



**Marri Laxman Reddy Institute of Technology and Management**  
**(UGC Autonomous)**

**Dundigal, Hyderabad – 500043**

**Energy Management Policy**

**With effect from 28<sup>th</sup> January 2023**

## Energy Management Policy

### The Vital Role of Energy in Economic and Organizational Development

Energy is essential for the development of both nations and organizations. A country's energy demand is closely linked to its economic growth, as measured by GDP. Among various operational costs, energy expenses form a significant part. Energy intensity, which refers to the amount of energy used per unit of GDP, indicates a country's stage of development and efficiency in energy use.

Currently, our country's energy intensity is 3.7 times higher than Japan's, 1.55 times that of the USA, 1.47 times that of Asia, and 1.5 times the global average. However, the country is not energy-secure, as a large portion of its energy needs is met through imports of coal and petroleum products. Nearly 70% of the total energy demand is fulfilled by electricity generation from thermal power plants, which primarily rely on fossil fuels. This dependence leads to environmental pollution, making energy conservation a critical focus area.

To improve energy efficiency and reduce energy intensity, the Energy Conservation Act of 2001 was introduced. Sustainable development requires a strong focus on energy management, environmental protection, and ecological balance. Energy management involves the efficient and responsible use of energy to optimize costs while minimizing environmental harm. Implementing energy management programs across industries and sectors can help in significant energy savings.

Creating awareness about energy conservation is important to ensure participation from all stakeholders. Engineering colleges can play a key role in spreading knowledge about energy conservation among students, schools, and society while also assisting industries in adopting energy-efficient practices.

An Energy Audit is a valuable tool for identifying potential energy savings. It helps reduce energy costs by evaluating energy usage and recommending improvements based on technical and financial feasibility. By conducting energy audits and implementing conservation strategies, organizations and industries can enhance efficiency, reduce waste, and contribute to a more sustainable future.

### Initiatives:

- Enhance energy efficiency through advanced equipment, natural daylight, improved ventilation, and alternative energy solutions.
- Promote renewable energy to ensure sustainability and energy security.
- Raise awareness on energy conservation through education, advocacy, and community engagement.

Under this policy, MLRITM commits to accomplish the following objective

- Improve energy efficiency to minimize consumption and operational costs.
- Prevent energy wastage through disciplined maintenance and best practices.
- Minimize environmental impact by advocating for the adoption of sustainable energy practices

### **Energy Management Guidelines**

- Optimize energy procurement by securing the most cost-effective sources.
- Maximize energy efficiency to ensure optimal utilization with minimal waste.
- Implement cost-effective technologies that require low investment while improving performance.
- Adopt the 3R approach—Reduce, Reuse, and Recycle—to minimize resource wastage.
- Promote fuel substitution by exploring cleaner and more efficient alternatives.
- Encourage the use of renewable energy to enhance sustainability and energy security.

<b>S.no</b>	<b>Types of Energy</b>	<b>Energy Usage</b>
1	Electrical energy	<ul style="list-style-type: none"><li>• Water distribution mechanisms</li><li>• IT infrastructure and accessories</li><li>• Illumination for interior and exterior areas</li></ul>
2	Solar energy	Alongside primary energy sources, a solar energy system with a capacity of 160 kW has been set up, featuring connectivity to the power grid.
3	Biogas	Cooking in the canteen

### **Electrical Supply system**

The campus is powered by an 11kV HT supply, stepped down to 415kVA via a 315kVA transformer and distributed through a protected underground network. A 160kW solar plant integrates with conventional power via a bidirectional switch, ensuring uninterrupted supply. Excess solar energy is fed into the grid daily

### **Backup Power Supply**

The institute is equipped with generators as:

1. 250 KVA
2. 200 KVA
3. 125 KVA

In addition to power backup solutions, UPS systems support all departments, laboratories, ICT-equipped classrooms, and shared facilities. The institute has a 550 KVA UPS in place to maintain continuous power availability.

### **Optimization of reactive power**

The institute is equipped with a 150 KVAR capacitive bank for power factor correction.

### **Strategy for Success**

- Maximize energy resource efficiency by implementing cleaner and more advanced technologies.
- Equip faculty, students, and industry professionals with the skills needed to position the institute as a pioneer in energy conservation.
- Foster widespread awareness of energy conservation practices among diverse societal groups.
- Expand expertise in energy conservation through collaboration and idea-sharing with external organizations.
- Motivate faculty members to achieve certification as professional energy auditors and managers.
- Regularly conduct internal energy audits to pinpoint and capitalize on energy-saving opportunities.
- Provide energy management consultancy and audit services to industries and organizations, leveraging our expertise in the field.

