
-:Project Documentation & Report :-

PROJECT TITLE:-

An Exploration Of Electricity Consumption Patterns

TEAM :-

Team ID : LTVIP2023TMID08045

Team Size : 4

Team Leader : Yenni Sravani

Team member : GondesiSriLakshmi

Team member : Malla Dhanasree

Team member : Midathada Poojitha

FACULTY MENTOR:- K. Sashi Kanth

1. INTRODUCTION :-

1.1 OVERVIEW :- An exploration of electric power consumption of patterns Electric and electronic devices consume electric energy to generate desired output light, heat, motion, etc. During operation, some part of the energy is lost depending on the electrical efficiency. This project embarks on a comprehensive exploration of how electricity is utilized across different sectors, aiming to uncover trends

influences, and potential avenues for more efficient consumption. By delving into the intricacies of electricity usage, we seek to contribute meaningful insights to energy management, policy formulation, and a greener future.

Data Collection and Preprocessing:-

A comprehensive dataset Collecting accurate and comprehensive electricity consumption data is fundamental to gaining insights into consumption patterns. Multiple sources will be utilized to gather data from different sectors, including residential, commercial, and industrial.

Exploratory Data Analysis (EDA):-

EDA was conducted to gain a deep understanding of the dataset. Visualizations and summary statistics helped in understanding the Electricity consumption data.

Creating a Flask web application:-

For Competitive Analysis Of Electricity Power Consumption involves web Application where We can input relevant information, and the application will use the predictive model to estimate the Visualizing Data.

1.1 PURPOSE :-

The purpose of conducting a Competitive Analysis of Exploration Of Electricity Power Consumption gain valuable insights into the competitive

This analysis is a comprehensive evaluation of the Purpose and Exploration of Electricity Consumption Patterns.

Overall, the purpose of the Flask web application is to empower users with actionable insights into their electricity consumption patterns, enabling them to make informed decisions that lead to more efficient and responsible energy usage.

KEY OUTCOME:

1. Energy Efficiency and Savings
2. Behavioral Change
3. Environmental impact
4. Optimized Resource Allocation
5. Research and Insights

2. LITERATURE SURVEY:

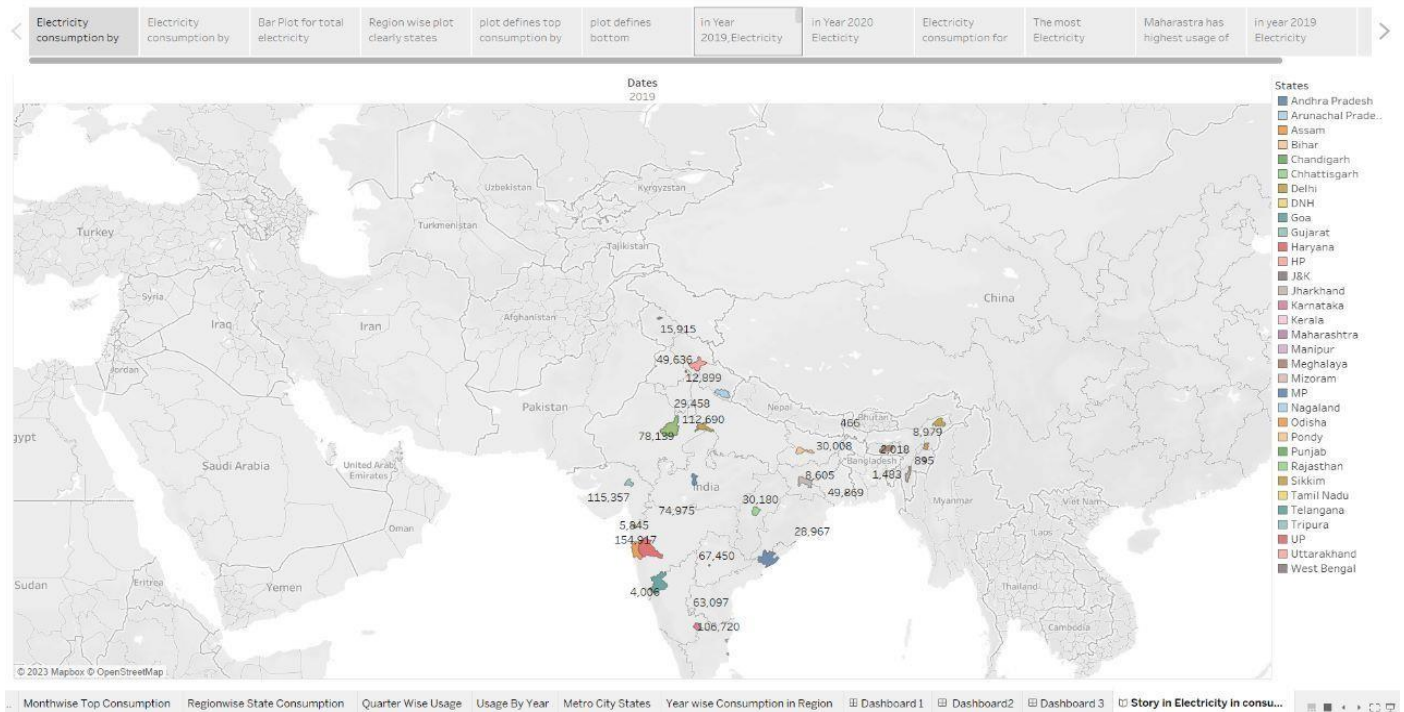
The objectives of the literature survey, such as understanding trends in electricity consumption analysis, identifying methodologies used and exploring the impact of consumption patterns on energy efficiency and sustainability.

