Project Report

PLUGGING INTO THE FUTURE: AN EXPLORATION OF ELECTRICAL CONSUMPTION PATTERNS

INTRODUCTION

Overview

India is the world's third-largest producer and third-largest consumer of electricity. The national electric grid in India has an installed capacity of 370.106 GW as of 31 March 2020. Renewable power plants, which also include large hydroelectric plants, constitute 35.86% of India's total installed capacity. During the fiscal year (FY) 2019–20, the total electricity generation in the country was 1,598 TWh, of which 1,383.5 TWh generated by utilities. The gross electricity consumption per capita in FY2019 was 1,208 kWh.

In 2015-16, electric energy consumption in agriculture was recorded as being the highest (17.89%) worldwide. The per capita electricity consumption is low compared to most other countries despite India having a low electricity tariff.

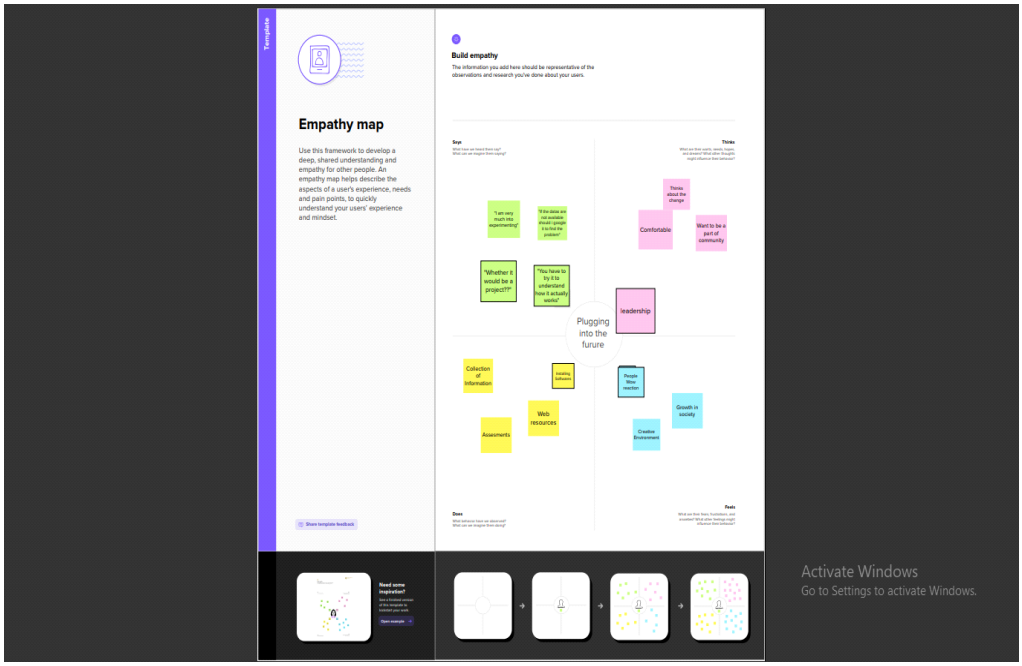
In light of the recent COVID-19 situation, when everyone has been under lockdown for the months of March to June the impacts of the lockdown on economic activities have been faced by every sector in a positive or a negative way.

The dataset is exhaustive in its demonstration of energy consumption state wise.

