DOCUMENTATION

PROJECT TITLE:

PLUGGING INTO THE FUTURE –AN EXPLORATORY DATA ANALYSIS OF ELECTRICITY CONSUMPTION

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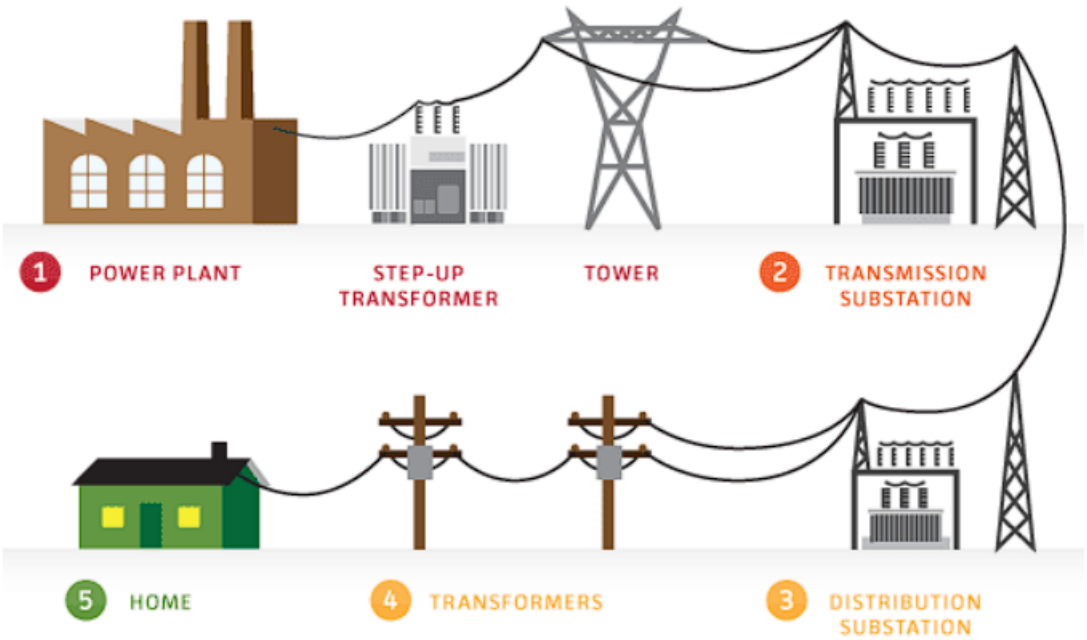
1.INTRODUCTION

- ✓ **India is the third largest producer of electricity in the world. 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 this analysis we are going to analyse the electricity consumption between 2019 and 2020 years.**

- ✓ **The Ideal aim of this analysis is to find the electricity consumption patterns.**



2.DATASET

- ✓ Dataset plays a major role in doing Exploratory data analytics.
- ✓ To have a better results in your analytics,we should have the dataset to be cleaned.cleaned in the sense,the data should not contain any noises in it.
- ✓ I have Took the dataset from Kaggle Website.

  LINK: https://www.kaggle.com/code/twinkle0705/an-interactive-eda-of-electricity-consumption

