Power Consumption Report

Period: June 2023 to May 2024

1. Introduction

Woxsen University is committed to energy efficiency and sustainability. To optimize power consumption, the university has implemented 100% LED lighting with motion sensors in all corridors and common areas. Additionally, a 327 kWp solar setup is operational, and a 420 kWp solar setup is currently under commissioning to further enhance energy sustainability. The university continues to benefit from the adoption of energy-efficient VRV (Variable Refrigerant Volume) HVAC technology introduced last year, which has yielded significant energy savings.

This report provides a comprehensive breakdown of power usage per person, total monthly consumption, and backup power infrastructure.

2. Monthly Power Consumption Overview

S No	Month	Recorded Units (kWh)
1	Jun-23	191,638
2	Jul-23	221,198
3	Aug-23	411,856
4	Sep-23	457,154
5	Oct-23	430,313
6	Nov-23	398,332
7	Dec-23	336,198
8	Jan-24	345,741
9	Feb-24	408,704
10	Mar-24	437,048
11	Apr-24	478,432
12	May-24	322,103
Total Consumption		**4,438,717 kWh**
Average Monthly Consumption		**369,893 kWh**

3. Cooling Systems Overview

Woxsen University continues to integrate energy-efficient VRV HVAC technology into new building designs while retaining existing split units for cost-efficiency. Detailed insights into energy savings and sustainability benefits are documented in the HVAC System Report.

4. Daily Power Consumption Breakdown (Per Person)

- **Total Population:** 3,647
- **Total Annual Consumption:** 4,438,717 kWh
- **Average Monthly Consumption:** 369,893 kWh
- **Average Daily Consumption:** 12,165 kWh
- **Per Person Daily Power Consumption:**

  12,165 kWh ÷ 3,647 people = **3.34 kWh (Units)** per person per day

5. Backup Power Supply (DG Set Details)

Woxsen University maintains a robust Diesel Generator (DG) backup system to ensure uninterrupted power supply. The details are as follows:

Allotted Buildings	DG Set Capacity (KVA)
Ladies' Hostels	250 KVA
Gents' Hostels & Sports Facility	500 KVA
Academic Buildings & Cafeteria	380 KVA
Total DG Backup Capacity	**1,130 KVA**

These DG sets support critical operations during power outages, ensuring continuity in academic and residential activities.

6. Sustainability Initiatives

Woxsen University continues to implement several sustainability measures to optimize power consumption:

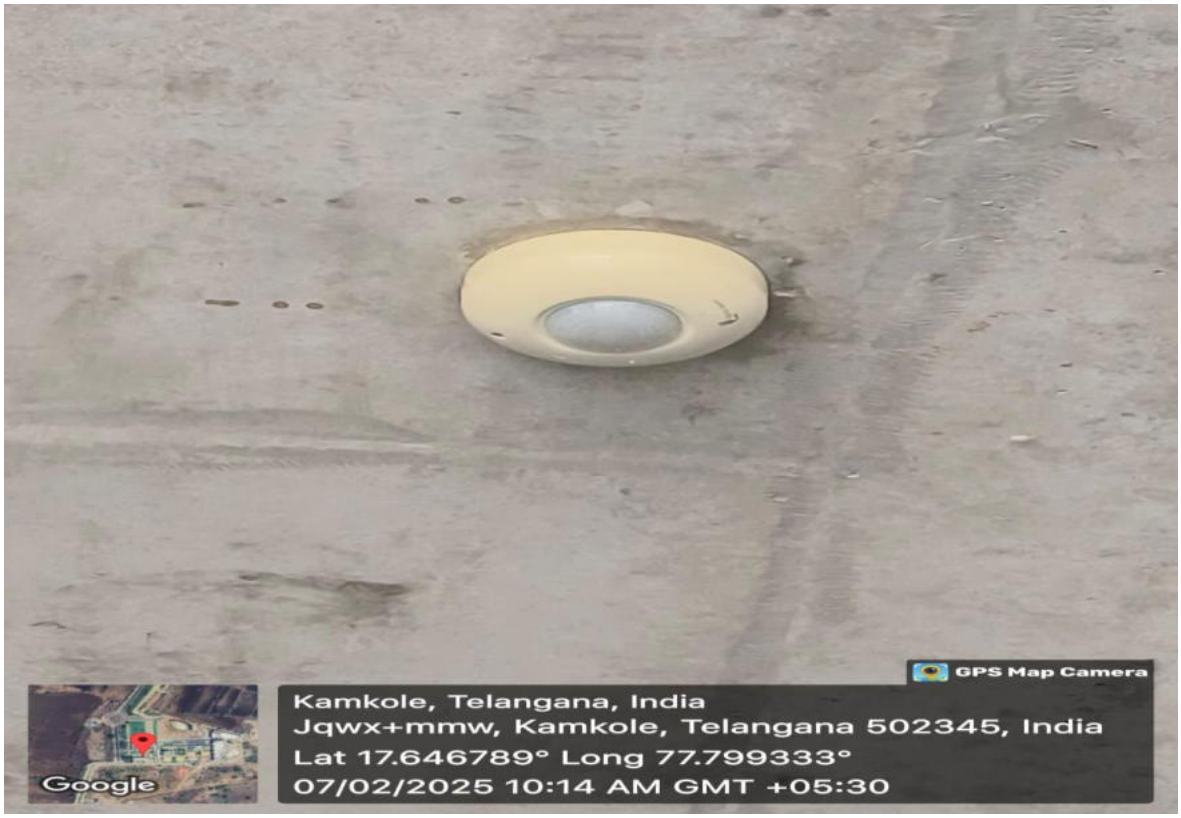
- **100% LED Lighting** & **Motion Sensors**: Continued usage of Led Lighting & sensors in building design stage, ensuring ongoing energy savings.
- **327 kWp Solar Setup:** Fully operational, providing significant renewable energy, additional **420 kWp Solar** Setup Currently under commissioning to further enhance solar energy generation.
- **VRV HVAC Technology:** Continued usage of VRV systems in building designs, ensuring ongoing energy savings.
- **Solar Water Heating Systems:** Solar water heaters have been installed on the rooftops of hostel buildings. These systems provide a sustainable solution for hot water needs throughout the year and contribute to the reduction of the University's carbon footprint.

