



PARMITA EDUCATION SOCIETY

# MODERN COLLEGE

OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

Reg. No. F-11895/"A'bad" (Affiliated to Dr. B.A.M.U. University, Aurangabad.)

## Policy Report : Alternate Energy Sources and Energy Conservation Measures

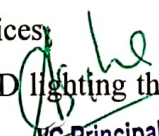
**Introduction :** This policy report outlines the college's commitment to enhancing energy efficiency and sustainability through the implementation of LED lighting across the campus. By transitioning to LED lights, the college aims to significantly reduce its carbon footprint, decrease energy consumption, and foster a greener and more environmentally friendly campus. The goals are to minimize energy waste, lower electricity costs, and contribute to the overall sustainability initiatives of the institution.

### Aims:

1. **Energy Efficiency:** Enhance the college's energy efficiency by transitioning to LED lighting.
2. **Cost Savings:** Reduce electricity expenses through the adoption of energy-efficient LED lights.
3. **Environmental Stewardship:** Lower the college's carbon footprint and contribute to a greener campus by minimizing energy consumption.

### Objectives:

1. **Complete LED Installation:** Replace all traditional lighting systems with LED lights across the campus within a set timeline.
2. **Energy Monitoring:** Implement a system to track energy usage and savings resulting from the LED transition.
3. **Sustainability Education:** Raise awareness within the college community about the benefits of LED lighting and promote energy conservation practices.
4. **Ongoing Maintenance:** Ensure the long-term efficiency of LED lighting through regular maintenance and timely replacements.

  
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5. **Annual Evaluation:** Review and report on the energy savings, cost reductions, and environmental impact achieved through the LED lighting initiative each year.

## Implementation Strategies:

**Sensor-Based Energy Conservation :** This initiative utilizes sensors to automate energy use in rainwater harvesting system implementation

### Working method:

**Sensor Function:** The system uses water level sensors installed inside the rainwater harvesting tanks. These sensors are designed to detect the level of water in the tank continuously.

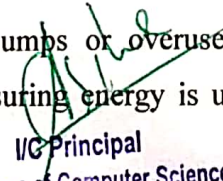
**Working :** The sensor-based rainwater harvesting system is designed to optimize water collection and management on campus. The system uses water level sensors to monitor the levels in the harvesting tanks. When the water reaches a certain level, the system automatically redirects excess water away from the campus, preventing overflow and ensuring efficient water use.

**Optimized Water Management:** The system ensures that rainwater is efficiently collected, stored, and used, maximizing the use of natural resources and minimizing waste.

**Overflow Prevention:** By automatically detecting when the water level reaches its maximum capacity and diverting excess water, the system prevents overflow, protecting campus infrastructure from water damage.

### Reduced Pumping Energy:

The automated detection and diversion of excess water eliminate the need for constant manual monitoring, reducing the energy consumption associated with manual pumps or ~~overuse~~ of automated systems. The system only activates pumps when necessary, ensuring energy is used efficiently.

  
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## Use of LED bulbs/ Power efficient equipment:

The college has implemented various initiatives for utilizing alternate sources of energy and energy conservation measures, particularly focusing on the arrangement of lighting. These efforts aim to reduce energy consumption, minimize carbon footprint, and promote sustainability on campus. Here are the key components of the lighting arrangement:

### LED Bulbs and Power-Efficient Equipment

#### Lower Energy Consumption:

LED bulbs use significantly less energy compared to traditional incandescent or fluorescent bulbs. For example, an LED bulb can provide the same amount of light as a 60-watt incandescent bulb while using only about 8-10 watts of power.

#### Enhanced Energy Efficiency:

**Automatic Adjustments:** Motion sensors and timers ensure that lights are only on when necessary, reducing energy consumption and minimizing wasted electricity.

**Reduced Energy Bills:** By operating lights only when needed and adjusting based on occupancy, the system lowers overall electricity usage, leading to significant cost savings on energy bills.

**Lower Maintenance Costs:** Smart lighting systems often have longer-lasting bulbs and reduced operational wear, leading to fewer replacements and lower maintenance expenses.

Awareness campaigns are held to inform students and staff about energy-saving practices, including turning off lights, fans, and electronic devices when they are not in use.

### Inverters and Energy Efficiency Initiatives

**Energy Efficiency:** The college has adopted the use of inverters to enhance energy efficiency by providing a reliable backup power source during electricity outages, ensuring minimal disruption to academic activities and operations.

