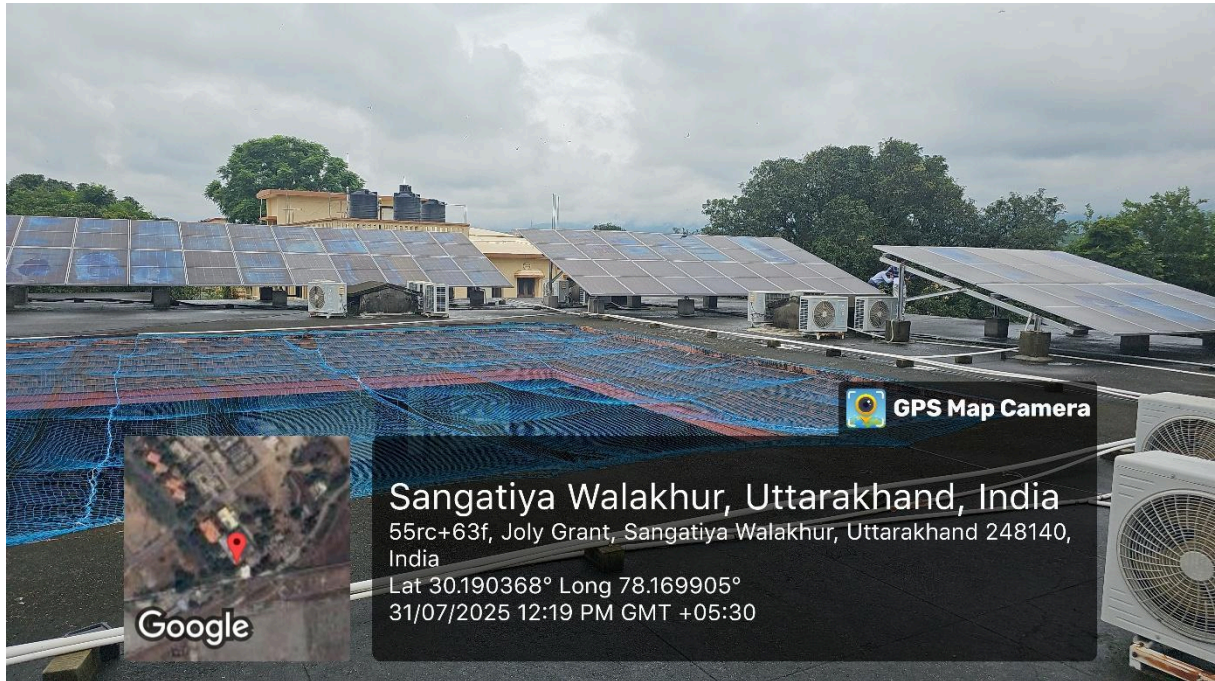
Swami Rama Himalayan University (SRHU) demonstrates a strong institutional commitment to energy sustainability, integrating clean and renewable energy sources, energy-efficient infrastructure, and smart automation into campus operations. The university's green campus initiatives address environmental responsibilities through measurable energy savings, carbon footprint reduction, and community awareness, positioning SRHU as a leader in sustainable education.

1. Renewable Energy Initiatives

1.1 Rooftop Solar Power Plants

Swami Rama Himalayan University (SRHU) is actively advancing its sustainability agenda by integrating large-scale renewable energy systems into campus operations. Since 2017, the university has installed three rooftop solar power plants with a combined capacity of 2,500 KW, covering approximately 23,695.69 square metres. Implemented under a Power Purchase Agreement (PPA) with ReNew Solar Power Ltd, these installations provide electricity at subsidized rates, delivering substantial cost savings while generating clean energy on-site. The initiative significantly reduces the university's reliance on fossil fuels, lowers greenhouse gas emissions, and minimizes its overall carbon footprint. Building on this foundation, SRHU has expanded its renewable energy capacity by an additional 1,000 KW, further strengthening its commitment to environmentally responsible and energy-efficient campus operations.

Rooftop Solar Panels at the Guest House

Rooftop solar panels at various locations of SRHU are harnessing renewable energy to promote sustainability and reduce carbon footprint.

On 17 August 2024, Swami Rama Himalayan University (SRHU) commissioned a new 1 megawatt (MW) rooftop solar power plant under a Power Purchase Agreement (PPA) with M/S Baskhi Engineering Works. The on-grid installation features monocrystalline dual-side solar panels, each rated at 545 watts, and spans an area of approximately 4,500 square metres on the university campus. The system is expected to generate around 136,435 kilowatt-hours (kWh) of electricity each month. This development enhances SRHU's renewable energy capacity, reinforces its commitment to sustainability, and reduces dependence on conventional fossil fuels.

Inauguration of the new 1 MW rooftop solar plant at the University building, SRHU

26.2°C DEHRADUN   THURSDAY, JULY 3, 2025

The Premier English Daily of Uttarakhand

Garhwal Post

For Tomorrow's People!

Commemorating
27 Years of Excellence & Committed Journalism

HOME   UTTARAKHAND   DEHRADUN   MUSSOORIE   INTERVIEW   FEATURES   EDITORIALS   POLITICS   CINEMA   SPORTS

Home > Dehradun > New 1000 kW rooftop solar plant inaugurated at SRHU by Chairman Dr...

DEHRADUN   UTTARAKHAND

New 1000 kW rooftop solar plant inaugurated at SRHU by Chairman Dr Vijay Dhasmana

By Garhwal Post - September 7, 2024   👁 848   💬 0

SHARE   f Facebook   🐦 Twitter   G+   P

By OUR STAFF REPORTER

Dehradun, 6 Sep: Swami Rama Himalayan University (SRHU), Jolly Grant, has set yet another example in the field of energy conservation. A new 1000 kW rooftop solar plant has been installed, with the formal inauguration done by Chairman Dr Vijay Dhasmana. With this, the university's total rooftop solar plant capacity has increased to 2500 kW.