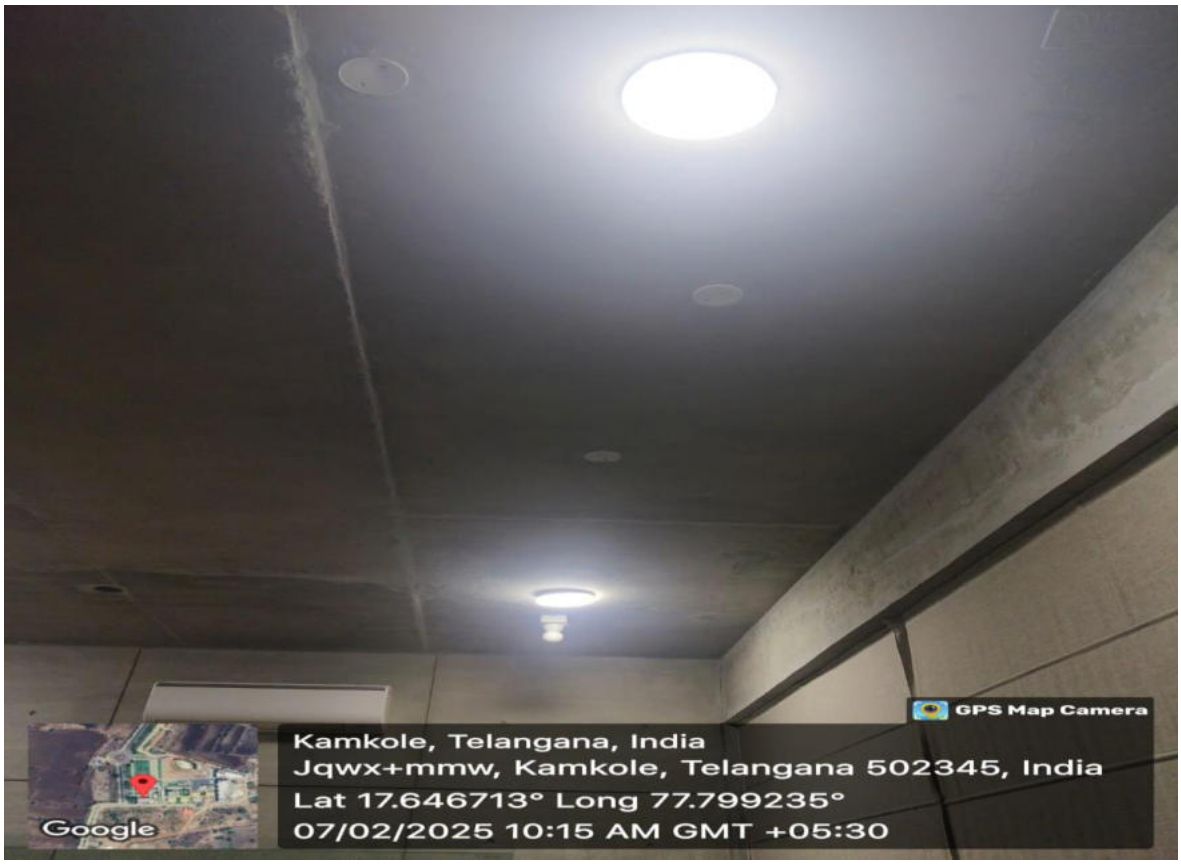
7. Conclusion

Woxsen University follows a structured approach to power management and sustainability. With an average monthly power consumption of 369,893 kWh (Units) and a per-person daily usage of **3.34 kWh** (Units), the university ensures efficient energy utilization. The commissioning of the 420 kWp solar setup will further reinforce Woxsen University's commitment to sustainability and responsible energy management.

The continued usage of VRV systems ensures ongoing energy efficiency without incurring unnecessary replacement costs. Additionally, the DG backup system enhances operational reliability, while sustainability initiatives contribute to long-term energy conservation.