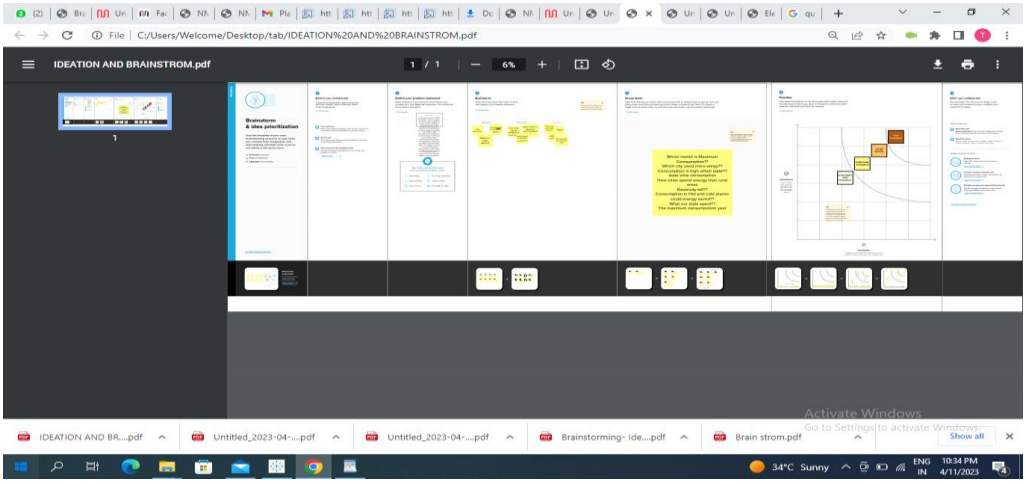
Analysing Electricity Consumption in India from Jan 2019 till 5th December 2020. This dataset contains a record of Electricity consumption in each states of India, here we are going to analyse State wise , Region wise and Overall Electricity consumption in India

