Policy Report: Alternative Energy Sources and Energy Conservation Measures

Introduction: Climate change has necessitated a shift towards sustainable energy practices. This policy report outlines the college's commitment to utilizing alternative energy sources and implementing energyconservation measures. The goals of college are to reduce mazimum carbon footprints, decrease dependence on fossil fuels, and contribute to a greener campus environment.

Aims and Objectives

- **Reduce reliance on conventional power sources:** By promoting alternative energy sources, the college aims to lessen the dependence on the traditional electricity grid.
- **Minimize energy consumption:** Through various conservation efforts, the college strives to significantly decrease overall energy usage.
- **Promote environmental sustainability:** Implementing these measures contributes positively to environmental well-being.
- **Cost savings:** Utilizing alternative energy and saving energy leads to reduced operational costs.

Implementation Strategies:

1. Solar Energy:

- **Solar Panels:** Rooftops of the main building are equipped with 93 solar panels generating 50 kW of power, meeting a substantial portion of the institute's monthly needs (6000 units).
- **Solar Water Heaters:** Hostels (girls', boys', and staff quarters) utilize solar water heaters with a capacity of 2000 liters each. This not only saves energy but also reduces electricity costs associated with water heating. (Estimated daily power savings: 100 kWh).

2. **Wheeling to the Grid:** To contribute excess energy generated from solar panels to the grid, promote renewable energy integration, and reduce greenhouse gas emissions.
   - Wheel excess energy generated from solar panels to the grid through appropriate agreements and arrangements.
   - Support the broader transition to sustainable energy systems by contributing renewable energy to

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the grid.

- Excess energy generated from solar panels is wheeled to the grid through wheeling arrangements.
- The college collaborates with relevant authorities and stakeholders to facilitate the integration of renewable energy into the grid.
- **Renewable energy integration:** Wheeling excess energy to the grid supports the integration of renewable energy sources into the electricity grid.
- **Greenhouse gas reduction:** By contributing renewable energy to the grid, the institution helps reduce greenhouse gas emissions associated with conventional energy generation.
- **Environmental sustainability:** Supporting renewable energy integration aligns with the institution's commitment to environmental sustainability and mitigating climate change.

3. **Sensor-based Energy Conservation:** This initiative utilizes sensors to automate energy use in classrooms, promoting both learning and energy conservation.

- **Working Method:**
  - **Occupancy Sensors:** These detect presence in the classroom.
  - **Lights & Projectors:** When no one is present, lights and projectors automatically switch off, saving electricity.
  - **Smart Boards:** Interactive whiteboards eliminate the need for computers and their associated energy consumption.
- **Benefits:**
  - **Reduced Energy Consumption:** Lower electricity bills and a smaller environmental footprint.
  - **Enhanced Learning:** Focus on engaging smart board lessons without computer distractions.
  - **Streamlined Operations:** Automatic controls minimize manual intervention.

4. **LED Bulbs and Power-efficient Equipment:**

- The college is replacing traditional incandescent bulbs and CFL lights with energy-efficient LEDs, offering significant power savings (e.g., 10-watt LED providing the same illumination as a 60-watt incandescent bulb).

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- The policy encourages the use of power-efficient appliances whenever replacements are needed.

5. Behavioral Practices:

- Awareness campaigns are conducted to educate students and staff on energy-saving practices, such as switching off lights, fans, and electronic devices when not in use.
- Maintaining a comfortable yet energy-efficient air conditioning temperature (24°C) is recommended.
- Hostel mess staff is instructed to avoid placing hot items directly into refrigerators, reducing energy consumption for cooling.

❖ **Monitoring and Evaluation:**

- Regular monitoring of energy consumption are conducted to assess the effectiveness of the implemented strategies.
- Data on solar power generation, power usage reduction, and cost savings are collected and analyzed.
- Periodic reviews held to identify areas for improvement and implement necessary adjustments.

This policy demonstrates the institute's commitment to a sustainable future through the adoption of alternative energy sources and energy conservation practices. Collective efforts from the administration, staff, and students are crucial for the successful implementation of this policy, leading to a cleaner and more energy-efficient campus environment.

