MITS

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE

(Deemed to be University under Section 3 of UGC Act, 1956)

EXISTING BUILDING ENERGY EFFICIENCY UPGRADATION POLICY AND IMPLEMENTATION PLAN

Document information	Details
Policy Number	MITSU/SDG/EBEU-2026/01
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SDG Mapping	SDG 7 – Affordable and Clean Energy

1. Policy Statement

Madanapalle Institute of Technology & Science (MITS), Deemed to be University, is committed to progressively improving the energy performance of existing academic, administrative and support buildings. The University shall assess, prioritise, approve, implement and monitor feasible building-efficiency upgrades while maintaining safety, accessibility, teaching and research requirements, indoor comfort and service continuity.

2. Objectives

- Identify opportunities to reduce energy wastage in existing campus buildings through periodic reviews and technical assessments.
- Establish a documented programme for upgrading lighting, cooling, electrical equipment, controls and building-envelope features where feasible.
- Give preference to energy-efficient replacements and evaluate lifecycle cost, usability and safety before procurement.
- Measure the performance of completed upgrades and maintain verifiable implementation records.

3. Scope

This policy applies to existing buildings managed by the University, including teaching blocks, laboratories, offices, libraries, hostels and common facilities. It covers maintenance-led replacements, major retrofits, building-system controls and changes to operational practices. New constructions and major renovations shall also comply with the University's separate Energy-Efficient Renovation and Building Policy.

4. Existing Energy-Efficiency Context

Earlier institutional records describe LED lighting, use of natural daylight and ventilation, improvements to air-conditioning where required, conservation signage and rooftop photovoltaic systems. Their current coverage and condition shall be verified through asset records, site inspections and maintenance logs before being listed as completed upgrade achievements.

As reported for the current institutional solar installation, rooftop photovoltaic modules comprise 478 modules rated 315 W each (150.57 kWp) and 404 additional modules rated 620 W each (250.48 kWp), totalling 882 modules with a combined nameplate capacity of 401.05 kWp. The Electrical /

Estate Office shall confirm the commissioning records and operational status. Installed DC capacity is not equivalent to annual generated or consumed energy.

5. Building Energy-Efficiency Upgrade Programme

The University shall maintain a rolling building-wise upgrade plan, prepared from condition assessments and available consumption information. The following measures shall be evaluated and implemented where justified and formally approved:

- Lighting: Replace inefficient lamps or fittings with appropriate LED systems; assess occupancy sensors, daylight-based controls and zoned switching.
- Air-conditioning and ventilation: Evaluate efficient equipment replacements, maintenance of cooling systems, suitable thermostat settings, natural ventilation and airflow improvements.
- Electrical systems: Review motor and pump efficiency, power-factor correction where technically required, appropriate control systems and unnecessary standby loads.
- Building envelope and daylight: Assess shading, roof heat-gain reduction, window improvements and daylight utilisation while preserving safety and functionality.
- Energy monitoring: Review meter coverage and monthly consumption trends; identify abnormal use and verify savings after upgrades.
- Rooftop solar and associated systems: Maintain existing installations, review their performance and evaluate further integration only after technical and financial approval.

6. Implementation Plan and Timeframe

The following is the proposed sequence after approval of this policy. Individual projects, budgets and completion dates shall be confirmed through the University's established administrative procedures.

Phase / indicative period	Planned action	Responsible section
Phase I: 0–6 months	Create a block-wise asset inventory; review electricity use, lighting and cooling systems; list feasible opportunities.	Estate / Electrical Maintenance
Phase II: 6–12 months	Prioritise upgrades using technical assessment, estimated energy savings, cost, safety and operational need; obtain administrative and financial approvals.	Estate / EEE / Finance / Administration
Phase III: 12–24 months	Execute approved upgrades in phases; retain procurement, installation and commissioning documents.	Estate / Maintenance / Contractors
Ongoing	Review energy use, verify performance and report completed improvements in the annual SDG Cell documentation.	Electrical / SDG Cell / IQAC

7. Project Prioritisation and Approval

Proposed building upgrades shall be assessed for safety, functionality, expected energy reduction, initial and recurring costs, equipment lifetime, maintainability and availability of funding. Where baseline data are available, expected savings and simple payback may be calculated and recorded. No project shall be presented as completed until installation or commissioning evidence is available.

8. Monitoring, Verification and Records

- Maintain an inventory identifying building, equipment type, quantity, technical rating, status and assessment date.
- Maintain copies of approved proposals, quotations, purchase orders, invoices, inspection reports, commissioning certificates and dated photographs.
- Where metering permits, compare relevant pre- and post-upgrade consumption over comparable operational periods; record changes in occupancy, operating hours or weather where material.
- Maintain an annual summary of completed, ongoing and proposed projects, clearly distinguished by status.

  Review progress through the SDG Cell in coordination with the Estate / Electrical Maintenance Section.

9. Roles and Responsibilities

Section / unit	Responsibility
Estate / Site Office	Identify buildings and prioritise physical upgrade opportunities; coordinate execution and building records.
Electrical Maintenance Section	Prepare electrical equipment inventories, support energy monitoring, assess technical feasibility and verify installations.
Department of EEE / Civil Engineering	Provide technical advice on electrical efficiency, building envelope, ventilation and performance assessment, as appropriate.
Finance / Administration	Evaluate budgets and process approvals through established institutional procedures.
SDG Cell / IQAC	Maintain consolidated documentation, coordinate reporting and initiate periodic policy review.

10. Awareness and Review

The University shall promote energy-saving behaviour through instructions and periodic sensitisation of building users. This policy shall be reviewed every two years, or earlier when there are significant changes to building systems, institutional needs or applicable requirements. Revisions shall be approved by the competent University authority.

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