

26 May 2024

Minutes of the Meeting of the University Energy Management Committee (UEMC)

Venue: G-Block, 4th floor

Time: 10.00 A.M

Agenda

1. To discuss the purpose and objectives of the Energy Review Committee.
2. To review the existing energy consumption pattern across the campus.
3. To propose measures for energy conservation and renewable energy adoption.
4. To plan awareness programs and monitoring mechanisms.

Proceedings

1. Welcome Address:

The Convener, Dr. M. Venkata Ramana, welcomed all members and briefed them about the significance of energy management and sustainability in alignment with the university's green initiatives.

2. Committee Objectives:

The Chairperson, Shri. Md. Yaseen, explained that the committee's main objectives are to assess current energy usage, identify areas of energy wastage, and recommend strategies for conservation and efficiency improvements.

3. Energy Baseline Review:

The committee reviewed the available electricity bills and discussed the need to establish a baseline energy consumption report.

4. Energy Efficiency and Renewable Measures:

- The committee decided to review the energy consumption in the university for further action

5. Next Steps:

- The Energy Division will prepare a baseline energy report by the next meeting.

- The Energy Division will do a review after for period ending August
- The next committee meeting will be scheduled in September 2024.

Members Present

S. No.	Name & Details	Designation
1	Shri. Md. Yaseen, Assistant Professor, Dept. of EEE	Chairperson
2	Shri. Ch. Srinivasa Rao, Assistant Professor, Dept. of EEE	Member
3	Shri. T. Dinesh, Assistant Professor, Dept. of EEE	Member
4	Mr. Narayana, Energy Division	Member
5	Mr. M. Karunakar Reddy, Transport In-Charge	Member
6	Dr. M. Venkata Ramana, Director, IQAC	Convener

Dr. M. Venkata Ramana
Director, IQAC & Convener

Copy to:

- The Hon'ble Vice Chancellor
- The Deans
- All Committee Members

20 September 2024

Minutes of the Meeting of the University Energy Management Committee (UEMC)

Venue: G-Block, 4th floor

Time: 10.00 A.M

Agenda

1. To discuss the review done by the committee
2. To propose measures for energy conservation and renewable energy adoption.
3. To plan awareness programs and monitoring mechanisms.

Proceedings

1. Welcome Address:

The Convener, Dr. M. Venkata Ramana, welcomed all the members and provided an overview of the importance of energy management and sustainability, emphasizing their alignment with the university's green initiatives.

2. Committee Objectives:

The Chairperson, Shri. Md. Yaseen, outlined that the committee's primary objectives are to evaluate current energy consumption, identify instances of energy wastage, and propose strategies to enhance conservation and efficiency.

3. Energy Baseline Review:

The committee reviewed the available electricity bills and conducted review of the energy consumed across the university by all the academic and non-academic units during the 1st – 15th of September, 2024. The review report was discussed.

4. Energy Efficiency and Renewable Measures:

- The committee recommended replacing existing CFLs and tube lights with LEDs in all departments and hostels.
- Installation of solar rooftop panels in remaining blocks was suggested after feasibility analysis by the Energy Division.

- Members proposed introducing sub-meters in high-consumption buildings to monitor usage patterns.

5. Awareness and Engagement:

Shri. T. Dinesh suggested organizing Energy Conservation Week and student-led campaigns to promote responsible energy use. It was agreed that such events would be conducted under the guidance of the University Energy Management Committee (UEMC).

6. Transport Energy Reduction:

The committee discussed the significant role of transportation in overall energy use. It was proposed to:

- Encourage carpooling, shuttle buses, and electric vehicle usage for staff and students.
- Gradually reduce dependency on petrol and diesel vehicles within the university campus.
- Explore the installation of EV charging stations as a long-term sustainability measure.

7. Next Steps:

- The Energy Division will prepare a baseline energy report by the next meeting.
- The Energy Division will do a review after for period ending August
- The next committee meeting will be scheduled in September 2024.

Resolutions Passed

1. To initiate a comprehensive energy review across the university campus for the year 2024.
2. To implement a phase-wise LED replacement plan.
3. To explore additional solar power capacity expansion.
4. To develop and circulate an Energy Conservation Awareness Plan among all departments.

Conclusion

The meeting concluded with a vote of thanks by the convener, appreciating the active participation of all members and their commitment towards making Anurag University a model for energy efficiency and sustainability.

Members Present

S. No.	Name & Details	Designation
1	Shri. Md. Yaseen, Assistant Professor, Dept. of EEE	Chairperson
2	Shri. Ch. Srinivasa Rao, Assistant Professor, Dept. of EEE	Member
3	Shri. T. Dinesh, Assistant Professor, Dept. of EEE	Member
4	Mr. Narayana, Energy Division	Member
5	Mr. M. Karunakar Reddy, Transport In-Charge	Member
6	Dr. M. Venkata Ramana, Director, IQAC	Convener

Dr. M. Venkata Ramana
Director, IQAC & Convener

Copy to:

- The Hon'ble Vice Chancellor
- The Deans
- All Committee Members

Energy Sustainability Strategy

Objectives

- Assess current energy consumption across campus facilities.
- Identify areas of energy inefficiency and potential savings.
- Set realistic short- and medium-term energy reduction targets.
- Promote awareness and responsible energy use among all stakeholders.
- Move towards renewable and low-carbon energy sources.