Problem Definition & Design Thinking

Empathy Map



Ideation & Brainstorming Map



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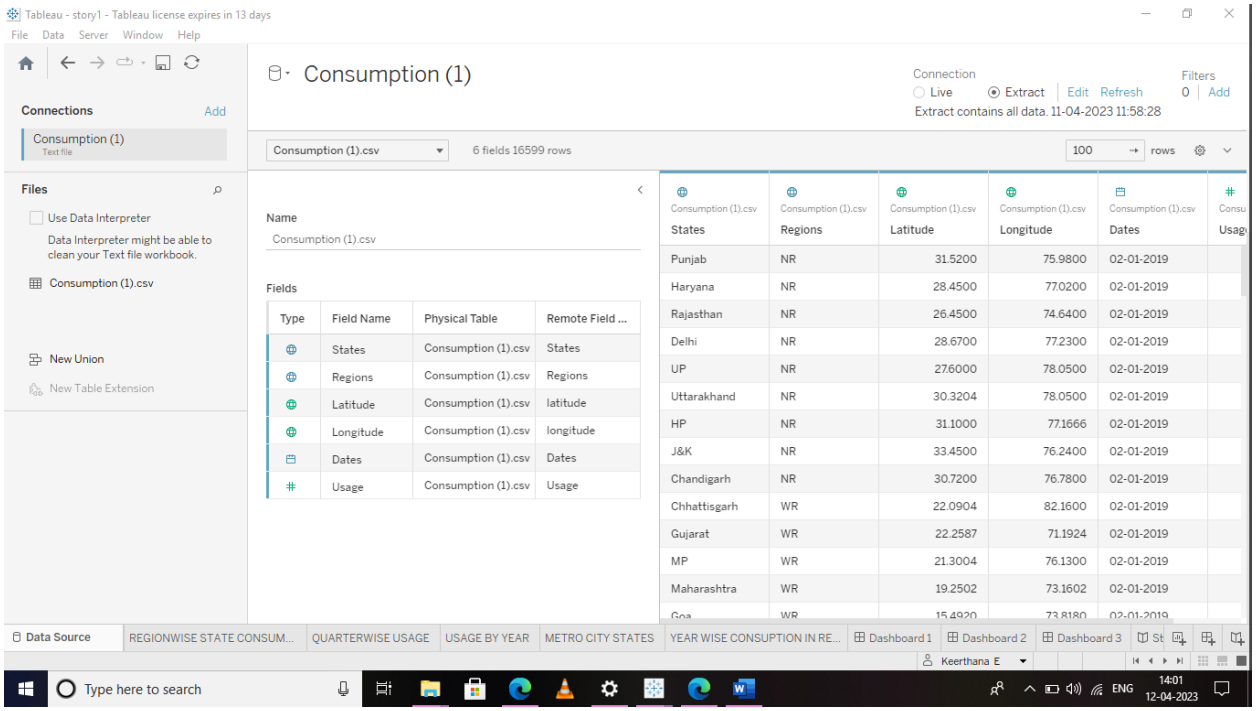
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UP