According to a report, global carbon dioxide emissions are nearing pre-pandemic levels. SRHU Chairman Dr Vijay Dhasmana said the main reason for this is the massive increase in electricity consumption in large institutions. Solar energy is the best option to reduce electricity consumption, as the sun has always been the most reliable source of energy.

Dr Dhasmana explained that the institution understands the importance of solar energy. A committee of experts was formed within the institute. In 2007, recognising future needs, the first step toward energy conservation was taken. Solar water heater panels were installed in the Himalayan Hospital, Cancer Research Institute, and all the hostels.

Dr Dhasmana further mentioned that, in 2017, the decision was made to join the National Solar Mission. Considering the 70% subsidy provided by the government for rooftop solar energy production in Himalayan states, the decision to install solar panels was made. A 500 kW rooftop solar panel was installed in the Nursing and Medical College.
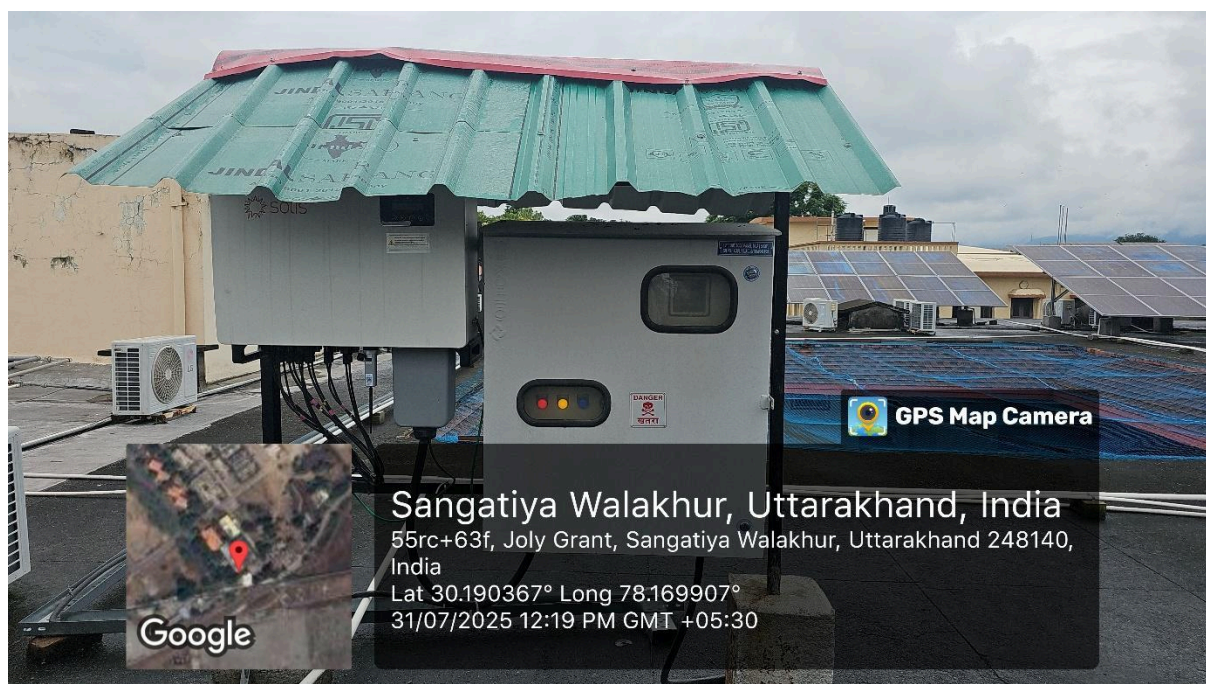
Dr Dhasmana shared that since 2017, 2500 kW of solar panels have been installed on the

News coverage of new solar plant installation at Swami Rama Himalayan University with capacity of 1000Kw

([For more information](#))

Rooftop solar panels at School of Management and School of Science and technology harnessing renewable energy to promote sustainability and reduce carbon footprint.
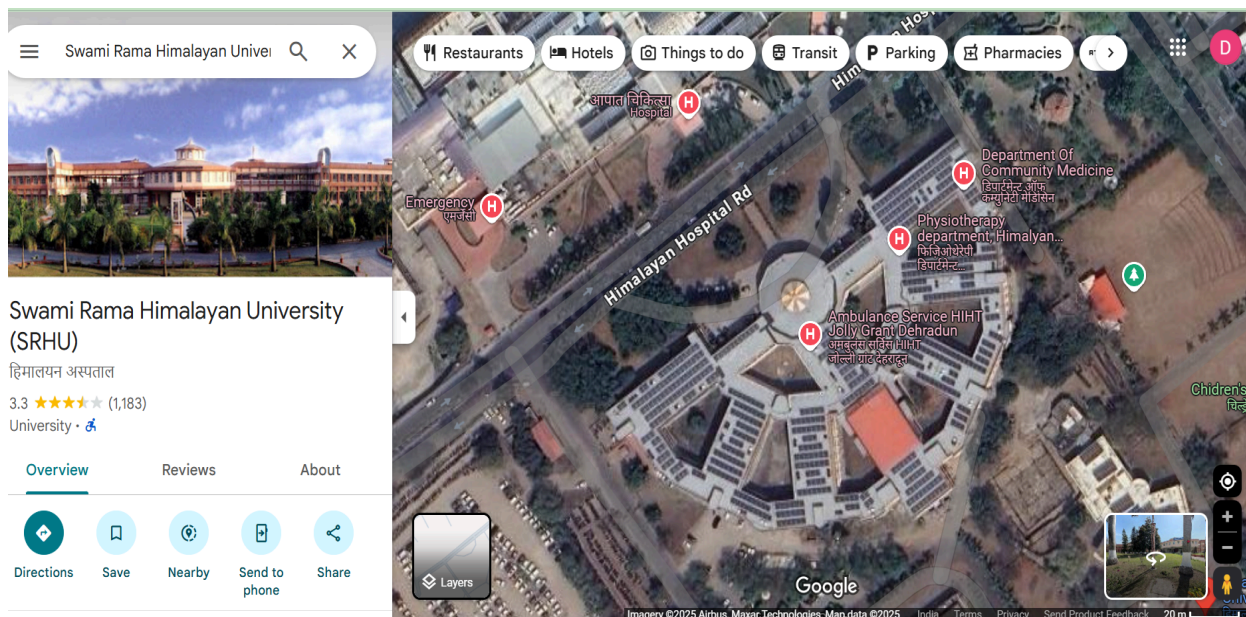