Key Strategies

- Energy audit & baseline: Conduct a simple baseline survey using electricity bills and physical inspections.
- Awareness: Undertake programs to bring positive behavioural change to conserve energy
- Energy efficiency improvements in existing buildings / facilities: Replace CFL/tube lights with LEDs and upgrade inefficient equipment.
- Renewable energy integration: Assess and install more solar rooftop systems where feasible.
- Smart energy management: Install sub-meters for major buildings to track consumption.
- Reduction of Petrol and Diesel Consumption: Promote sustainable transport practices by encouraging carpooling, shuttle services, cycling, and walking within the campus. Gradually transition to electric vehicles (EVs) for university transport and establish EV charging stations to reduce dependence on petrol and diesel.
- Policy & governance: University Energy Management Committee (UEMC) to make necessary policy and governance initiatives, under the approval and guidance of the authorities.
- Student & research engagement: Integrate sustainability topics into student projects and clubs and research undertaken by faculty members.
- Waste-to-Energy and Green Campus Initiatives: Explore waste-to-energy projects using biodegradable waste from canteens and hostels, adopt green landscaping practices, and encourage a paperless administrative environment to promote a holistic eco-friendly campus.

Implementation Framework

- Phase 1 – Conduct baseline survey
- Phase 2 – Obtain approval of strategy for implementation
- Phase 3 – Awareness campaigns
- Phase 4 – Target setting & monitoring: define reduction goals
- Phase 5 – Periodic review: Publish an annual energy performance report.

Monitoring and Reporting

Monthly energy tracking, half-yearly reviews, and an annual energy report will ensure progress.

Baseline Data Collection Template

Category	Data Required	Source	Collected By	Remarks, if any
Electricity consumption	Monthly electricity bills for 12 months	Energy Division	**	**
Lighting inventory	Number and type of bulbs	Maintenance Division	**	**
Equipment load	Major electrical appliances and wattage	Schools / Departments	**	**
Renewable sources	Solar capacity (kW)	Maintenance	**	**

Energy Review Report

Prepared by: University Energy Management Committee (UEMC)

Reporting Period: January 2024 – December 2024

1. Objectives

- To assess the baseline energy consumption across various campus facilities.
- To identify major areas of energy usage and potential wastage.
- To recommend feasible measures for energy conservation and renewable energy adoption.
- To promote sustainable mobility and reduction of fossil fuel dependency.

2. Methodology

The energy review was conducted through:

- **Collection of utility data:** Electricity bills, diesel/petrol usage, and solar energy generation records for the given period.
- **Site inspections:** Physical surveys of academic blocks, laboratories, hostels, and administrative buildings.
- **Interviews:** Discussions with facility management and maintenance teams.
- **Data analysis:** Conversion of energy data into common units (Gigajoules - GJ) and comparison across facilities.

3. Energy Consumption Summary

Source	Usage	Conversion Factor	Total Energy (GJ)
Electricity (kWh)	1,70,916 kWh	0.0036 GJ/kWh	615.29 GJ
Diesel (liters)	2,08,600 L	0.0386 GJ/L	8,051.96 GJ
Petrol (liters)	1,600 L	0.0342 GJ/L	54.72 GJ
Solar Energy Generated (kWh)	100 kWh	0.0036 GJ/kWh	0.36 GJ
Total Energy Consumed	**	**	8722.33 GJ

4. Key Findings

- **Lighting and HVAC systems** account for nearly 7.05 % of the total electricity use.
- **Laboratory and computing equipment** contribute significantly to energy demand.
- **Petrol and diesel vehicles** used for campus transport and power backup represent around 90% of total energy consumption.
- **Solar energy** currently contributes about 0.004% of the university's electricity demand, indicating potential for further expansion.

5. Recommendations

1. Energy Efficiency Measures

- Replace remaining CFL and tube lights with LED fittings.
- Upgrade old air-conditioning units with 5-star rated equipment.
- Conduct preventive maintenance for all electrical systems.

2. Smart Energy Management

- Install sub-meters for each major block to monitor real-time consumption.
- Implement digital dashboards for reporting and awareness.

3. Renewable Energy Integration

- Expand solar rooftop systems by an additional 200 kW capacity.
- Explore hybrid solar-battery systems for critical areas.

4. Reduction of Petrol and Diesel Usage

- Promote carpooling, cycling, and shuttle bus services.
- Gradually introduce electric vehicles (EVs) for official transport.
- Install EV charging stations within the campus.

5. Awareness and Capacity Building

- Conduct Energy Conservation Week with poster competitions, talks, and student-led audits.
- Include sustainability projects in final-year and club activities.

6. Baseline and Future Monitoring

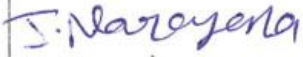
The 2024 data will serve as the **baseline year** for future comparison. The university will track annual energy performance indicators such as:

- Energy Use Intensity (EUI) = Total Energy (GJ) / Floor Area (m²)
- % Renewable Energy Contribution
- % Reduction in Diesel and Petrol Usage

7. Conclusion

The Energy Review indicates that Anurag University has made significant progress in adopting solar energy and efficient lighting systems. However, opportunities remain in the areas of transport energy reduction, smart monitoring, and equipment upgrades. The UEMC will continue to oversee the implementation of the recommended actions and report progress annually.

8. Signatures

S. No.	Name & Details	Designation	Signatures
1	Shri. Md. Yaseen, Assistant Professor, Dept. of EEE	Chairperson	
2	Shri. Ch. Srinivasa Rao, Assistant Professor, Dept. of EEE	Member	
3	Shri. T. Dinesh, Assistant Professor, Dept. of EEE	Member	
4	Mr. Narayana, Energy Division	Member	
5	Mr. Karunakar, Transport In-Charge <i>Reddy manni</i>	Member	
6	Dr. M. Venkata Ramana, Director, IQAC	Convener	