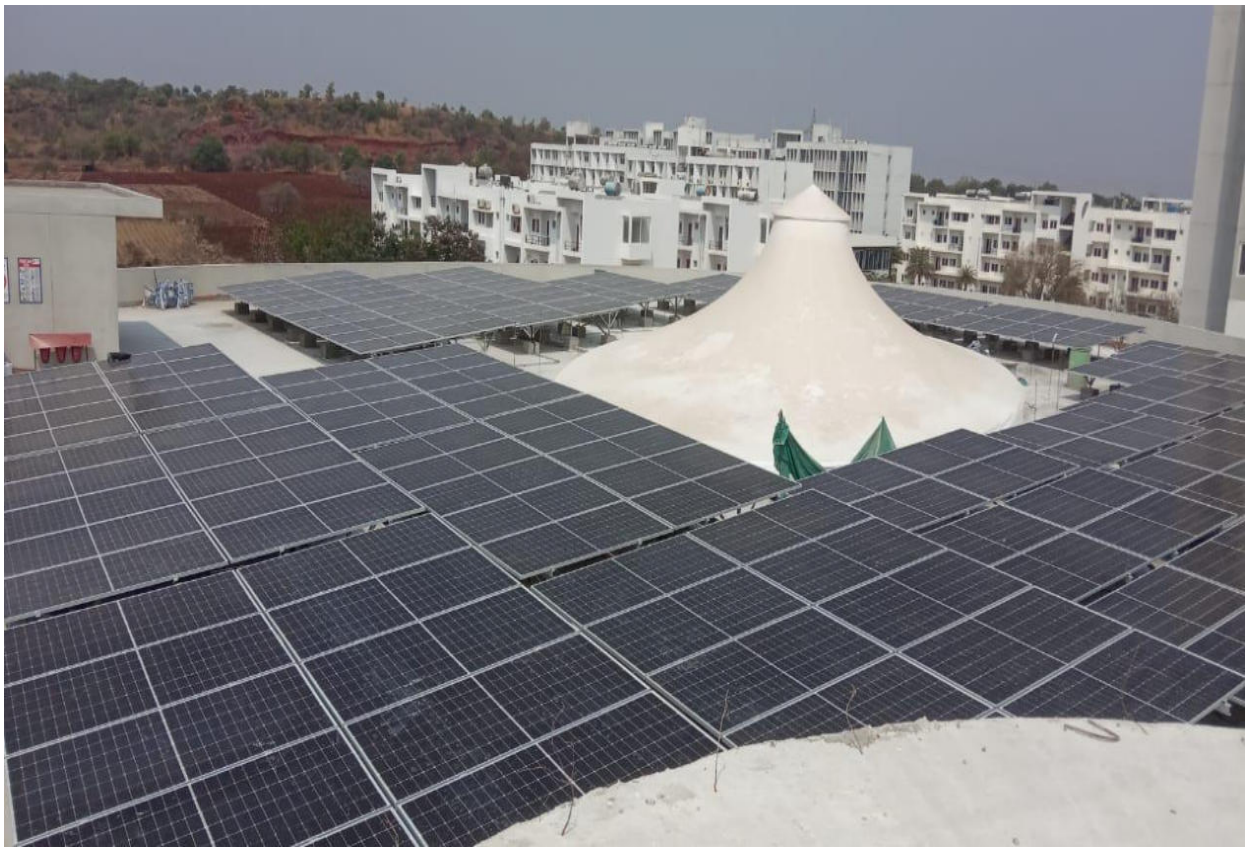
Led Lights & Motion sensors

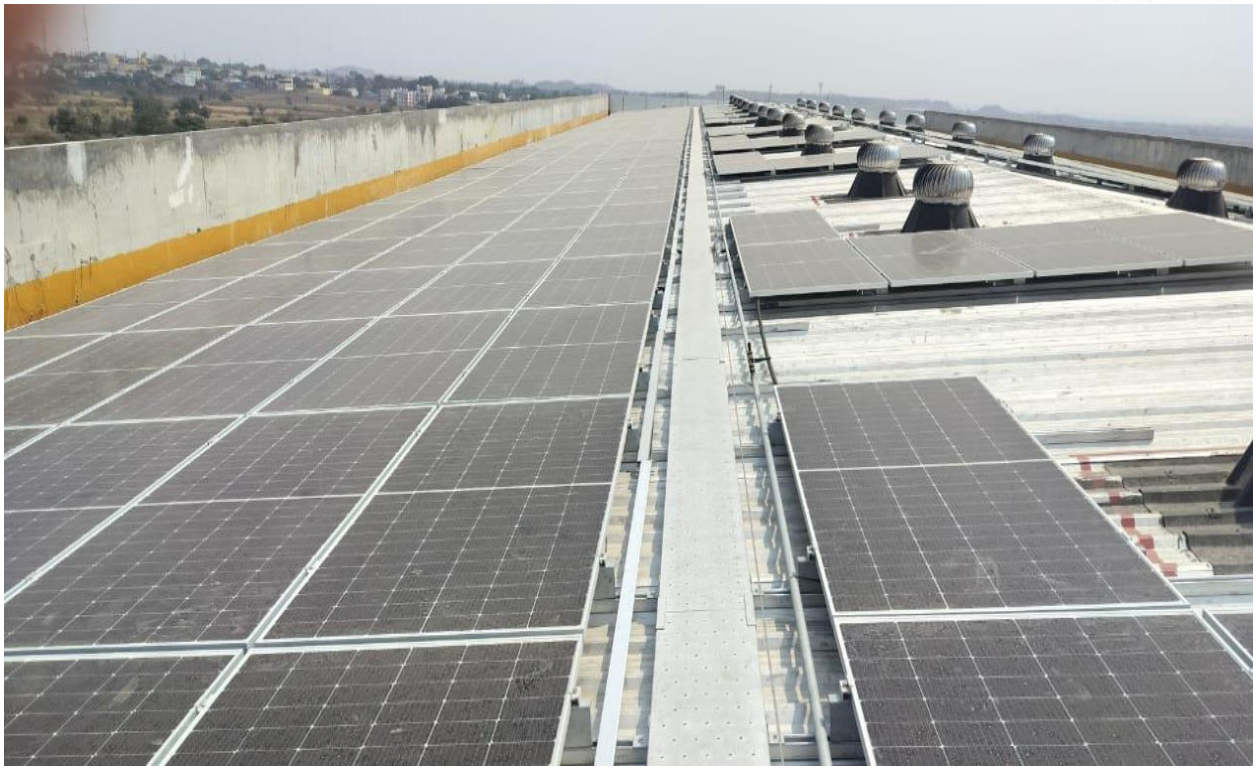




327 kWp Solar Setup (Phase -1)