Explore studies that analyze consumption patterns over different time scales (hourly, daily, seasonal) and spatial scales household community, region Highlight the challenges and benefits of each analysis approach.

3. THEORITICAL ANALYSIS:-

By observing the above map we can identify electricity in every state in 2019 and we also observe Maharashtra is using highest electricity.

Story in Electricity in consumption in india



REATD AIRLINEDASHBOARD

Story in Electricity in consumption in india



By observing these graphs we know both top and bottom states usage of electricity consumption in India.

Maharashtra, Gujarat, Uttar Pradesh, Tamil Nadu, Rajasthan these are highest states in usage of electricity consumption.

Sikkim, Mizoram, Arunachal Pradesh, Nagaland, Manipur these are the lowest in usage of electricity consumption.

SOFTWARE OR HARDWARE DESIGNING:-

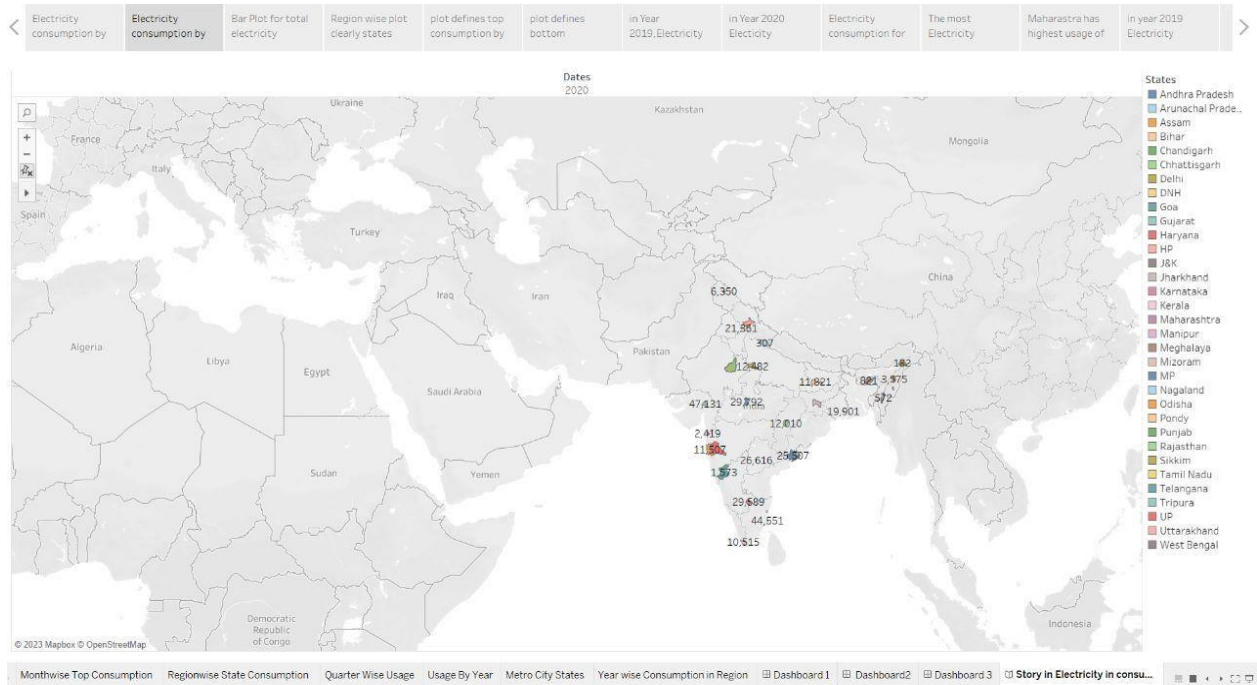
Software Requirements:

1. SQL server
2. Tableau
3. Visual studio code
4. Boot stramp

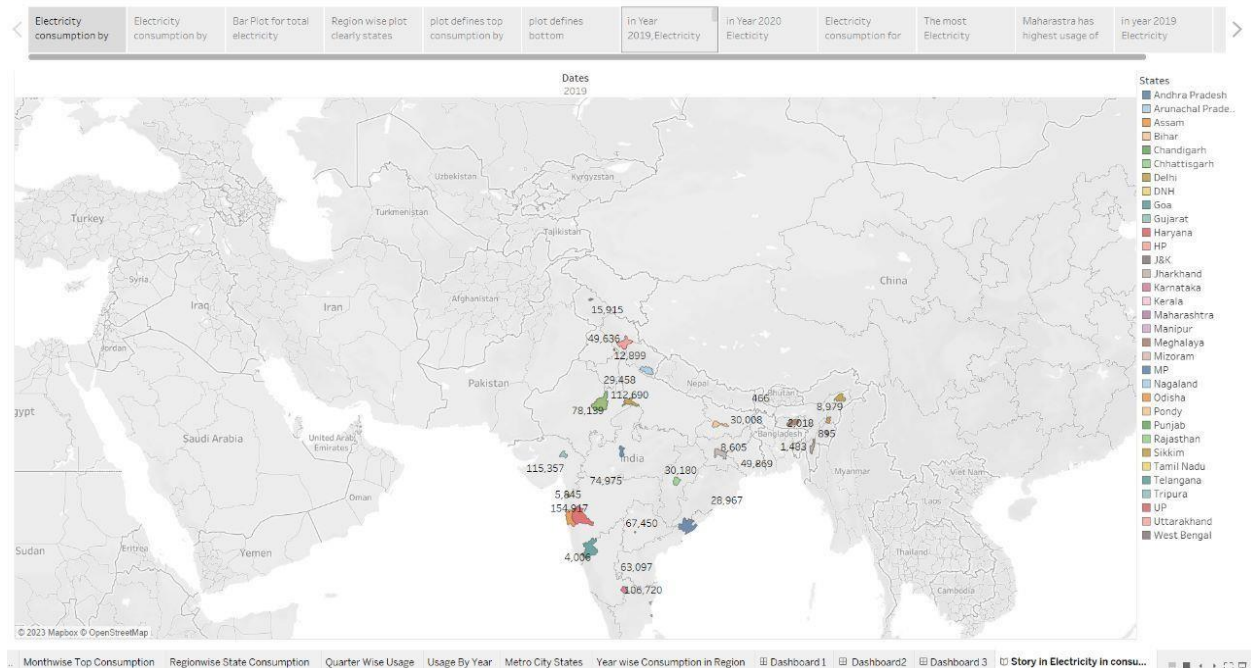
3. RESULT:-

DATA VISUALIZATIONS:-

Story in Electricity in consumption in india



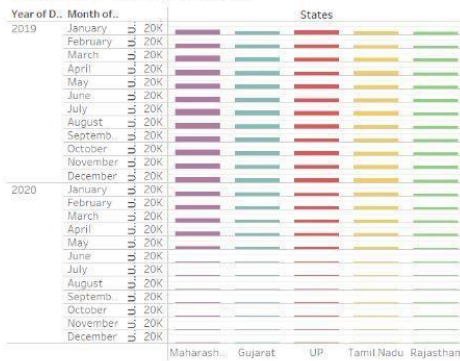
Story in Electricity in consumption in india