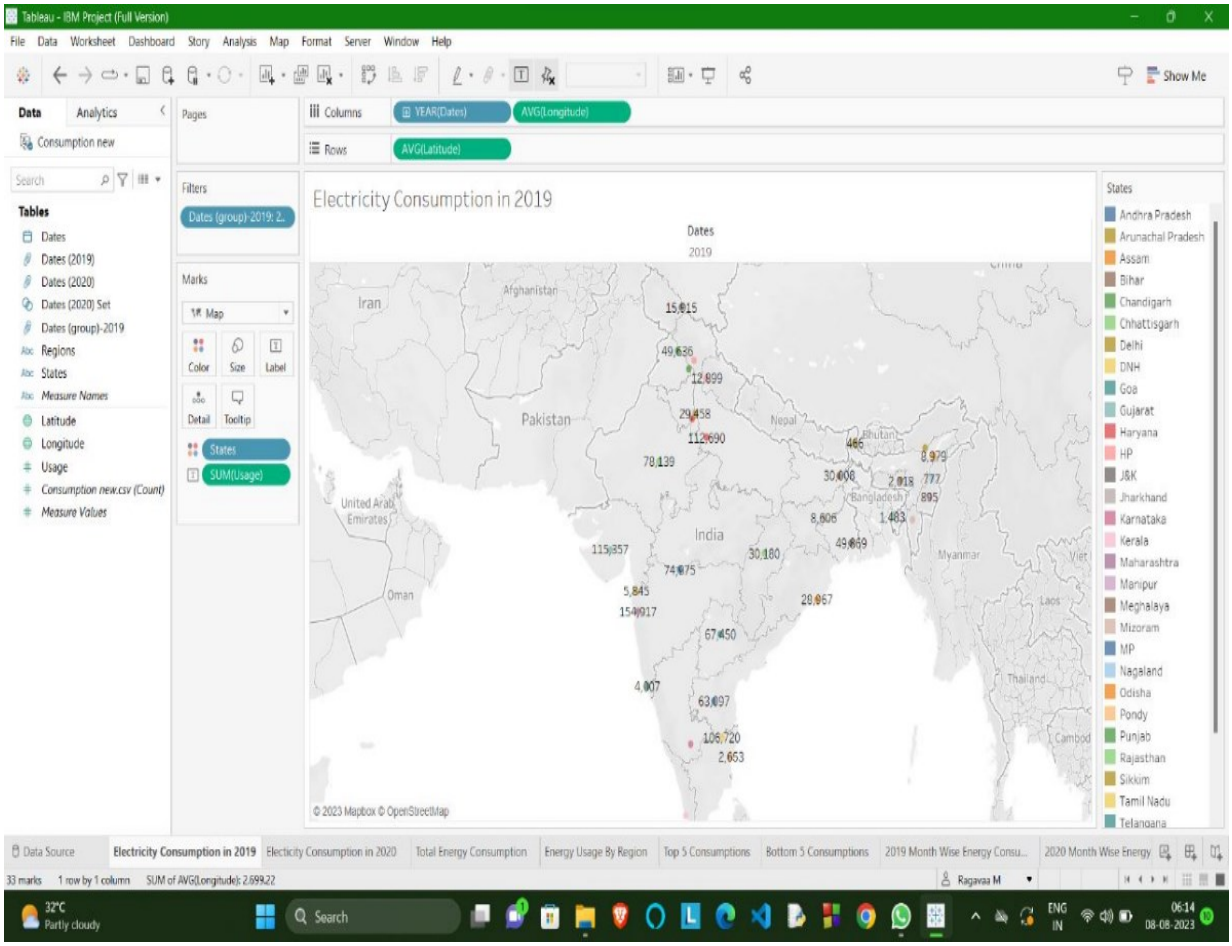
3.VISUALIZATION

- ✓ Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data. Additionally, it provides an excellent way for employees or business owners to present data to non-technical audiences without confusion.
- ✓ In the world of Big Data, data visualization tools and technologies are essential to analyze massive amounts of information and make data-driven decisions.
- ✓ Here we have plotted the graphs with different parameters used at different places.
- ✓ Here is our demonstration link where all the plots,stories and dashboard are been explained well.

Demonstration link:

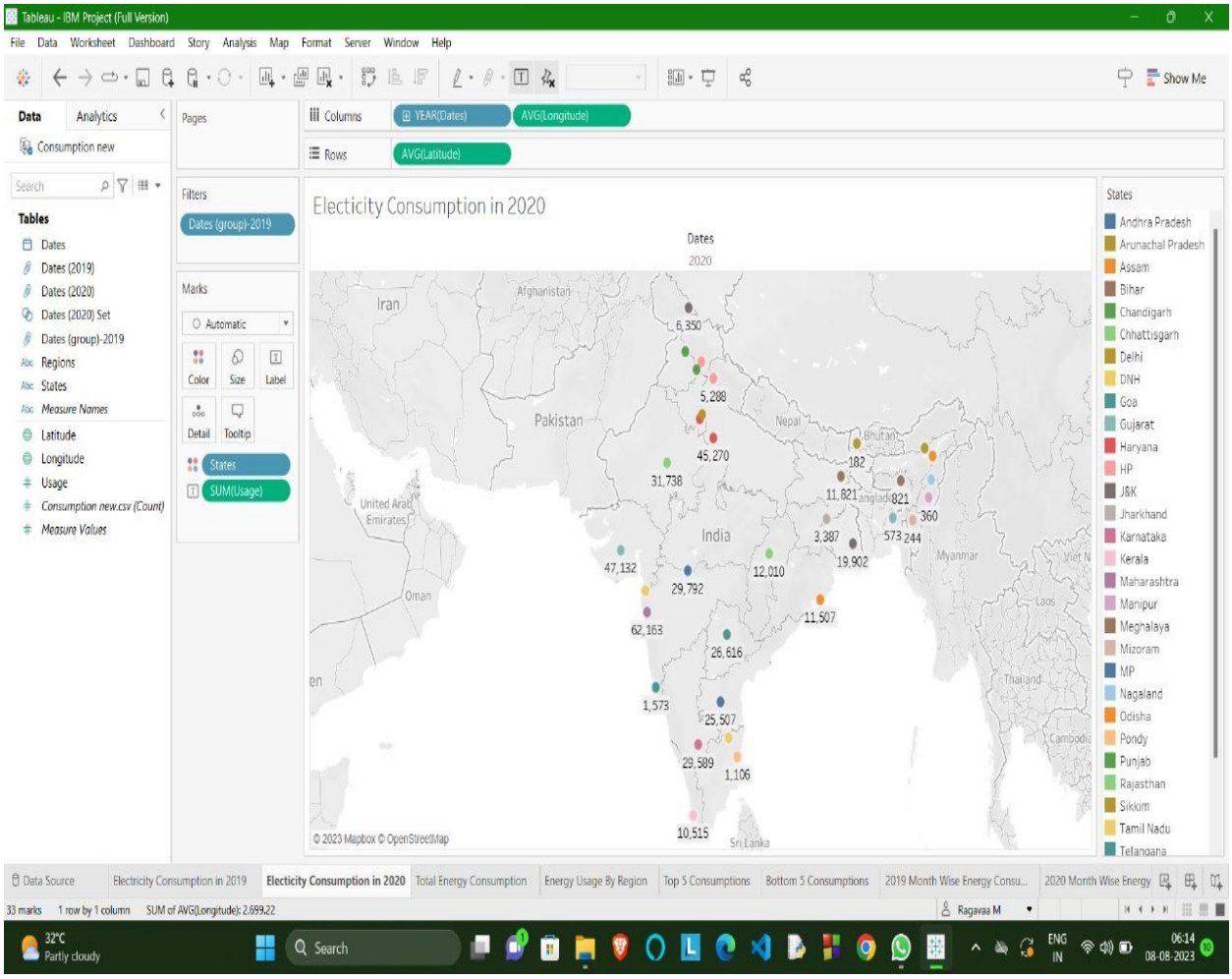
https://drive.google.com/file/d/1ieV5oTF6lHdF50R0V5se_mAJe1l8_HZq/view?usp=sharing