Inverter and Electrical Control Panel at the Guest House Rooftop

Sangatiya Walakhur, Uttarakhand, India
55r8+mgp, Joly Grant, Sangatiya Walakhur, Uttarakhand
248140, India
Lat 30.191684° Long 78.166156°
12/06/2025 11:05 AM GMT +05:30

Sangatiya Walakhur, Uttarakhand, India
55r8+mgp, Joly Grant, Sangatiya Walakhur, Uttarakhand
248140, India
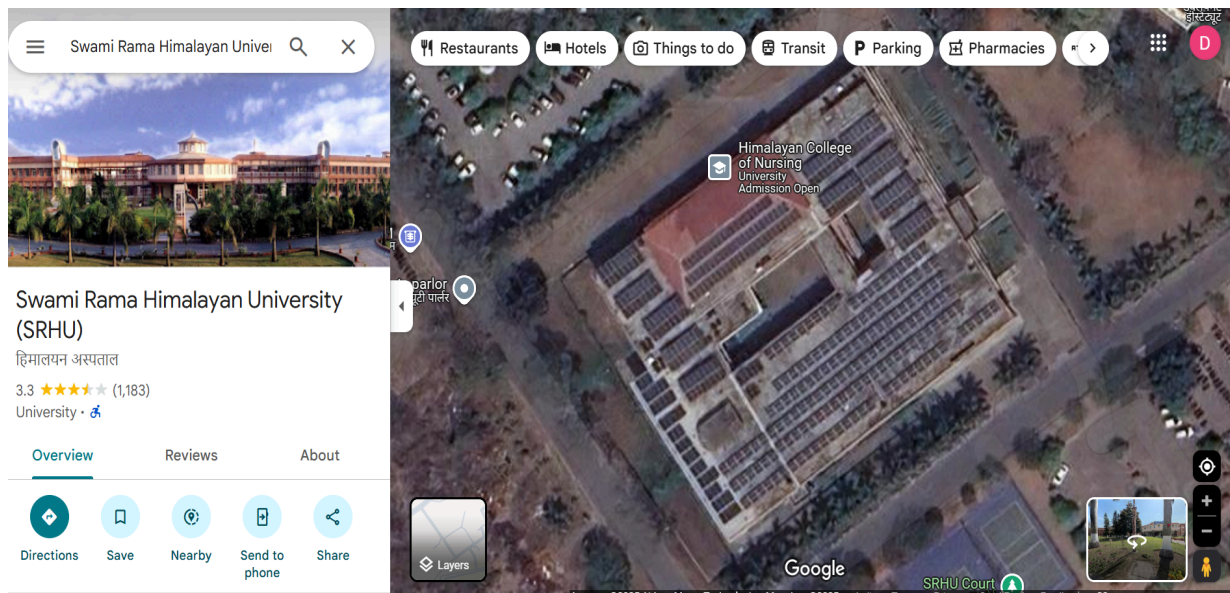Lat 30.191674° Long 78.166155°
12/06/2025 11:05 AM GMT +05:30