Usage before and during Lockdown



Monthwise Top Consumption



Regionwise State Consumption

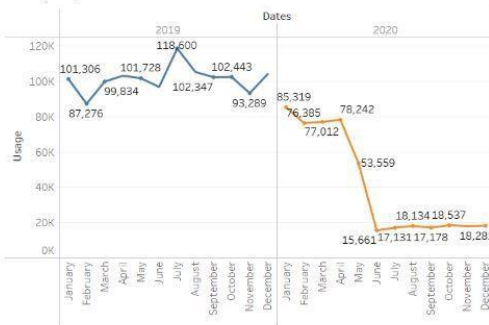


Quarter Wise Usage

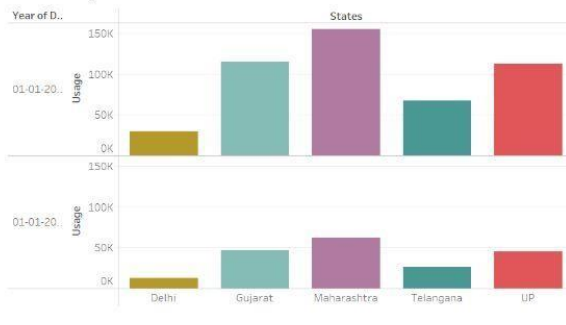


Regionwise State Consumption Quarter Wise Usage Usage By Year Metro City States Year wise Consumption in Region Dashboard 1 Dashboard 2 Dashboard 3 Story in Electricity in consum... Dashboard 4 Dashboard 5