Graphs And Plots



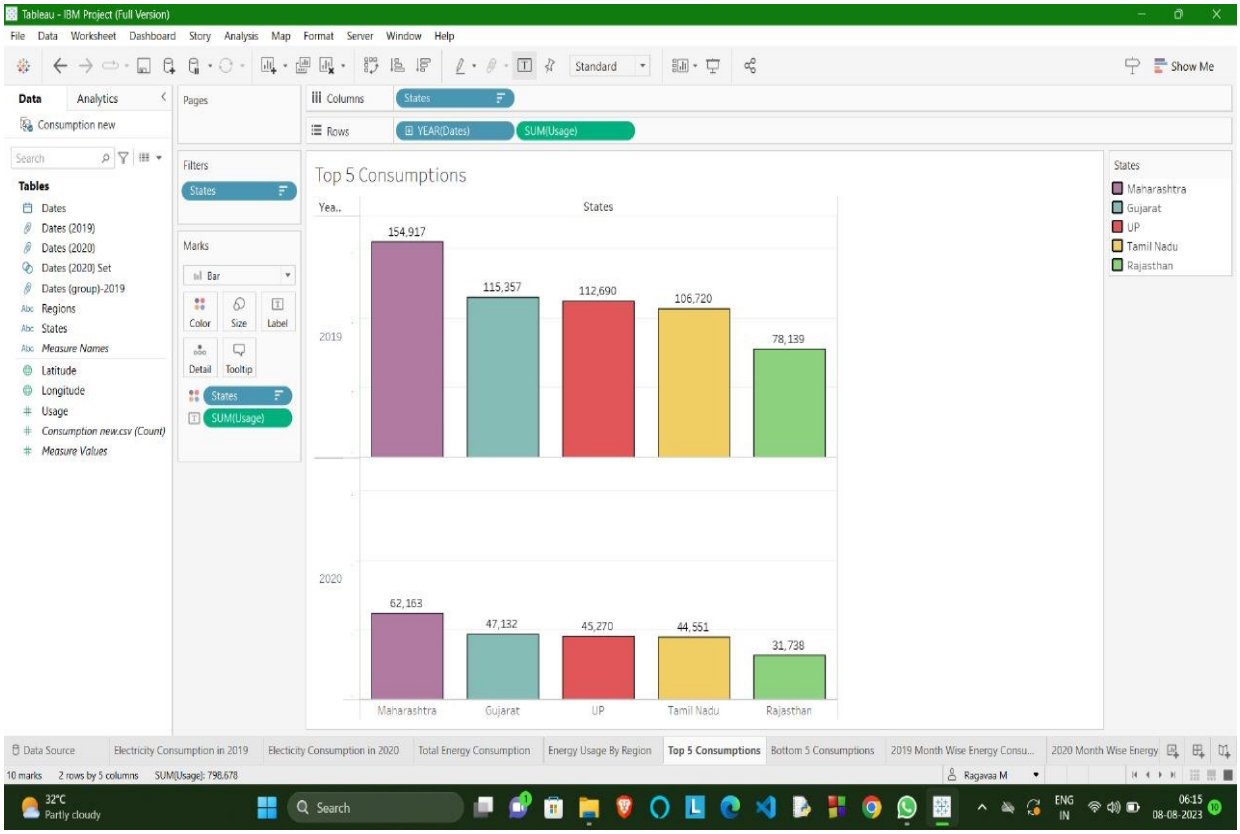
(Fig 3.1-Electricity Consumption in the year 2019)

- ✓ This chart represents the electricity consumption particularly in 2019.
- ✓ Basically, this map can be plotted with the help of latitudes and longitudes.
- ✓ Here we have used filters to display only the electricity consumption of the year 2019.