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Evidence of Activity:

Solar Energy

Solar Water Heater

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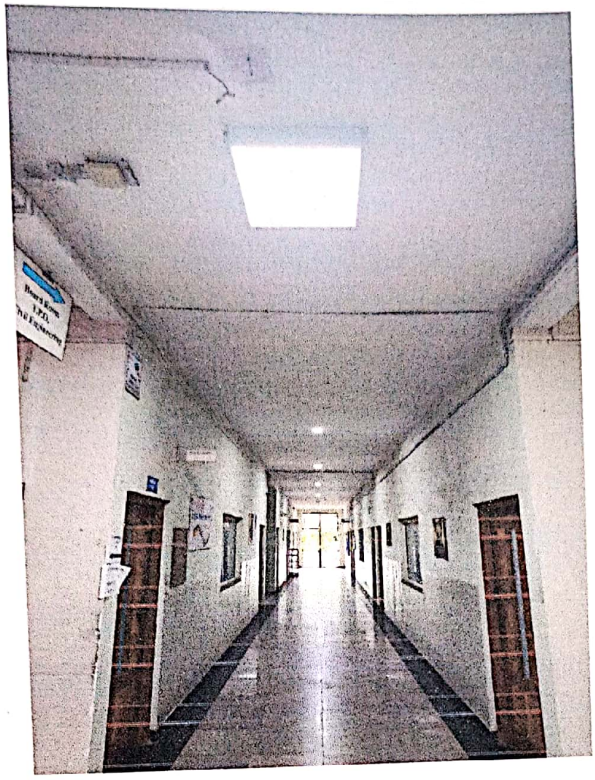
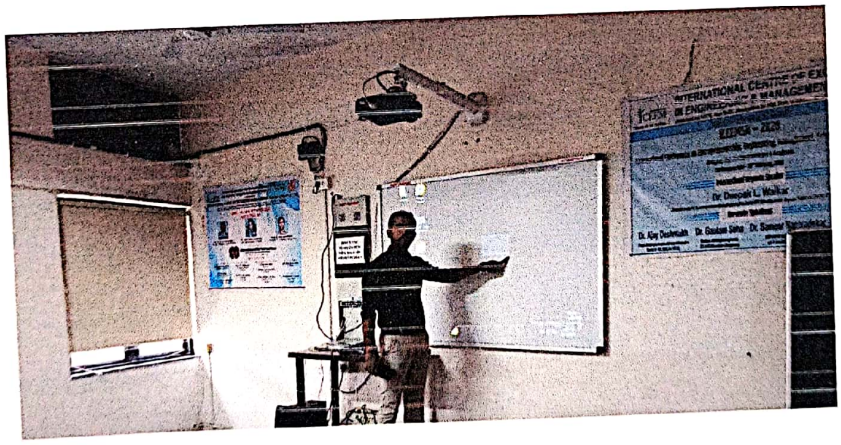


LED Light



Sensor Base Projector

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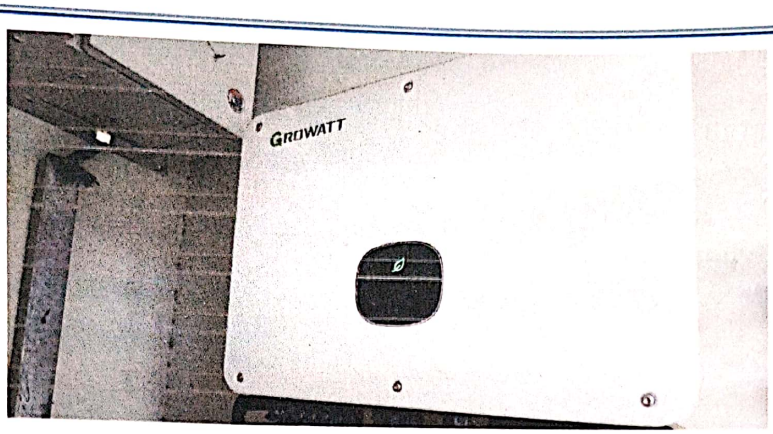

Wheeling to the Grid

IQAC Coordinator

Director

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