Usage By Year



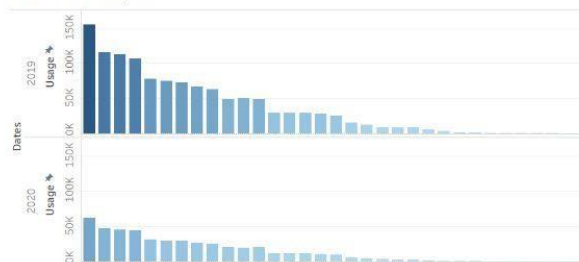
Metro City States



Year wise Consumption in Region

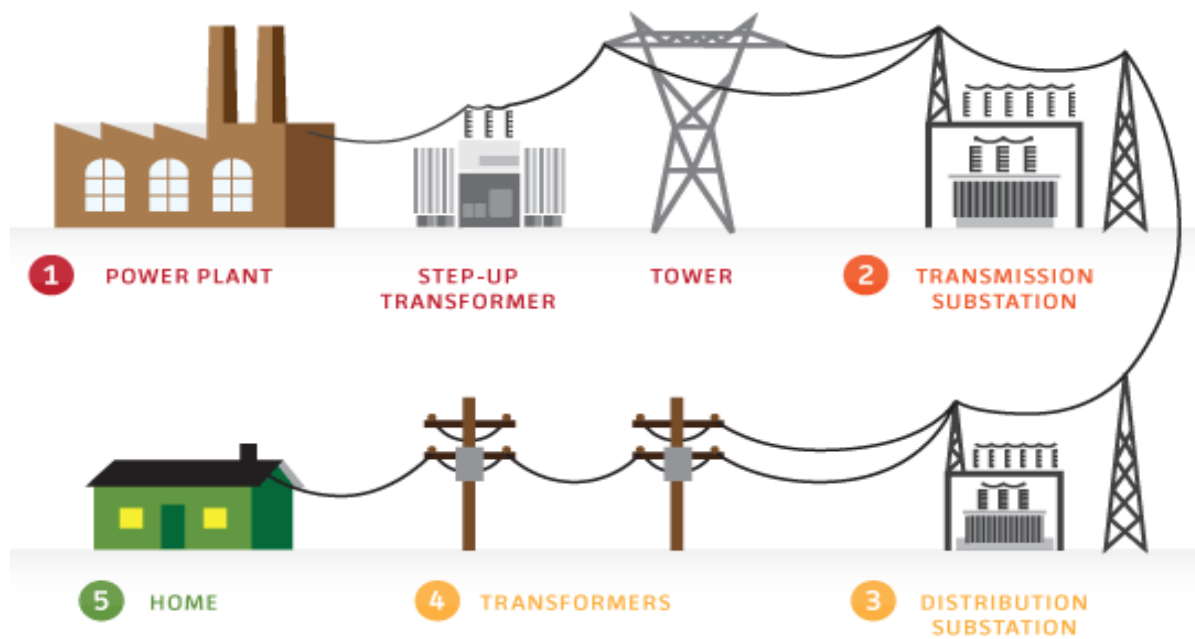


Total Consumption



Consumption Quarter Wise Usage Usage By Year Metro City States Year wise Consumption in Region Dashboard 1 Dashboard 2 Dashboard 3 Story in Electricity in consum... Dashboard 4 Dashboard 5 Dashboard 6

WEB INTEGRATION



4. ADVANTAGES

1. Insight Generation
2. Efficiency Improvements
3. Demand Forecasting
4. Cost Reduction
5. Environment Impact

6. DISADVANTAGES

1. Data Complexity
2. Privacy Concerns
3. Accuracy Challenges
4. Resource Intensive
5. Changing Behavior

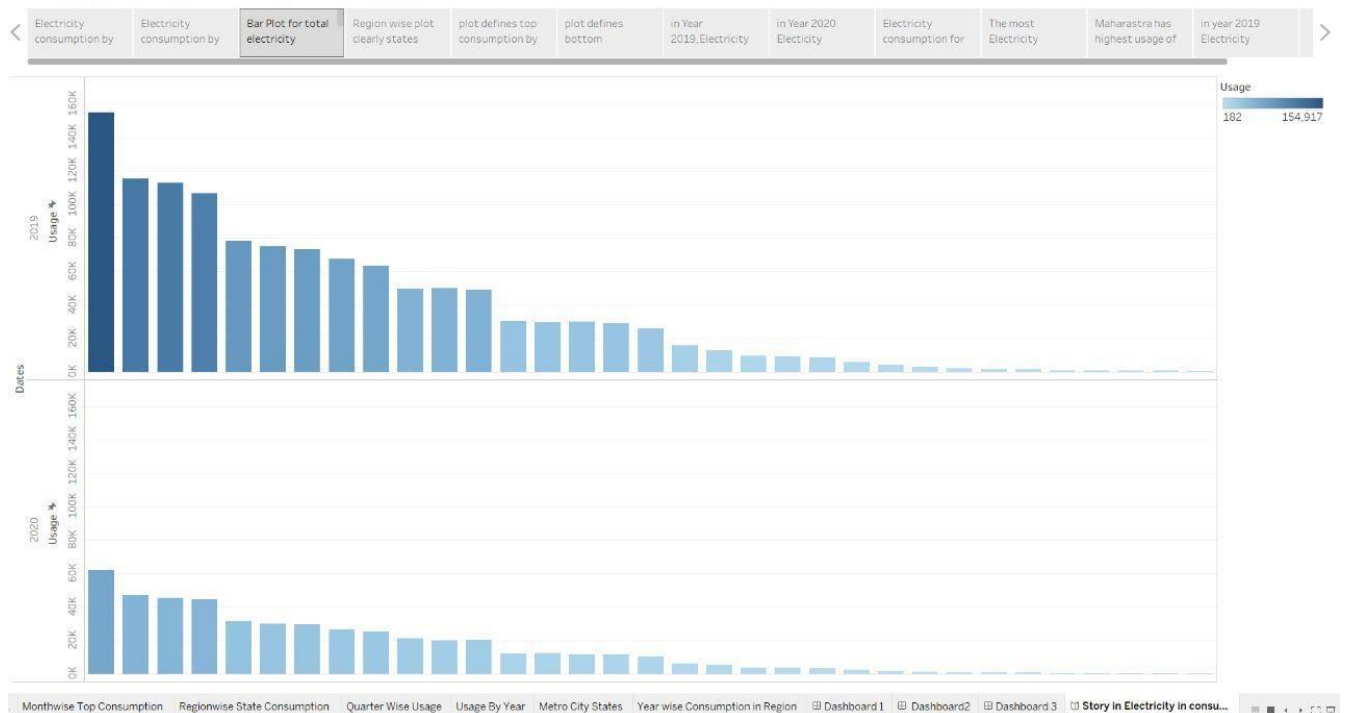
7. APPLICATIONS

The competitive analysis of exploration of electricity power consumption of patterns has various practical applications .