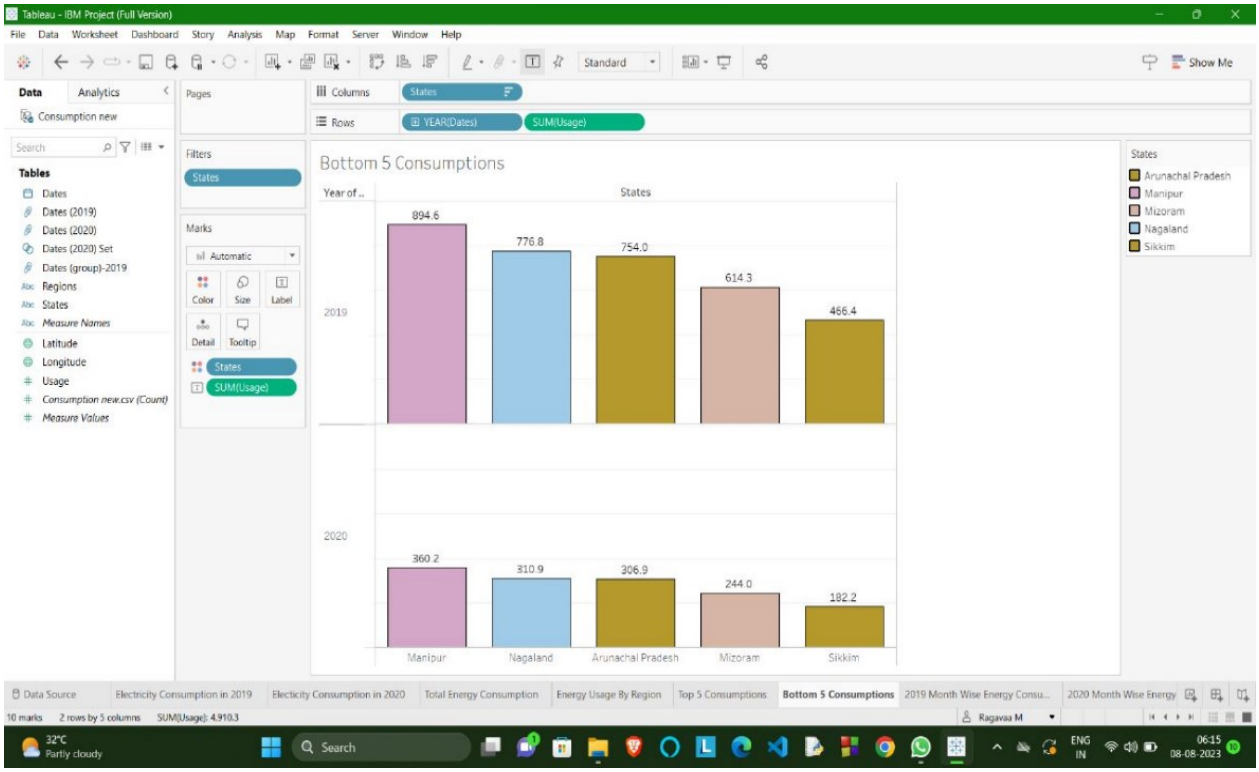
(Fig 3.2-Electricity Consumption in the year 2020)

- ✓ This chart represents the electricity consumption in 2020.
- ✓ Same phenomena is used as the above graphs. But in filters, we have filtered only the year 2020.



