



**REDEEMER'S  
UNIVERSITY**  
...running with the vision

2023

# **ELECTRICITY USE REPORT**

# Introduction

Redeemer's University is committed to efficient energy management as part of its sustainability initiatives. Understanding electricity consumption and cost trends is critical for making informed decisions that support operational efficiency and financial sustainability. This report provides a comprehensive analysis of electricity usage and cost trends at Redeemer's University for the years 2022 and 2023. The analysis is based on monthly electricity consumption (measured in kilowatt-hours, KWH) and associated costs.



# Electricity Consumption Trends

## Year 2022 Overview

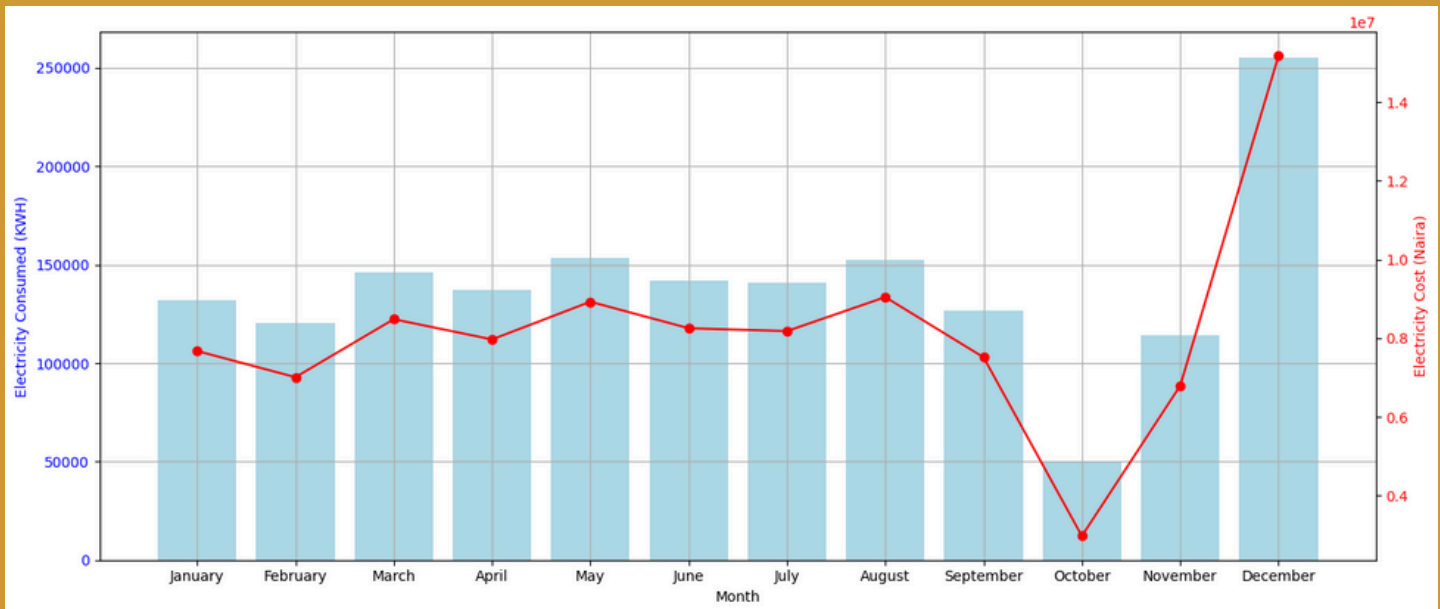
- **Total Consumption:** In 2022, the university's total electricity consumption reached **1,670,746 KWH**. Monthly consumption remained relatively stable, with moderate fluctuations indicating consistent energy usage throughout the year.
- **Highest Consumption Month:** December recorded the highest electricity usage at **255,450 KWH**, reflecting a possible increase in campus activities as the year concluded.
- **Lowest Consumption Month:** The lowest consumption was observed in **October**, with only **50,010 KWH**, possibly due to reduced academic activities or energy-saving measures.

## Year 2023 Overview

- **Total Consumption:** The total electricity consumption for 2023 was more varied, showing both peaks and troughs throughout the year.
- **Key Peaks:** The most significant peak occurred in February, with consumption reaching 216,050 KWH, indicating heightened energy use, possibly due to intensified activities or operational demands.
- **Notable Dips:** The month of April marked a significant drop in electricity consumption, with only 49,700 KWH used, which could have been influenced by strategic energy-saving measures or reduced campus operations..

# Electricity Cost Trends

## Year 2022 Cost Analysis:



**FIGURE 1: ELECTRICITY CONSUMPTION AND COST FOR 2022**

- **Consistent Cost per KWH:** From January to July 2022, the cost per KWH was N58.11, after which it increased to N59.41 from August to December. This slight change could reflect an adjustment in energy pricing or supplier rates.
- **Highest Monthly Cost:** December again saw the highest expenditure, totaling N15,176,284.50, aligning with the peak in electricity consumption.
- **Lower Cost Periods:** October, with the lowest consumption, also had reduced costs at N2,971,094.10, highlighting the relationship between lower energy use and financial savings.