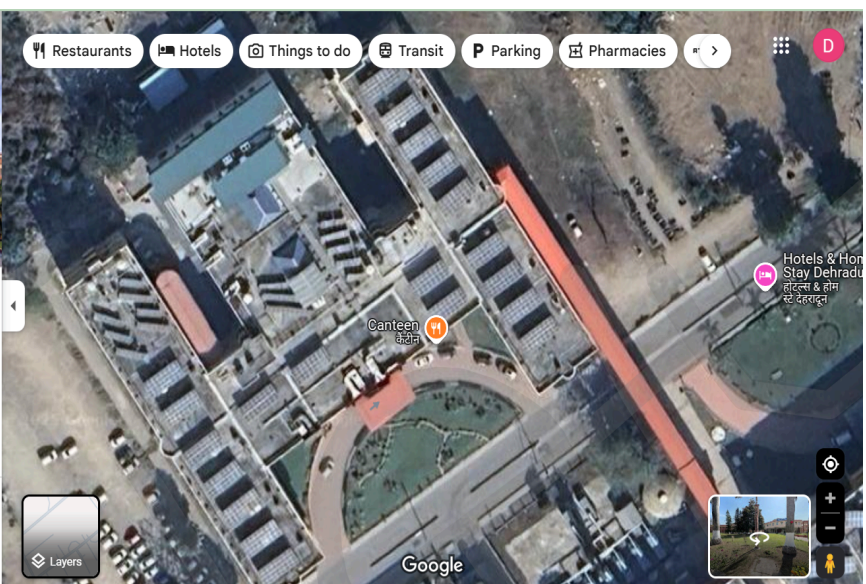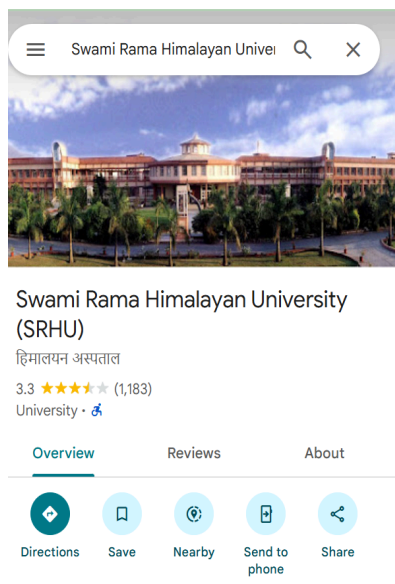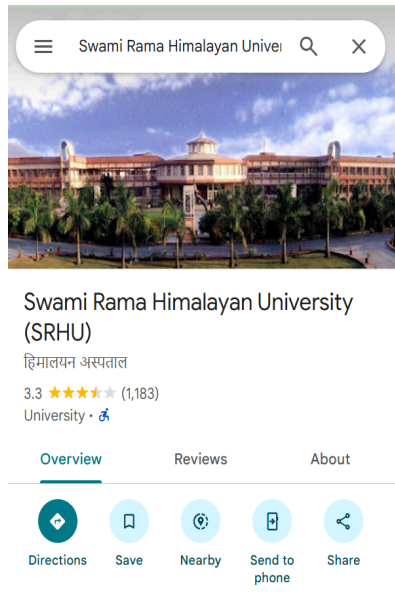**Solar PV plant on- grid inverter for wheeling to the grid**

Aerial view of Solar panels at HIMS (Google Maps)

Aerial view of Solar panels at HCN (Google Maps)

Aerial view of Solar panels at SMS, SST and Cancer Research Institute (CRI), SRHU (Google Maps)

- **Total power generated (2022–2025):** 71,60,055 kWh

- **Financial savings:** ₹2.51 crore

- **Contribution to total energy demand:**

  o 2022–23: 16.28%

  o 2023–24: 14.76%

  o 2024–25: 17.43%

- **Grid export (2022–2025):** 3,74,368 kWh

- **Environmental Impact:** Offset ~1,455 tons of CO_2 emissions annually

1.2 Solar Water Heating Systems

Swami Rama Himalayan University (SRHU) has installed an advanced solar water heating infrastructure with a total installed capacity of 50,000 litres per day (LPD). This system is a cornerstone of the university's energy conservation strategy and plays a critical role in reducing dependence on conventional electricity for water heating needs across its healthcare and residential facilities.

The solar water heating system ensures a **round-the-clock supply of hot water** to:

- Hospital wards and Intensive Care Units (ICUs)
- Cancer Research Institute (CRI) facilities
- Residential hostels
- Centralized cleaning and sanitation operations

These systems significantly offset electricity usage by utilizing **solar thermal energy**, contributing to a cleaner and more sustainable campus operation.
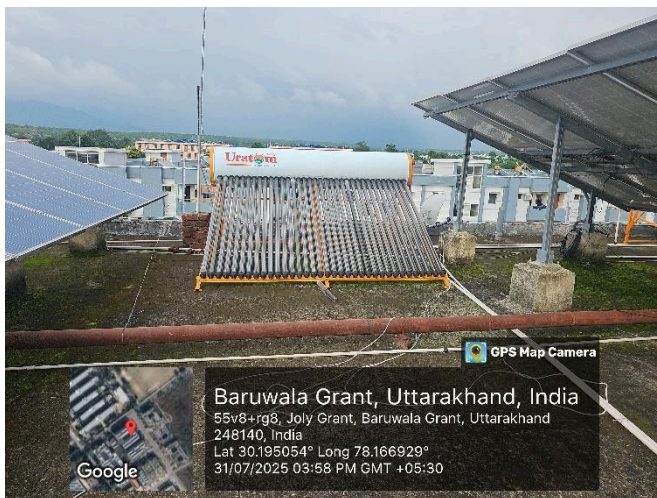
Solar water Heater installed at the rooftop of working women hostel

- **Electricity Saved (Last 3 Years):** 22,50,000 kWh
- **Thermal Energy Saved:** 8100 GJ
- **Cost Savings:** ₹1.28 crore
- **Subsidy Received:** ₹24.78 lakh from UPCL

Environmental and Social Impact:

- Reduces greenhouse gas emissions from electricity-based water heating

- Promotes eco-friendly patient care services

- Ensures energy access to essential facilities, aligning with SDG 7.1 (universal access to modern energy services)

- Demonstrates institutional leadership in low-carbon healthcare infrastructure

By integrating this solar thermal system, SRHU not only reduces its operational costs but also upholds its commitment to **environmental stewardship** and **sustainable public service delivery**.