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**Reduction in Power Consumption:** By using inverters, the college can manage power more effectively, especially during peak load periods, reducing overall electricity consumption and lowering utility costs.

**Uninterrupted Power Supply:** The implementation of inverters ensures a continuous power supply to critical areas like computer labs, libraries, and administrative offices, thereby maintaining the college's productivity and safety.

**Environmental Impact:** The use of inverters contributes to the college's commitment to reducing its carbon footprint by optimizing energy use and minimizing the reliance on diesel generators, which emit harmful pollutants.

**Sustainability Goals:** Integrating inverters into the campus infrastructure aligns with the college's broader sustainability goals, promoting a more environmentally conscious and energy-resilient campus.

**Cost Savings:** Over time, the use of inverters contributes to significant cost savings by reducing the need for expensive fuel-based generators and minimizing energy wastage.

#### **Monitoring and Evaluation :**

Regular monitoring of energy usage is carried out to evaluate the success of the implemented strategies.

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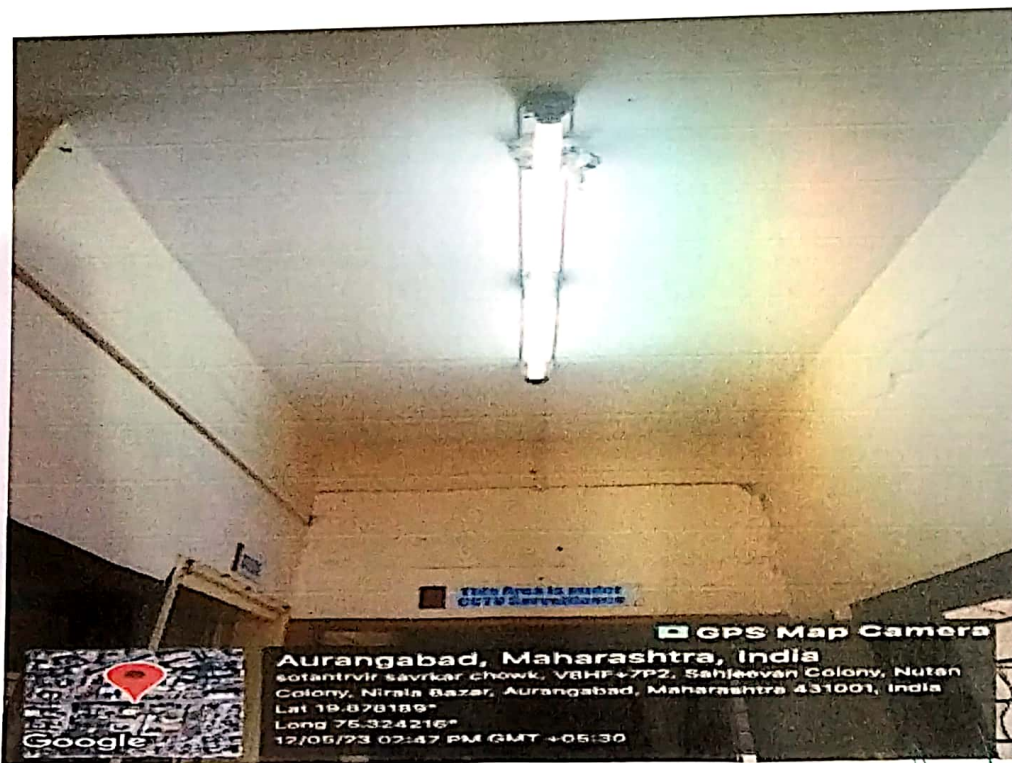
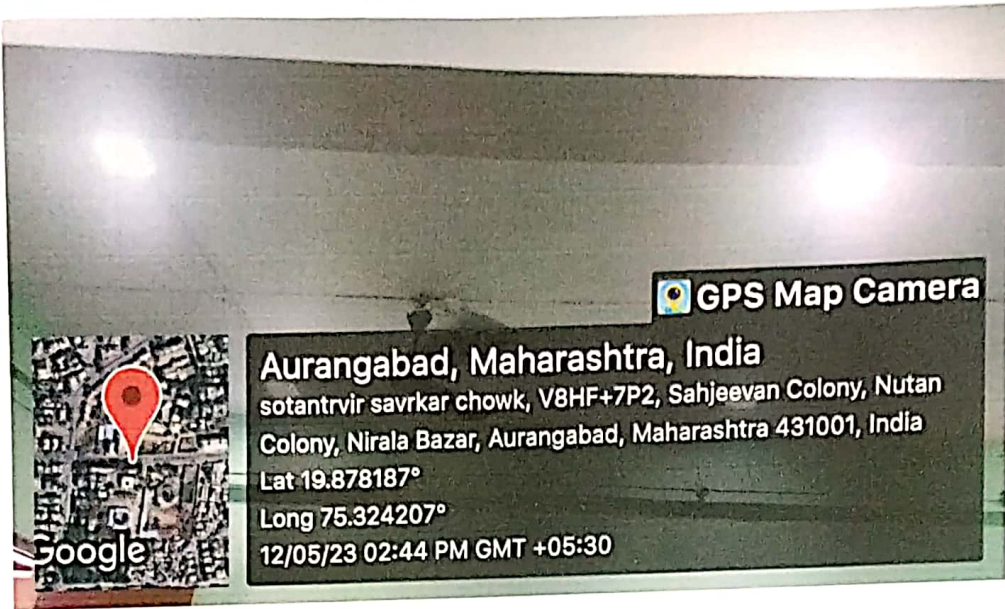