(Fig 3.3-Top 5 Electricity Consuming states)

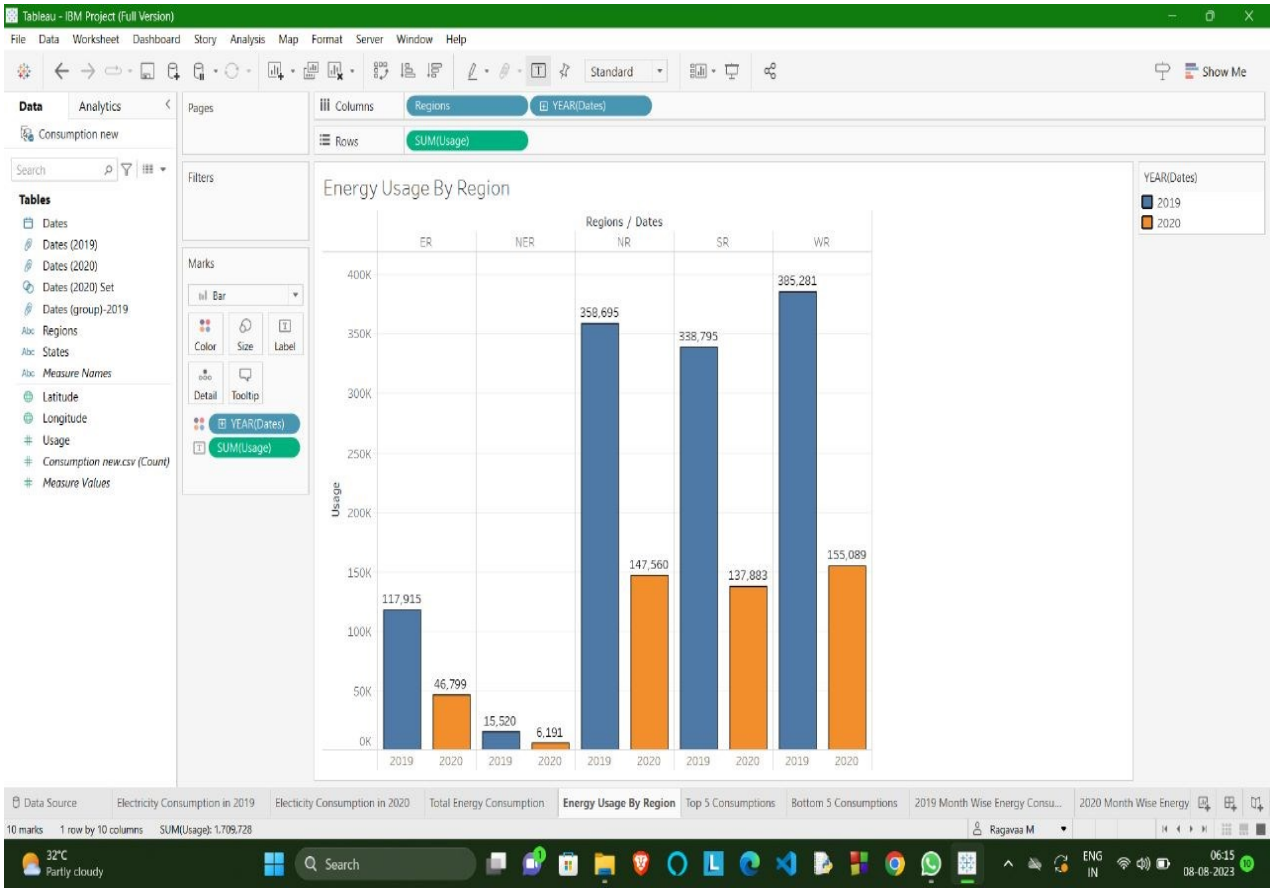
✓ The above graph shows the top 5 consumers of the



(Fig 3.4-Bottom 5 Electricity Consuming states)