420 kWp Solar Setup (Phase -2)





VRV Units:

Water Heaters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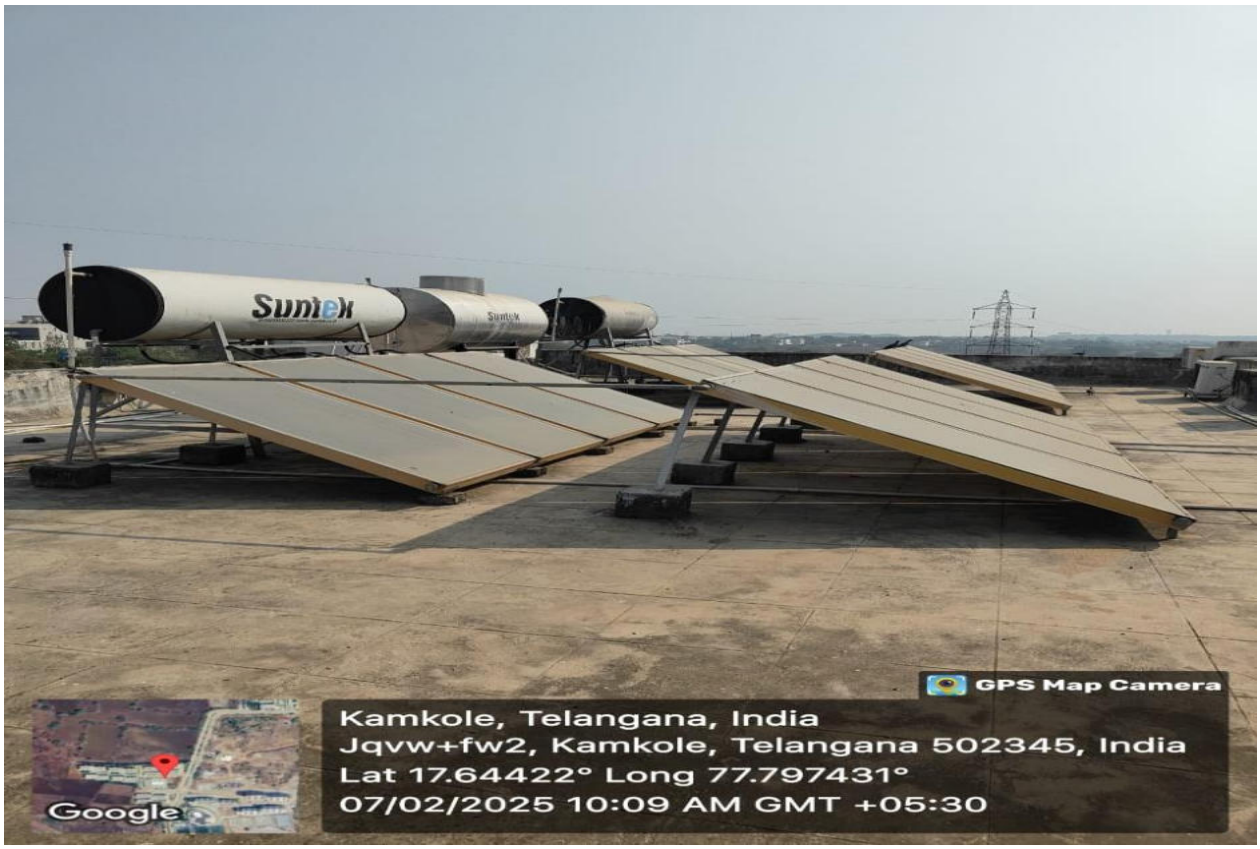
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