MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE (MITS)
(Deemed to be University)
NAAC Accredited with A+ Grade, NIRF India Rankings 2025 - Band: 201-300 (Engg.)
NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH,CST), MBA & MCA

SDG CELL | INSTITUTIONAL SUSTAINABILITY DOCUMENTATION



SDG 7

AFFORDABLE AND CLEAN ENERGY

SUSTAINABLE ENERGY FACILITIES AND CAMPUS INFRASTRUCTURE



Rooftop solar photovoltaic infrastructure at MITS campus

Infrastructure status: 2026 | Energy performance: 2022–2025

1. Institutional overview

Madanapalle Institute of Technology & Science (MITS), Deemed to be University, supports affordable and clean energy through on-campus rooftop solar power, efficient electrical equipment, energy-conscious building provisions and regular attention to campus energy use. These facilities integrate renewable energy deployment with the everyday operation of academic and administrative spaces.

The university expanded its rooftop photovoltaic infrastructure at the beginning of 2026. The additional system was commissioned and brought into operation during this period, increasing the combined module-rated DC capacity to 401.05 kWp. The electricity-generation statistics in this document are historical figures for the calendar years 2022–2025 and therefore precede the additional installation.

Facility profile at a glance

Indicator	Reported value
Rooftop photovoltaic capacity	401.05 kWp (module-rated DC)
Total photovoltaic modules	882 modules
Additional PV installation	250.48 kWp; commissioned in early 2026
Energy-efficient lamps	2,377 of 2,406 lamps
Energy-efficient air conditioners	216 of 216 units
Energy-efficient computers and monitors	2,220 of 2,220 units
Academic blocks assessed for sustainable building features	7 blocks; 39,070 m²
Accounted electricity and generation, 2025	744,776 kWh
Recorded solar generation, 2025	205,048 kWh

SDG 7 relevance

The facilities support increased renewable electricity use (Renewable Energy Infrastructure (Supporting UN SDG Target 7.2)), more efficient energy use in campus operations (Target 7.3), and practical learning around clean-energy technologies and infrastructure. The documented facilities provide operational examples for academic study, conservation awareness and institutional energy management.

2. Rooftop solar photovoltaic facilities

MITS operates rooftop solar PV installations on Lakshmi Block and Saraswathi Block. The installations together comprise 882 modules. The latest module inventory corresponds to 401.05 kWp of DC nameplate capacity. Earlier campus descriptions use rounded capacities of approximately 150 kW and 250 kW for the two rooftop systems.



Lakshmi Block: earlier rooftop PV installation



Saraswathi Block: additional rooftop PV installation

Installed photovoltaic module inventory

Installation group	PV modules	Year of commission	Module rating	DC capacity
Earlier installation	478	2016	315 W	150.57 kWp
Additional installation	404	2026	620 W	250.48 kWp
Total	882	---	—	401.05 kWp

The additional 404-module installation was commissioned in early 2026. Together, the photovoltaic systems strengthen on-site clean electricity generation capacity and provide opportunities for students and faculty to observe operational renewable-energy infrastructure.



Installed capacity by installation group (module-rated DC)

3. Energy-efficient lighting and electrical equipment

MITS uses LED and other energy-efficient lighting, efficient computing equipment and air-conditioning systems to support teaching, laboratories, offices and common spaces. Photographic records show illuminated learning spaces, classrooms, air-conditioning equipment and a solar-powered outdoor lighting installation.



LED lighting in an institutional auditorium



Energy-efficient lighting in a classroom

Reported equipment inventory

Equipment	Total installed	Energy-efficient units	Share
Lamps	2,406	2,377	98.8%*
Air conditioners	216	216	100%
Computers and monitors	2,220	2,220	100%

*Lamp share calculated as 2,377 ÷ 2,406 × 100 and rounded to one decimal place. Inventory counts are the recorded figures available for this facilities profile.



Air-conditioning infrastructure



Solar-powered outdoor lighting

Ongoing energy-efficiency performance depends on equipment specification, operating hours, preventive maintenance and user practices. The inventory establishes the recorded presence of efficient devices; it does not by itself quantify annual electricity savings.

4. Energy-conscious academic buildings

Seven campus blocks have been assessed against sustainable building features. The reported features include electrical energy monitoring, safety provisions, aspects of indoor environmental quality, use of daylight and efficient lighting. The collective assessed floor area is 39,070 m².