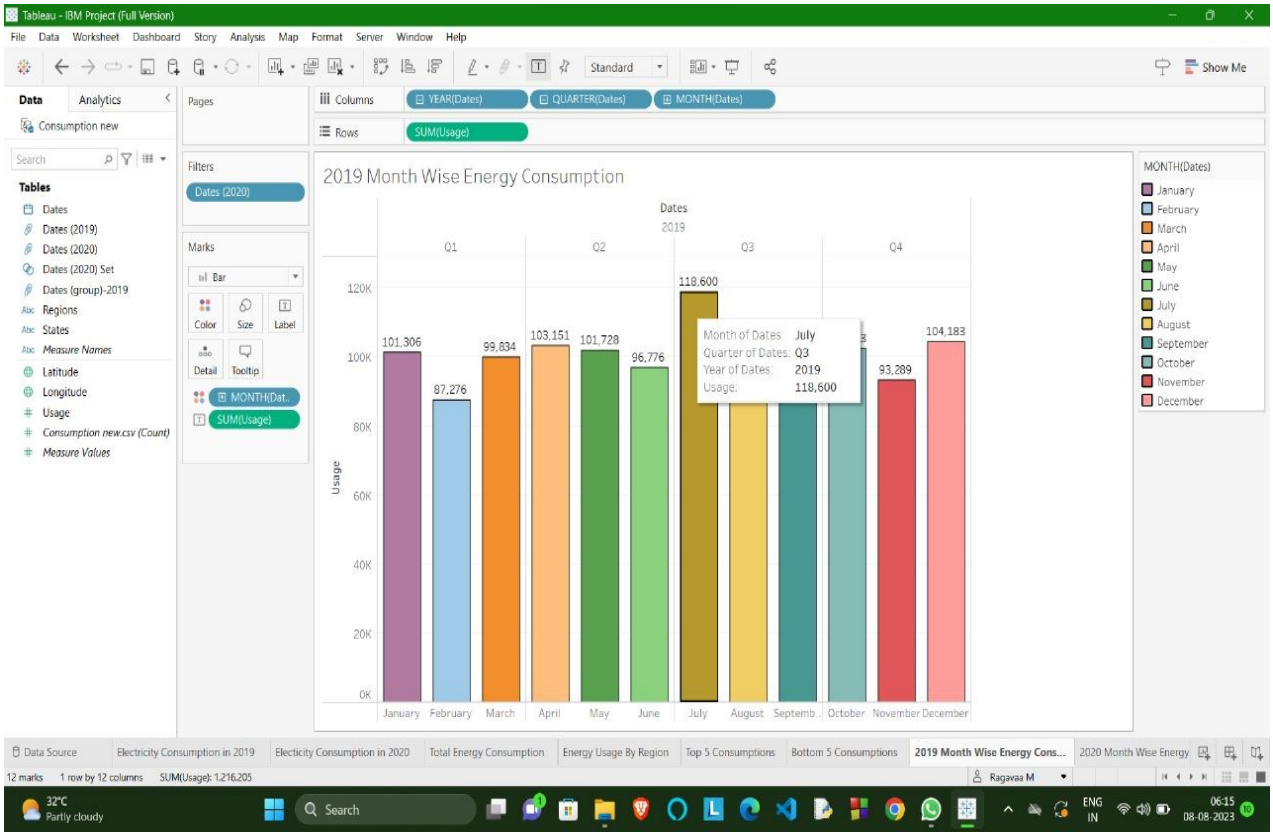
It is about about electricity consumption in india by using the visualization tool(tableau),

This chart represents the bottom five electricity consumption in india.



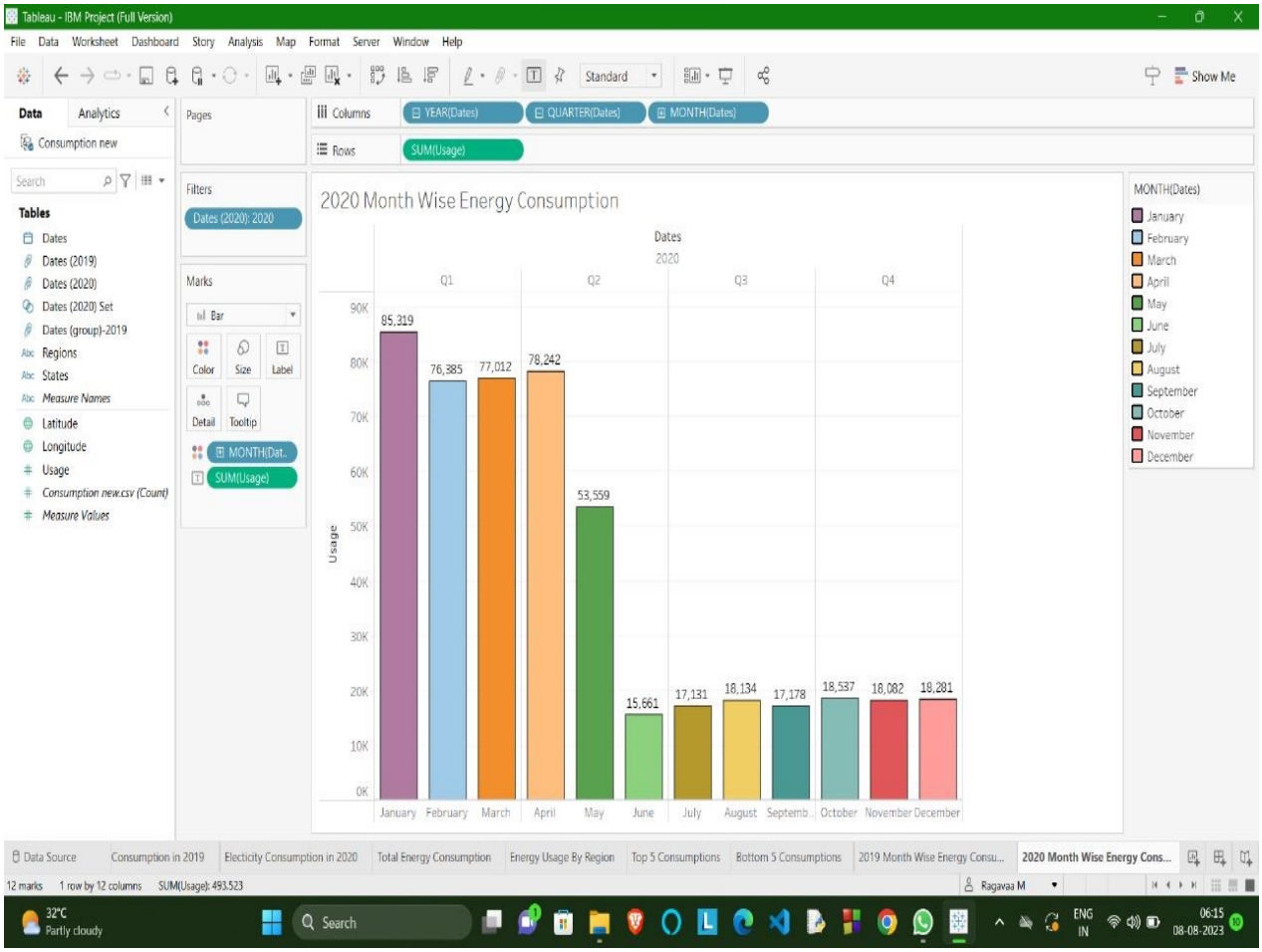
(Fig 3.5- Electricity Consumption in regions)