NR 27.6000 78.0500 02-01-2019
Uttarakhand NR 30.3204 78.0500 02-01-2019
HP NR 31.1000 77.1666 02-01-2019
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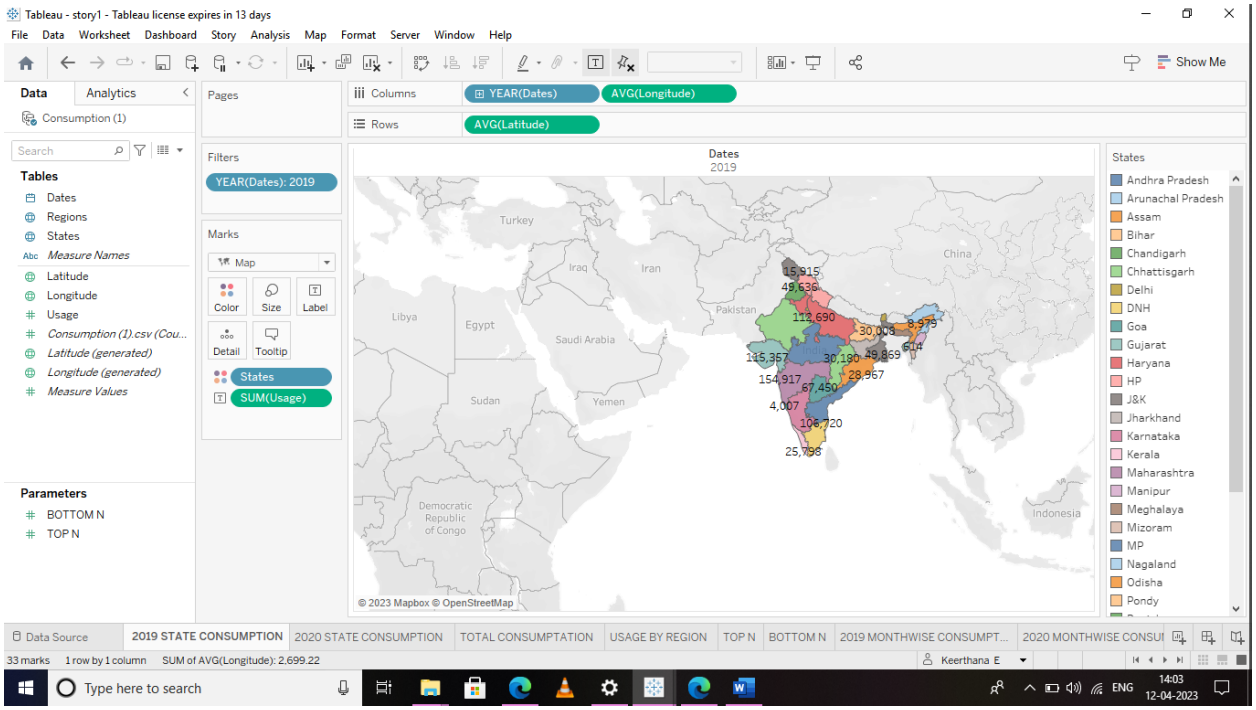