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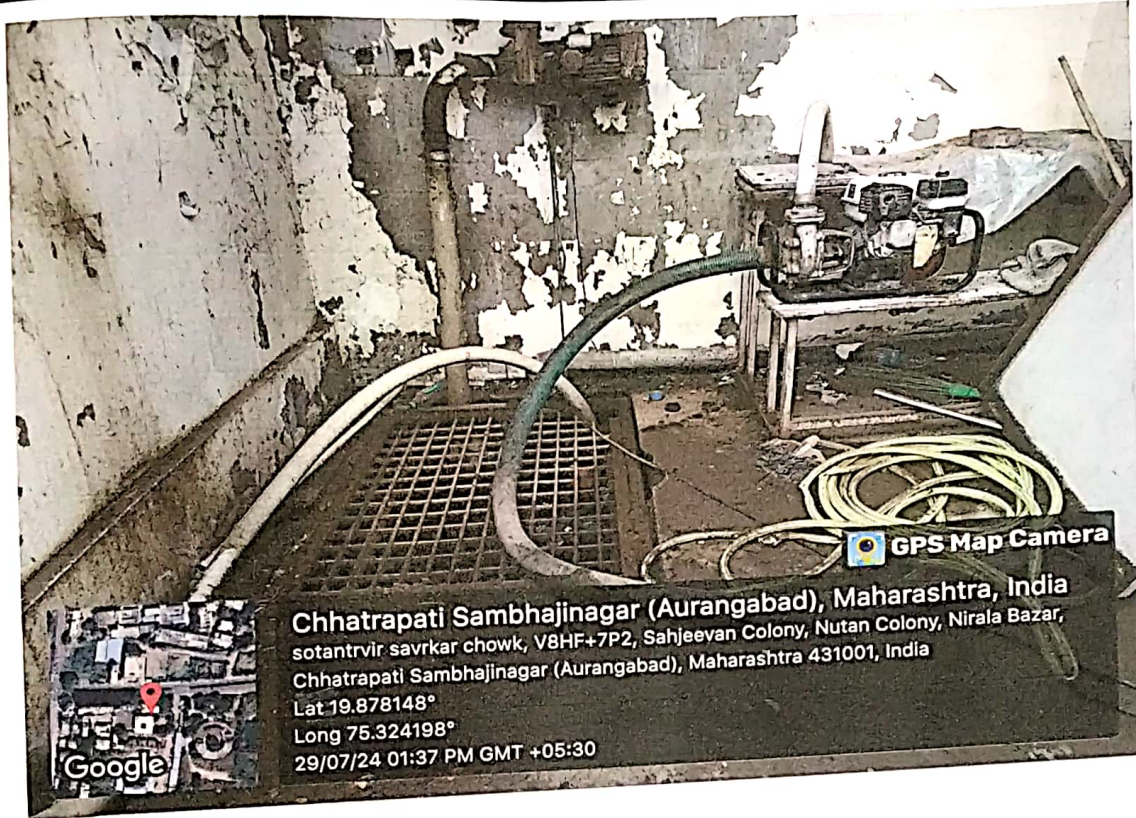


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