- ✓ This chart represents the energy usage by regions.
- ✓ To get this graph, we are going to use ‘regions’ int the columns.



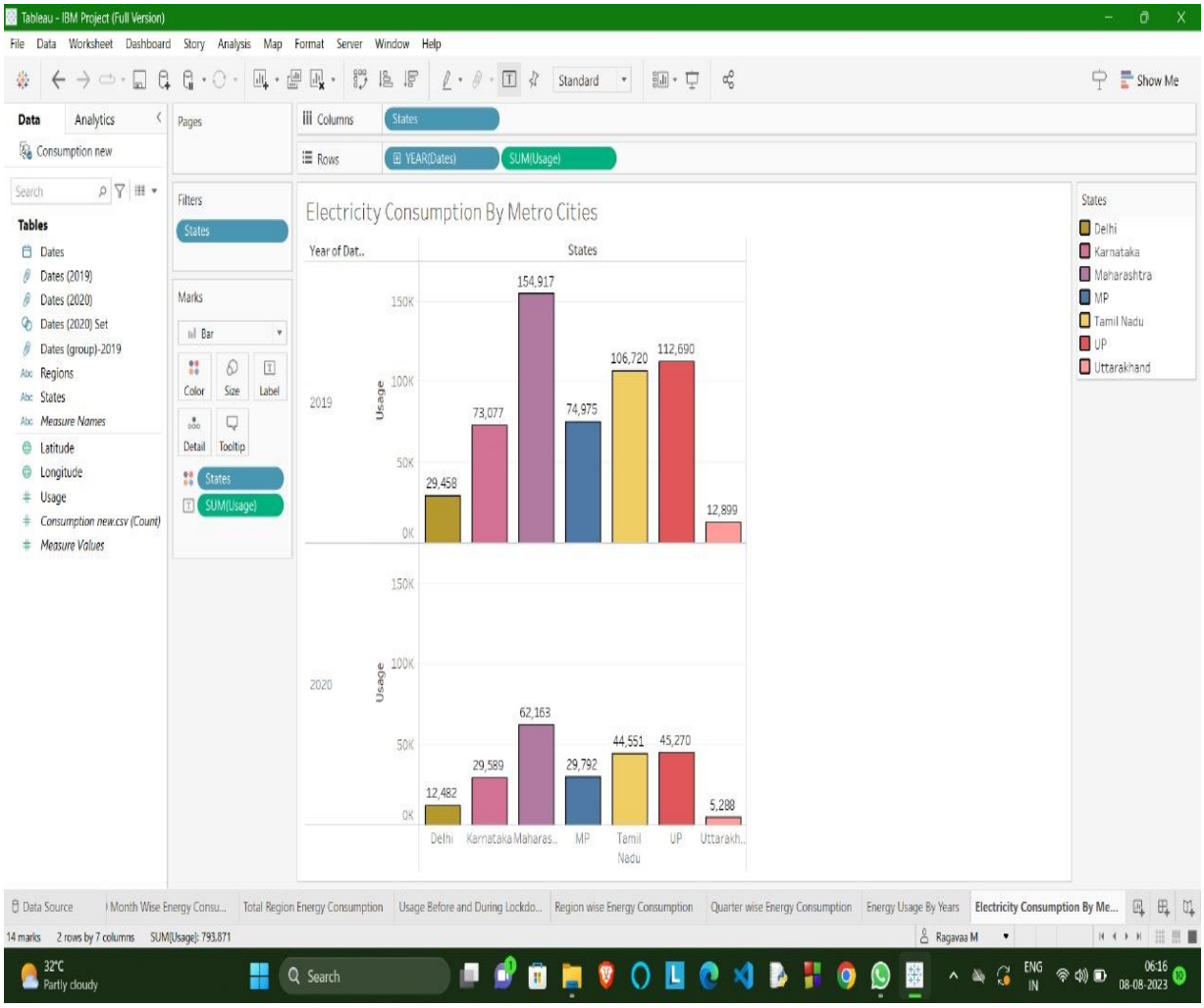
(Fig 3.6-Quarter Wise electricity Consumption in 2019)