2. Energy Efficiency Measures

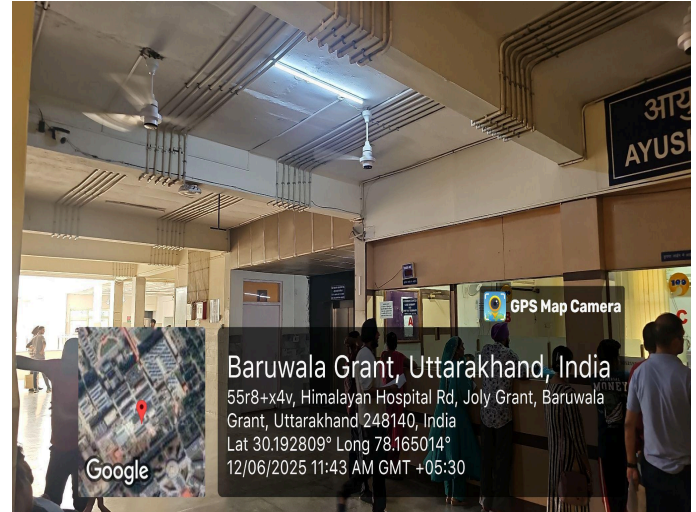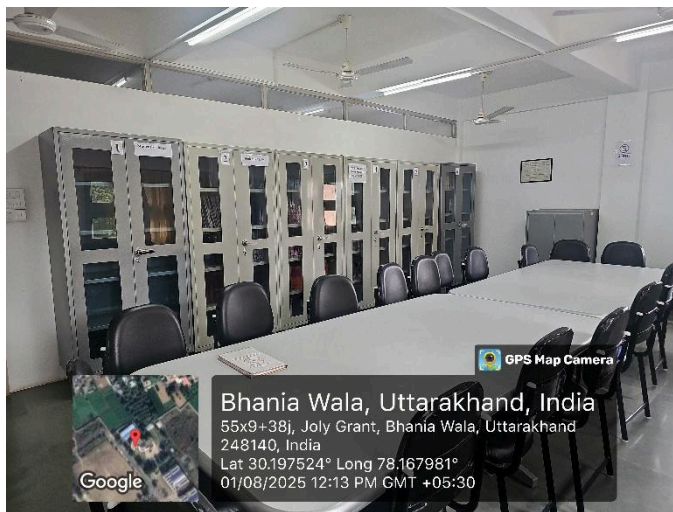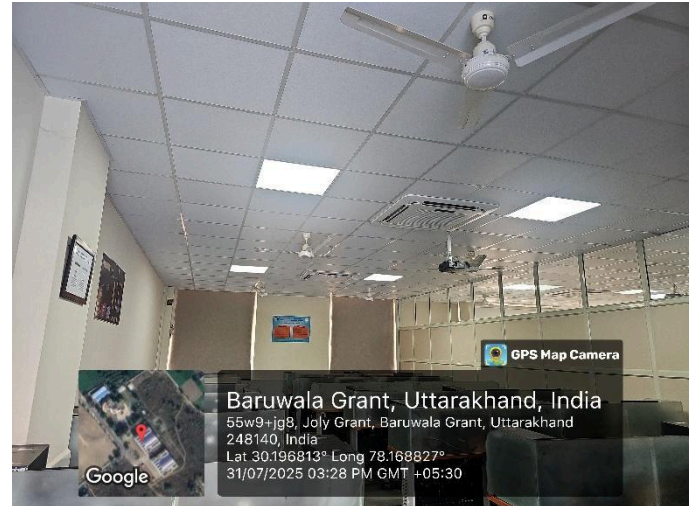### 2.1 Lighting and Motion Sensors

As part of its institutional commitment to energy efficiency and responsible resource use, Swami Rama Himalayan University (SRHU) has undertaken comprehensive lighting modernization across the campus and hospital premises. The university has adopted 100% LED lighting, supplemented with smart automation technologies such as motion sensors and timed lighting control systems, contributing significantly to energy conservation and carbon footprint reduction.

Key Initiatives and Outcomes

Campus-wide LED Installation

- All conventional lighting fixtures across academic blocks, hostels, laboratories, administrative offices, hospital wards, ICUs, operation theatres, and outdoor areas have been replaced with energy-efficient LED lights.

- LEDs consume up to 80% less electricity compared to traditional fluorescent or incandescent bulbs, drastically reducing energy bills and greenhouse gas emissions.

- The transition enhances illumination quality, increases bulb lifespan, and reduces maintenance frequency, aligning with SDG Target 7.3: Energy Efficiency Improvement.


LED lighting at the University office as a step promoting energy efficiency

Smart Motion Sensor Lighting

- 144 motion sensor-controlled lighting points have been installed in hostel toilets, washrooms, staircases, and corridors.

- These Passive Infrared (PIR) sensors detect human presence and automatically switch lights on or off based on movement.