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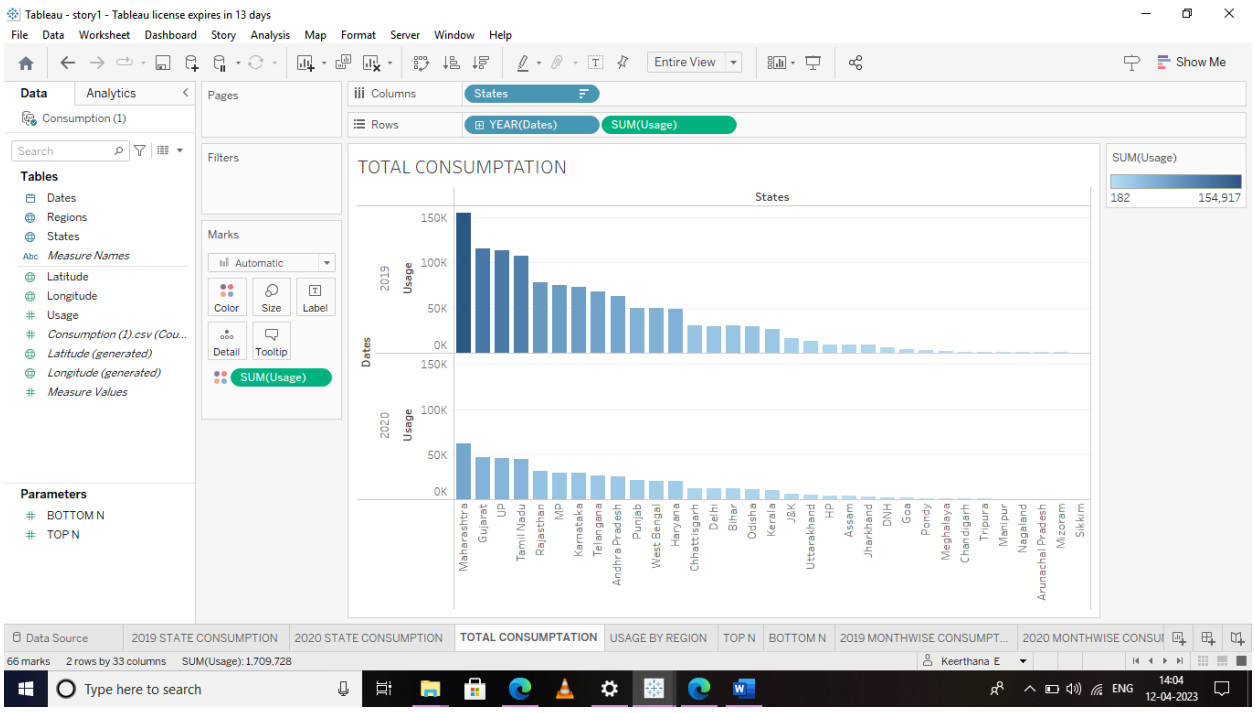
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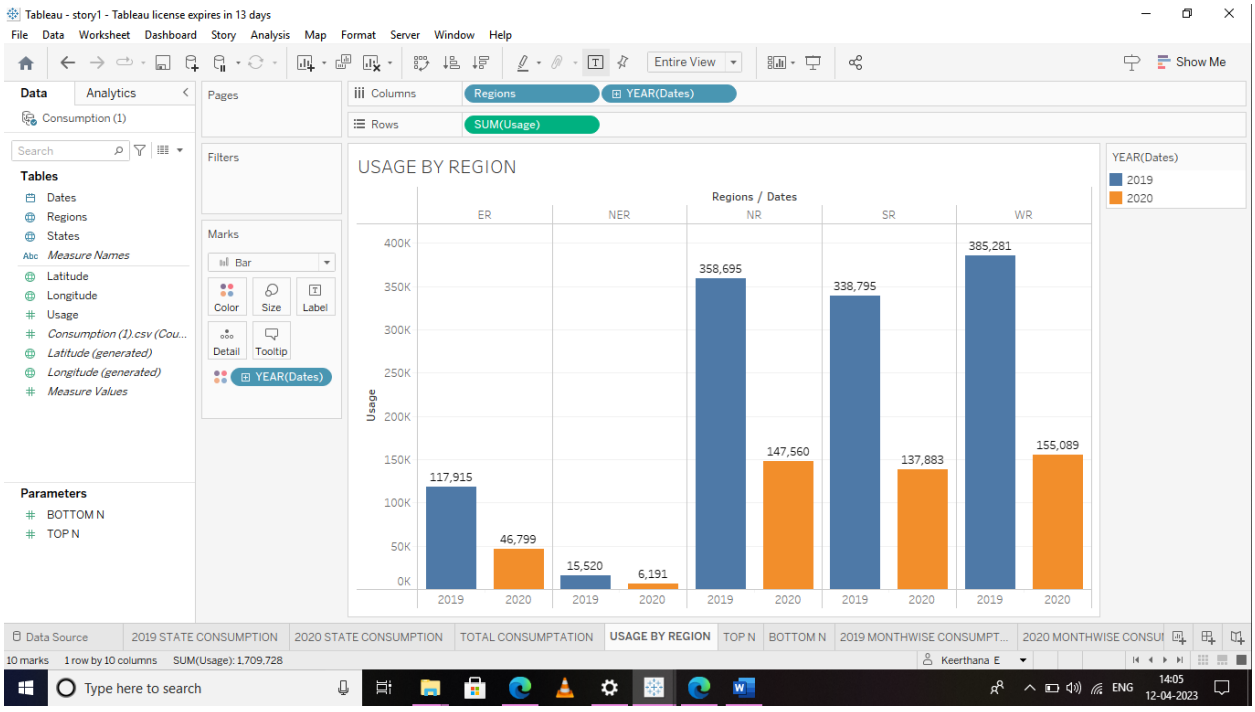