Academic block	Assessed building area
Lakshmi Block	8,938 m²
Saraswathi Block	8,880 m²
Shiva Block	2,403 m²
Sreenivasa Block	8,723 m²
Vinayaka Block	2,340 m²
Krishna Kumar Block	4,284 m²
Nadella Peddappa Naidu Block	3,502 m²
Total assessed	39,070 m²



Shiva Block



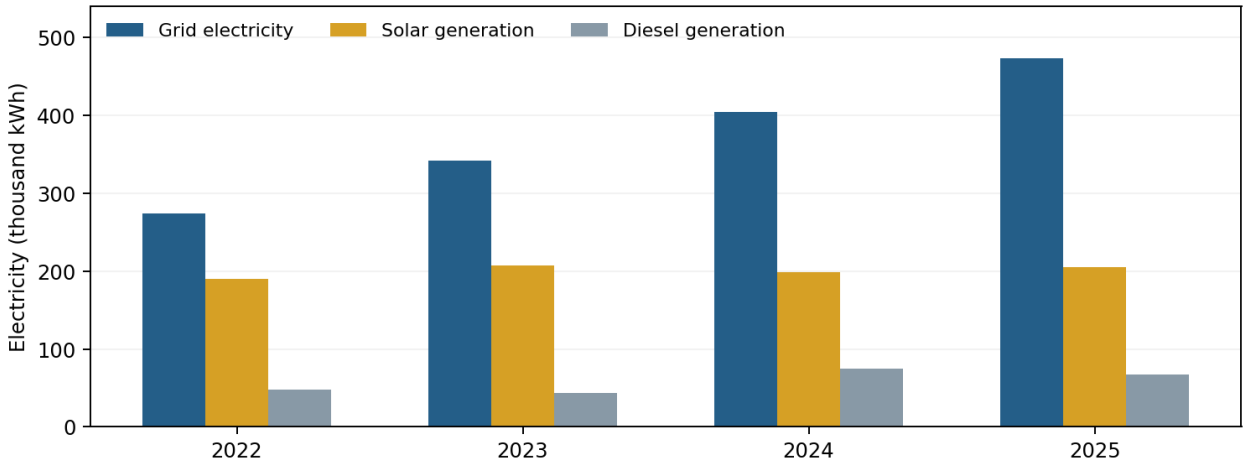
Saraswathi Block

The assessment records safety provisions, energy-monitoring indicators, daylight utilisation and energy-efficient lighting. It does not establish that every block has comprehensive automation, a fully integrated Building Management System, or independently certified smart-building status. Future facility improvements may focus on detailed sub-metering, stronger controls and measurable optimisation.

5. Electricity use and renewable generation

The reported annual energy account combines purchased grid electricity, on-campus solar PV generation and electricity generated through diesel backup generators. The annual figures cover the calendar years 2022 through 2025.

Year	Grid (kWh)	Solar (kWh)	Diesel (kWh)	Accounted total (kWh)
2022	273,993	190,029	48,070	512,092
2023	341,962	207,495	43,590	593,047
2024	404,452	198,535	74,400	677,387
2025	472,778	205,048	66,950	744,776



Annual recorded grid electricity, solar generation and backup generation (2022–2025)

2025 energy contribution

During 2025, the recorded energy account totalled 744,776 kWh: 472,778 kWh from the grid, 205,048 kWh from on-site solar PV and 66,950 kWh from diesel generation. Solar generation represented approximately 27.5% of this reported total.

2025 energy component	Quantity	Share of total
Grid electricity	472,778 kWh	63.5%
Rooftop solar PV	205,048 kWh	27.5%
Diesel generation	66,950 kWh	9.0%

Interpretation: These are production and consumption accounting figures reported for 2025. They should not be treated as full-year performance of the additional PV installation commissioned in early 2026.

6. Campus energy management and operational practices

The university's sustainable-energy infrastructure is supported by the use of energy-efficient equipment, rooftop PV generation, daylighting opportunities in campus buildings and preventive maintenance of electrical and air-conditioning systems. Facility data provides a basis for assessing renewable energy contribution and for identifying further efficiency opportunities.

Documented operational practices

Renewable energy integration: Rooftop solar PV installed on major academic blocks with the additional system commissioned in early 2026.

Energy-efficient equipment: Deployment of efficient lamps, air-conditioning equipment, computers and monitors across the campus.

Building energy provisions: Use of daylight and energy-efficient lighting alongside recorded energy-monitoring and indoor-environment indicators in the assessed buildings.

Campus electricity accounting: Reporting grid electricity, on-site solar generation and diesel backup generation by calendar year.

Maintenance and conservation: Preventive maintenance and energy-conscious operations across academic and administrative facilities.

Areas for future enhancement

Further strengthening may include expanded sub-metering, periodic verification of PV generation, documentation of energy-saving outcomes, and improved controls for lighting and air-conditioning. These are potential improvement opportunities and are not presented as completed installations.

7. Contribution to affordable and clean energy

The campus facilities demonstrate a practical institutional contribution to SDG 7 by combining operational rooftop solar generation, energy-efficient building services and historical electricity monitoring. The early-2026 PV commissioning increased the documented solar module capacity to 401.05 kWp, while the 2025 electricity account provides a pre-expansion performance reference. Continued monitoring will help MITS assess the longer-term contribution of its additional renewable-energy infrastructure.



MITS academic campus infrastructure

Institutional website: https://mits.ac.in/ | SDG Cell: https://mits.ac.in/sdg-cell