- This not only minimizes unnecessary energy use but also instills energy-conscious behavior among students and residents.
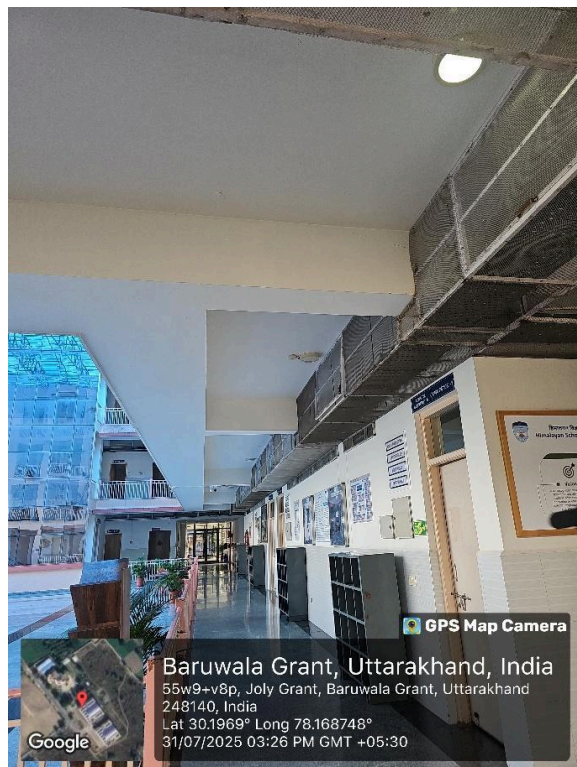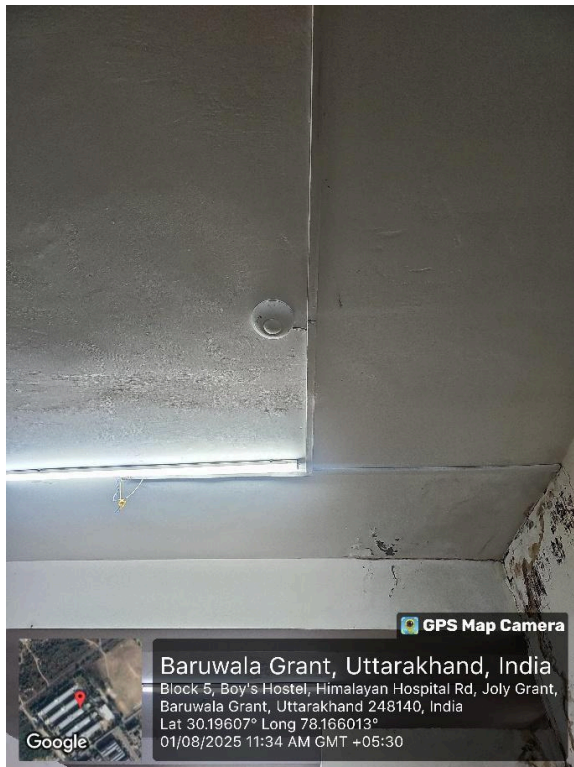
Motion sensor-controlled lighting points

For video click here

2.2 BLDC Fans

In alignment with its energy efficiency goals and commitment to reducing its carbon footprint, SRHU has successfully implemented a large-scale replacement of conventional ceiling fans with energy-efficient Brushless Direct Current (BLDC) fans across the campus.

Over the past three years, the University has replaced a total of 1,390 conventional ceiling fans (each rated at 70W) with 32W BLDC fans in high-occupancy areas such as:

- Classrooms
- Administrative offices
- Hospital waiting areas
- Hostels
- Laboratories and corridors

Energy-efficient BLDC (Brushless Direct Current) fans within hospital premises to enhance energy conservation
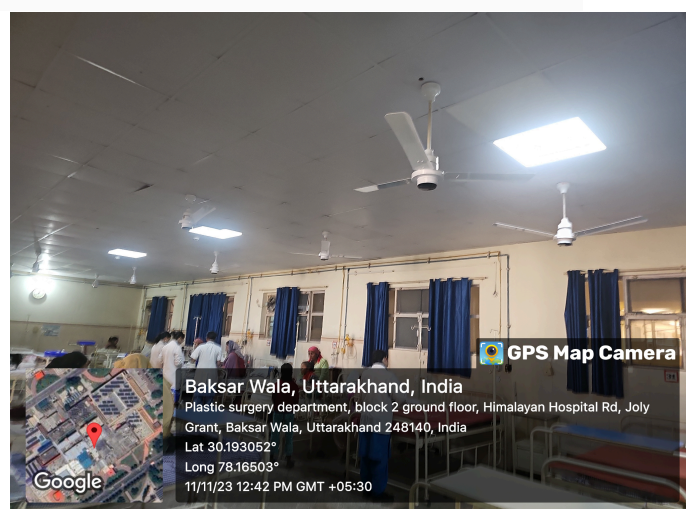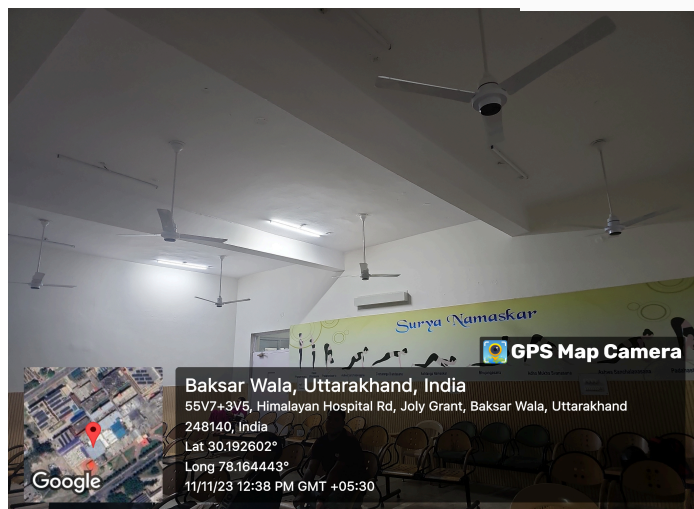
BLDC Fans at Radiology Waiting Area BLDC Fans at Obstetric ward, Himalayan Hospital

Year-wise Breakdown of Fan Replacement and Savings

Year	Fans Replaced	Energy Saved (kWh)
2022–23	550	1,00,320 kWh
2023–24	620	1,13,088 kWh
2024–25	220	40,128 kWh
Total	1,390	2,53,536 kWh

2.3 Energy-Efficient Air Conditioning

To reduce electricity consumption and improve indoor climate control, SRHU has adopted a range of energy-efficient air conditioning technologies across its academic, administrative, and healthcare facilities.

Over 800 BEE star-rated split inverter air conditioners have been installed throughout the campus. These units are designed to adjust their cooling output based on room conditions, leading to energy savings of 20–45% compared to conventional air conditioners. They also offer improved thermal comfort and lower operating costs.