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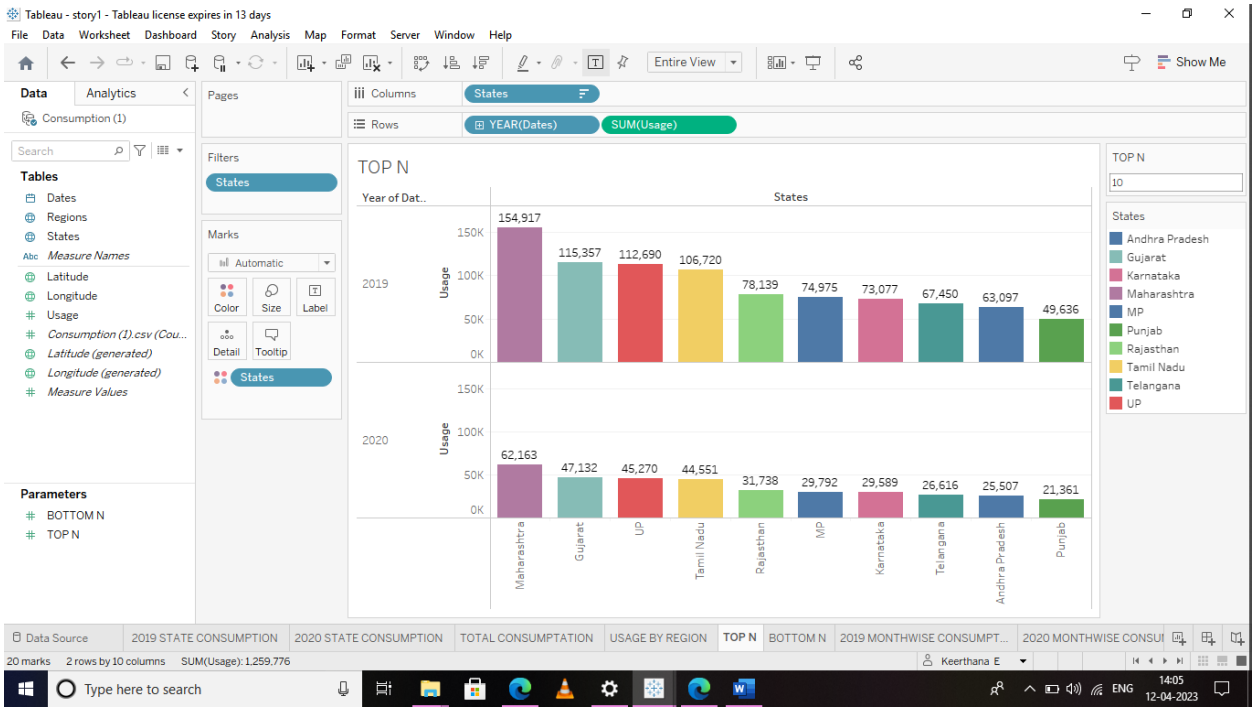
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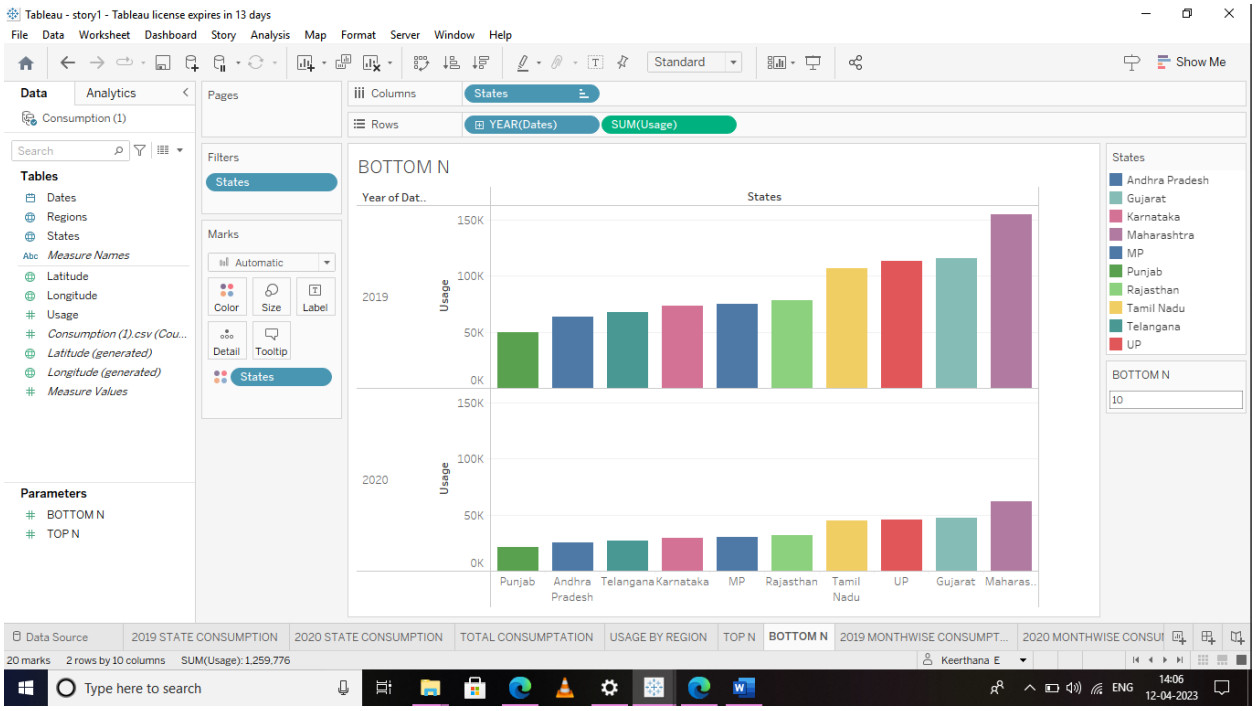
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