1. Energy Efficiency
2. Demand Forecasting
3. Load Balancing
4. Billing and Tariffs
5. Infrastructure Planning
6. Renewable Integration
7. Anomaly Detection
8. Environmental Impact
9. Research and Policy
10. Smart Grid Optimization

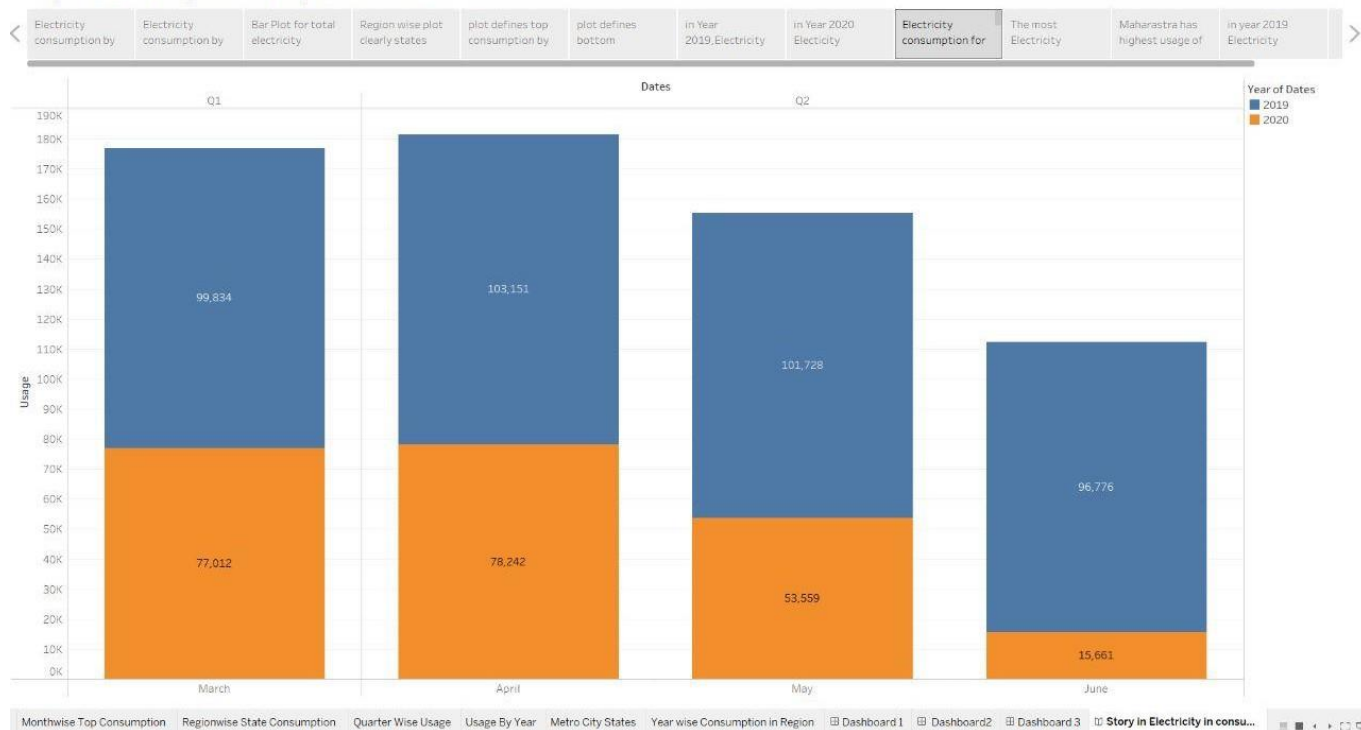
7. CONCLUSION

Story in Electricity in consumption in india



Maharashtra is the highest electricity consumption user of India.
Sikkim is the lowest electricity consumption of India.

Story in Electricity in consumption in India



Electricity consumption was more in 2019 in month of March to June before lockdown, less in 2020 in month of March to June during lockdown.