Energy Efficient split inverter air conditioners

To support localized cooling needs, SRHU also employs Variable Refrigerant Volume (VRV) and air-cooled DX systems, which allow independent temperature control in different zones while minimizing energy waste.

As part of an HVAC system upgrade, a 378-ton AC package unit was replaced with a BEE star-rated, energy-efficient unit that uses the eco-friendly refrigerant R-407. This upgrade alone has resulted in annual energy savings of 44,702 kWh, based on 12 hours of daily operation.

Energy-efficient central HVAC system at SRHU with VFD-driven pumps, heat recovery wheel, insulated chilled water pipelines, and cooling tower unit

Through these comprehensive interventions, SRHU has significantly enhanced the energy efficiency of its cooling infrastructure while maintaining high indoor air quality and thermal comfort standards. These efforts align with SDG Target 7.3 and further support the university's ISO 50001:2018-certified energy management system.

2.4 Desktop Computer Replacement

As part of its energy conservation strategy, Swami Rama Himalayan University (SRHU) has upgraded its IT infrastructure by replacing 1,270 older desktop computers—each with a power rating of 260 watts—with energy-efficient models rated at just 120 watts.

This transition has significantly reduced electricity demand in computer laboratories, administrative offices, and academic departments, where systems operate for extended hours each day. The replacement is estimated to result in annual energy savings of 53,340 kilowatt-hours (kWh), contributing to lower operational costs and a reduced carbon footprint.

Beyond energy efficiency, the new desktops also produce less heat, thereby lowering cooling loads in air-conditioned areas, which indirectly supports further energy savings in the university's HVAC systems. This initiative reflects SRHU's commitment to sustainable technology adoption and responsible resource management, in line with SDG Target 7.3 on improving energy efficiency.

Computer Lab at Department of Clinical Research, HIMS

3. Sustainable Backup Energy

Diesel Generators with AMF Panels

To ensure uninterrupted power supply for critical healthcare, academic, and research operations, Swami Rama Himalayan University (SRHU) maintains a robust and environmentally compliant backup energy system. The university operates nine diesel generator (DG) sets, each with a capacity of 500 KVA, strategically located to support essential services across the campus.

All DG sets are equipped with Automatic Mains Failure (AMF) panels and load synchronization systems. This setup enables automatic start-up during grid outages and ensures that only the necessary number of generators operate based on real-time demand, thereby reducing unnecessary fuel consumption and optimizing efficiency.

The DG infrastructure complies fully with Central Pollution Control Board (CPCB) standards for both emission stack height and permissible noise levels. To ensure ongoing compliance and operational safety, sound and emission testing is conducted every six months by NABL-accredited laboratories.

In the year 2024–25, the DG sets contributed only 2.59% of the university's total annual power demand, demonstrating SRHU's primary reliance on renewable and grid-supplied clean energy, while using diesel power only as a supplementary source during outages.

This balanced approach supports operational resilience while aligning with SRHU's commitment to environmental responsibility and sustainable energy management.

Baksar Wala, Uttarakhand, India
Jolly Grant, Joly Grant, Baksar Wala, Uttarakhand
248140, India
Lat 30.193651° Long 78.164798°
12/06/2025 11:38 AM GMT +05:30

500 KVA diesel generator sets at SRHU with AMF panels and load synchronization systems, ensuring reliable backup power while meeting CPCB emission and noise standards.

4. Clean Cooking Fuel: Biogas Plant

Swami Rama Himalayan University (SRHU) operates a 4 m³/day capacity biogas plant on campus. It uses cow dung from the university dairy and kitchen waste from the guest house as feedstock. The biogas produced is used for cooking in the university guest house, replacing approximately 36 commercial LPG cylinders annually, which equals about 685.44 kg of LPG.

This initiative reduces reliance on fossil fuels, promotes the reuse of organic waste, and supports the university's environmental sustainability efforts in line with SDG Target 7.2.

Biogas plant behind the university guest house.

5. Heat Reduction and Building Design

- **Heat reflective roof paint** and **heat reflective glass (293 sqm)** used in air-conditioned areas.
- Enhances HVAC efficiency and reduces heat load.