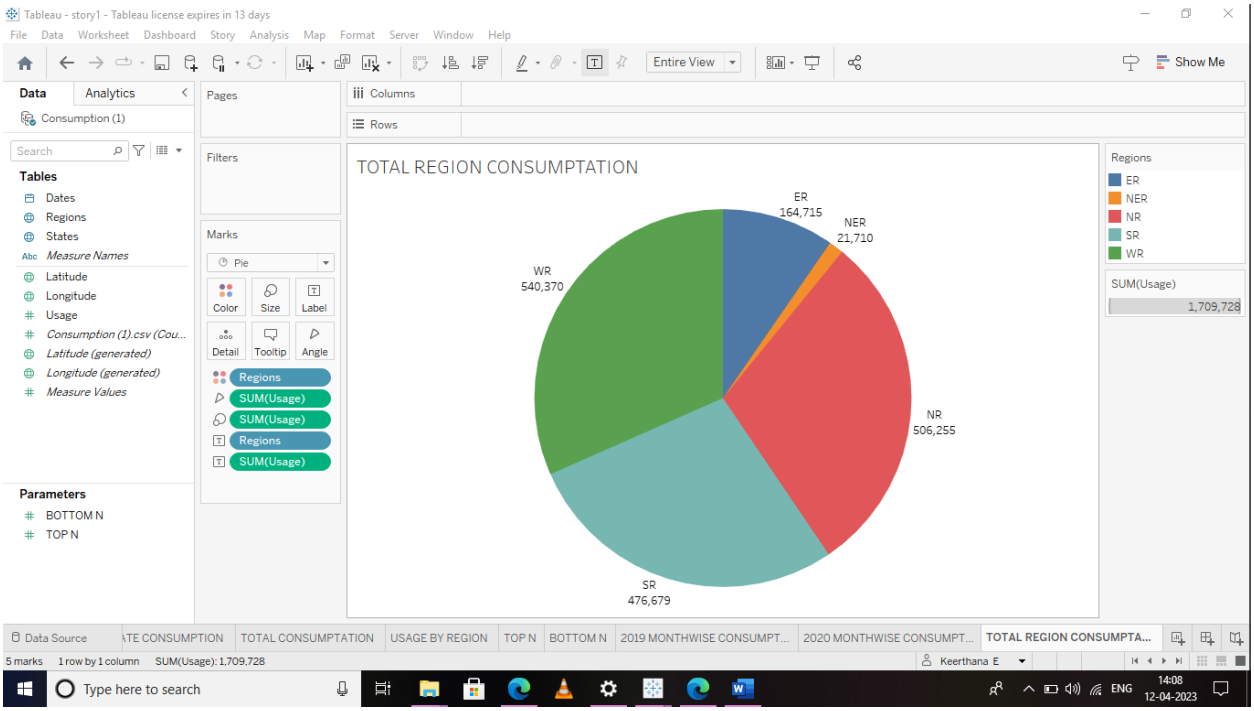
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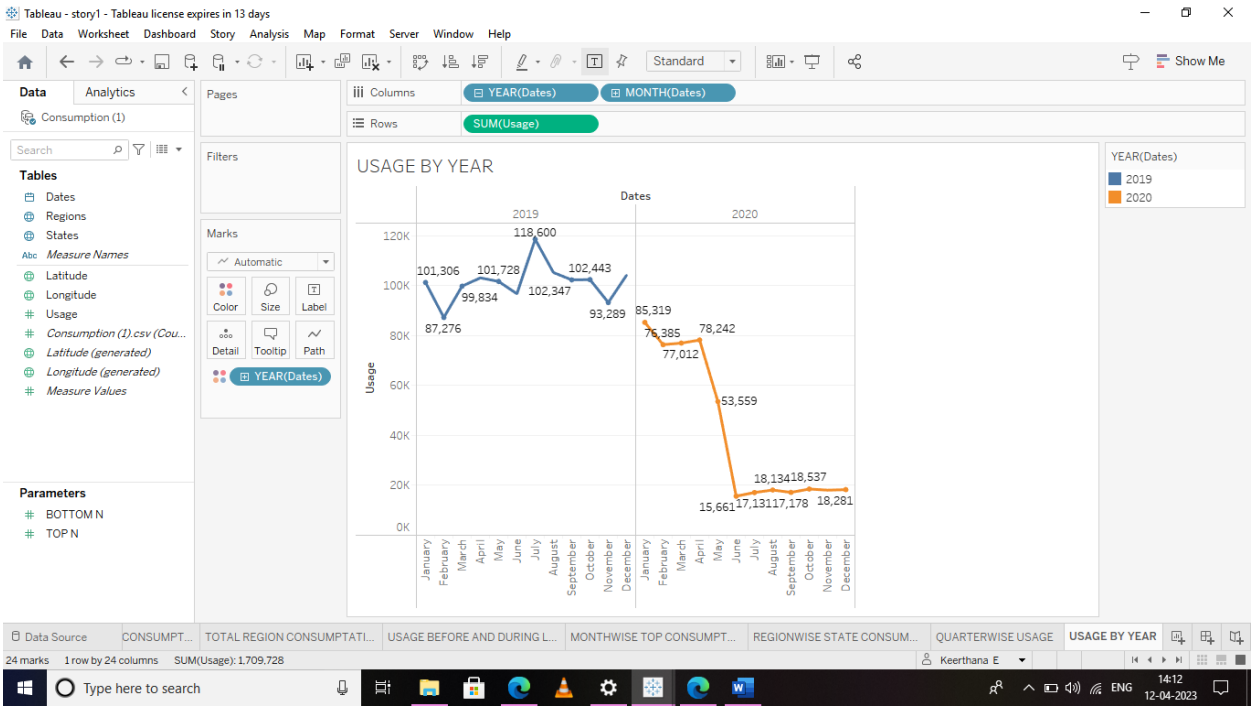
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ADVANTAGES & DISADVANTAGES