# Electricity Cost Trends (2)

## Year 2023 Cost Analysis:

- **Higher Cost per KWH:** The cost per KWH increased to N70.41 for the entirety of 2023, indicating a significant rise in energy prices.
- **Peaks in Expenditure:** The highest monthly cost was recorded in August, amounting to N16,499,949.81, despite comparable consumption levels to other high-usage months.
- **Cost Trends and Implications:** The substantial increase in cost per KWH in 2023 resulted in higher monthly expenses even during months with moderate consumption levels.

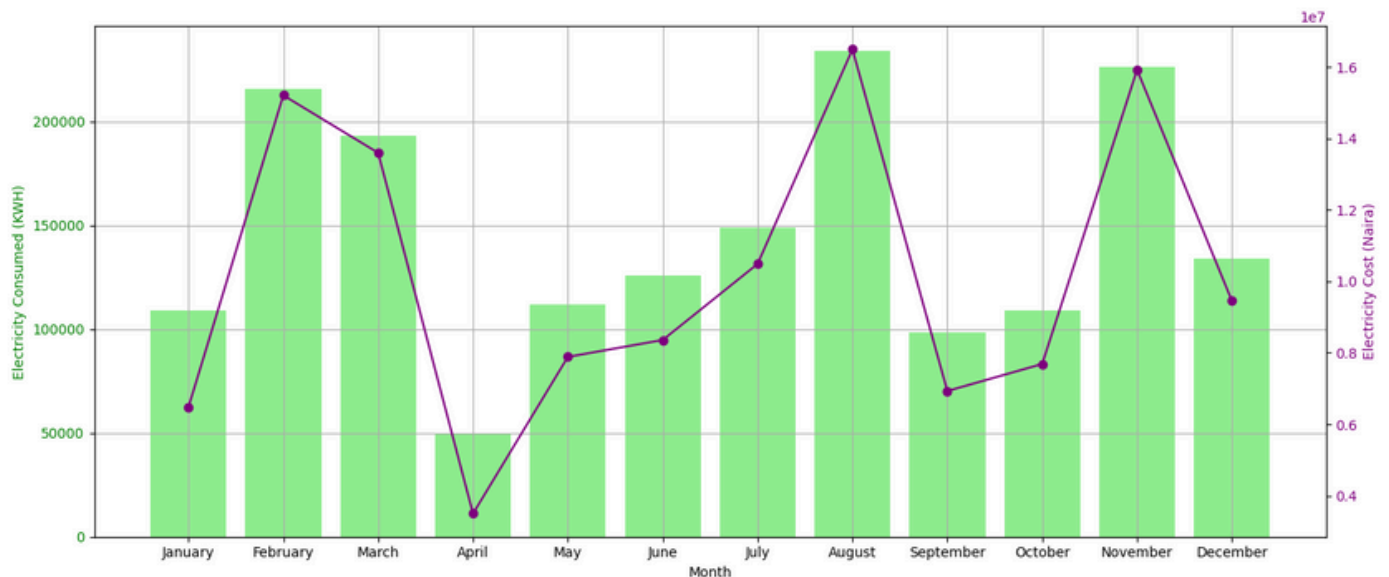


FIGURE 2: ELECTRICITY CONSUMPTION AND COST FOR 2023



# Key Observations and Insights

- **2022 Consumption Stability:** The university maintained a steady pattern of electricity consumption in 2022, except for notable spikes in December.
- **2023 Cost Impact:** The increased cost per KWH in 2023 significantly impacted financial outlays, emphasizing the need for more cost-effective energy management strategies.
- **Consumption vs. Cost Disparity:** While some months showed similar consumption levels, the higher price per KWH in 2023 amplified the total monthly costs, underscoring the financial pressure of energy expenses.



# Future Plans and Recommendations

*To manage electricity consumption and mitigate rising costs, Redeemer's University can adopt the following strategies:*

- **Invest in Renewable Energy:** Expanding solar panel installations and exploring other renewable energy sources can reduce dependency on the national grid and lower electricity expenses over time.
- **Enhance Energy Efficiency:** Implement energy-saving technologies such as LED lighting, automated building management systems, and energy-efficient appliances to reduce overall consumption.
- **Advanced Energy Monitoring:** Deploy smart meters and real-time energy monitoring tools to identify peak usage times and optimize energy distribution.
- **Student and Staff Engagement:** Conduct awareness programs to educate the campus community on best practices for conserving energy and minimizing wastage.
- **Seasonal Energy Planning:** Develop targeted energy-saving plans for months with historically high consumption, such as December and February, to offset increased energy demand.

**Conclusion** *Redeemer's University has demonstrated a consistent approach to energy use, but the rising costs in 2023 highlight the importance of strategic energy management. By adopting sustainable energy practices and focusing on renewable energy sources, the university can effectively manage future consumption and costs. Proactive steps in energy efficiency and conservation will align with the institution's sustainability goals, ensuring long-term operational and financial benefits.*