6. Monitoring and Certifications

Air Quality Monitoring

Air Quality Index (AQI) display monitors have been installed in the university campus to provide real-time air pollution data. This helps the campus community stay informed and supports efforts to maintain a healthy environment. The monitor also aids in tracking air quality trends to promote sustainability and better environmental practices.
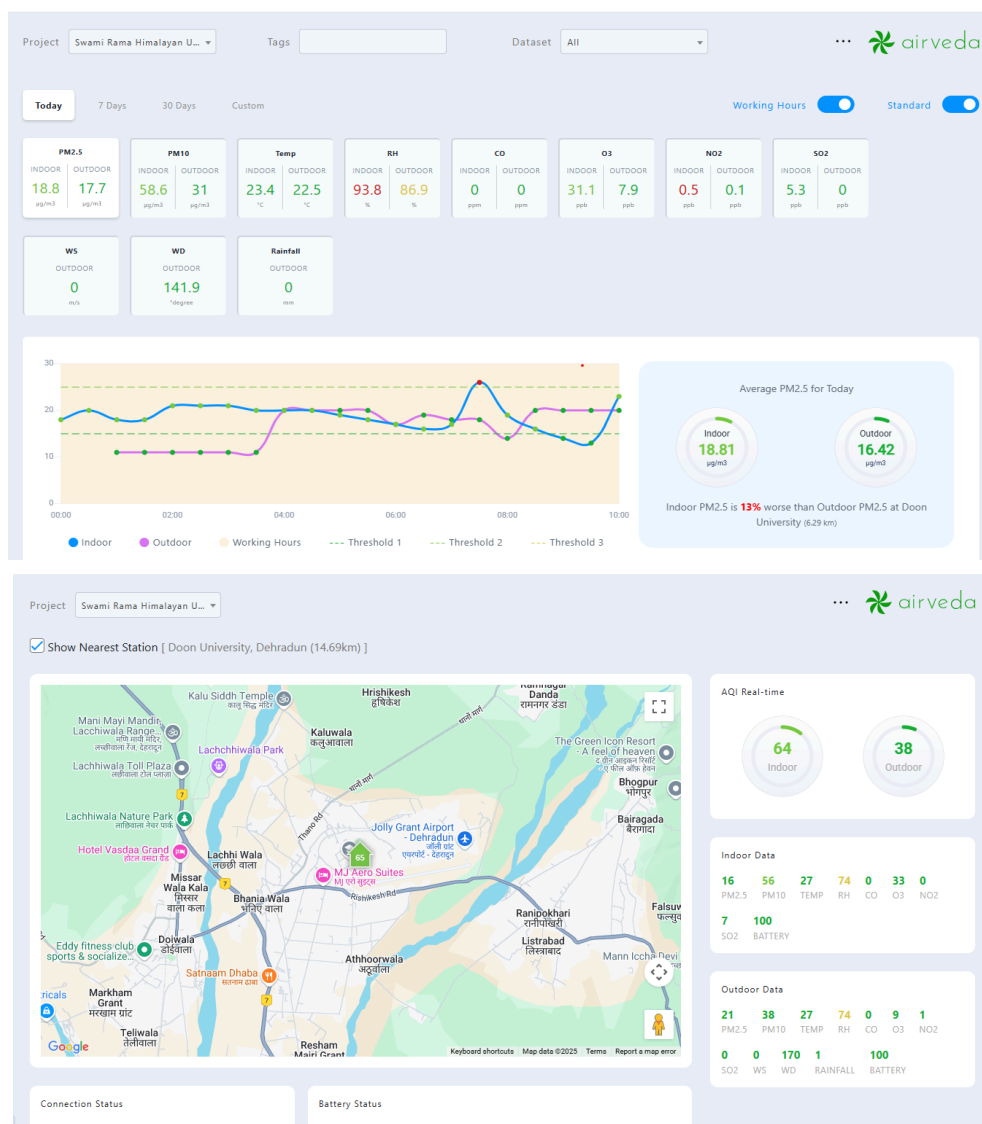
Air Quality Index (AQI) display monitor showing real-time air pollution data on campus.

Awards and Certifications

- **Platinum Award** under the Service Category at the 4th CII Northern Region Green Practice Awards 2025

SRHU bagged the Platinum Award in the Service Category at the 4th CII Northern Region Green Practice Awards 2025, recognizing its strong commitment to environmental sustainability

- **Renewable Energy Champion Award** (2024) by CII Northern Region

SRHU recognized as Renewable Energy Champion at CII-Northern Region Green Practices Awards 2024

- **Green Audit Certificate** recognizing performance in:
    - Energy and water management
    - Waste reduction
    - Pollution control

Certificate awarded to the SRHU for Green Audit

- **Carbon Footprint Certificate** for emission tracking and reduction measures

CARBON FOOTPRINT CERTIFICATE 2022-23

PRESENTED TO

Swami Rama Himalayan University

Swami Ram Nagar, Doiwala, Dehradun, Uttarakhand, India

Scope of GHG emissions	tCO₂e	%
Direct emissions to air	724.5	8.67
Indirect emissions from purchased energy	9.2	0.11
Other indirect emissions	7613.9	91.2
Total tCO₂e		8347.6

ECOSCIENCE CONSULTANCY,
Dr. Gurpreet Singh
Lakshmi Vihar Colony, Bahadrabad
(Authorized Signatory) Haridwar, Uttarakhand- 249402
Lead Auditor – Green & Environment Audits
Ecoscience Consultancy, Uttarakhand

Date: 21/07/2023

CARBON FOOTPRINT CERTIFICATE 2023-24

PRESENTED TO

Swami Rama Himalayan University

Swami Ram Nagar, Doiwala, Dehradun, Uttarakhand, India

Scope of GHG emissions	tCO₂e	%
Direct emissions to air	858	9.4
Indirect emissions from purchased energy	10	0.11
Other indirect emissions	8260	90.4
Total tCO₂e		9,128

ECOSCIENCE CONSULTANCY,
Dr. Gurpreet Singh
Lakshmi Vihar Colony, Bahadrabad
(Authorized Signatory) Uttarakhand- 249402
Lead Auditor – Green & Environment Audits
Ecoscience Consultancy, Uttarakhand

Date: 24/07/2024

Certificate awarded to the SRHU for Carbon Footprints

7. Tree Plantation Drives

Swami Rama Himalayan University (SRHU) undertakes regular tree plantation drives and sustainability initiatives as part of its commitment to environmental conservation. These activities are aimed at enhancing biodiversity, maintaining ecological balance, and encouraging community participation. Plantation drives are organized throughout the year on important occasions such as Independence Day, the Harela Festival, World Environment Day, and during various community outreach programmes. Through these initiatives, the university promotes environmental awareness, enriches campus greenery, and involves students as well as local communities in conservation efforts.

Plantation drives at SRHU promoting environmental awareness

Links for few of the plantation drives

1. **Earth Day 2025 celebration with Tree Plantation**

2. **Harela Festival 2024**

3. **A Tree in the Name of Mother 2024, News Clip**

4. **Harela Festival 2023**

5. **Tree Plantation Mission 2022**