Advantages:

1.Energy Savings

Perhaps the most obvious benefit of a commercial energy consumption analysis lies in its potential to protect your bottom line. By analyzing region energy from the inside out, using the latest technologies and innovative solutions, a comprehensive energy analysis can significantly reduce utility bills.

2. Operational Improvements

In addition to reducing energy expenses and protecting against rising energy costs, an energy consumption analysis can also result in operational benefits.

3. Brand Values

Beyond monetary savings and operational improvements, “green” buildings with energy efficient practices can help to improve brand recognition and customer/employee loyalty. The intangible benefits of a sustainable business image can also improve indoor air quality, ultimately improving building occupant comfort levels and productivity.

Disadvantage:

Analyzing electrical consumption may results in shortage of energy which ultimately affects the bottom line people.

APPLICATIONS

- By providing access to electricity, the analysis can help to improve the quality of life for people living in areas without access to electricity, including providing access to lighting, heating, and cooling, and powering essential services such as hospitals and schools..

CONCLUSION

Electricity Consumption States.

- Maharashtra is the Highest Electricity consumption user of India.
- Gujarat is the Second Highest Electricity consumption user of India.
- Sikkim is the Lowest Electricity Consumption user of India .
- Electricity Consumption before and during Lockdown in India
- Electricity consumption was more in 2019 in month of March-June before Lockdown

- Electricity Consumption was less in 2020 in month of March-June during the Lockdown

Electricity Consumption in Quarters

- Electricity Consumption in 2019 for Quarter 3 was Highest.
- Electricity Consumption in 2019 for Quarter 1 was Lowest.
- Electricity Consumption in 2020 for Quarter 3 was Lowest.
- Electricity Consumption in 2020 for Quarter 1 was Highest.

Electricity Consumption in Regions

- Total Electricity consumption in Western Region is Highest.
- Total Electricity consumption in North Eastern Region is Lowest.
- Electricity Consumption in 2020 for Quarter 3 was Lowest.
- Electricity Consumption in 2020 for Quarter 1 was Highest.

FUTURE SCOPE

By understanding consumption patterns and trends, the analysis can help businesses identify market opportunities and develop strategies to meet the growing demand for electricity in India.

APPENDIX

Source Code

Dashboard link:

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Story link:

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