- ✓ This chart represents the 2019 -month wise energy consumption.
- ✓ This chart emphasises the quarter wise consumption of



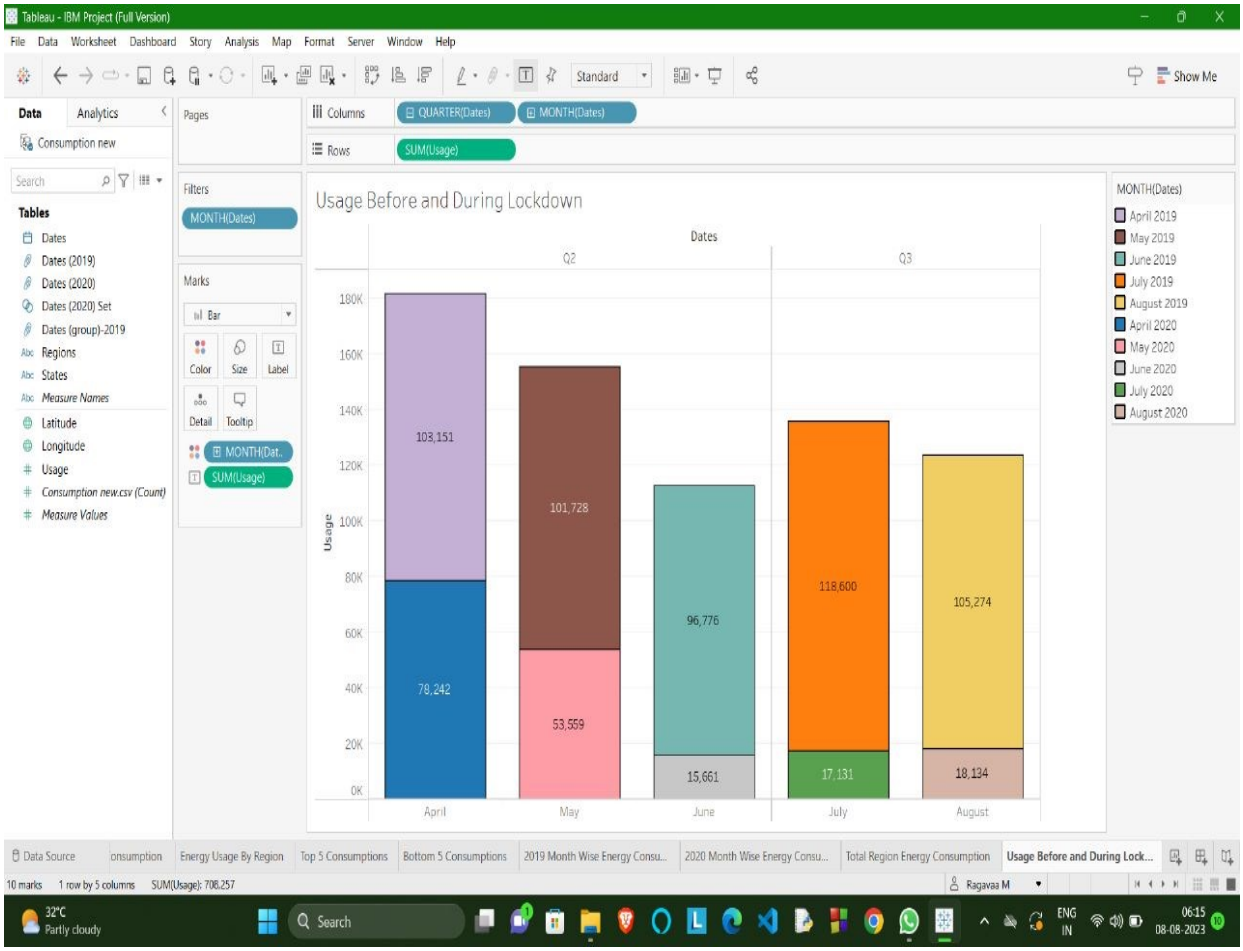
(Fig 3.7-Quarter Wise electricity Consumption in 2020)

- ✓ This chart represents the 2020-month wise energy consumption
- ✓ As listed in the above graph same procedures will be used .
- ✓ But in filter section , we have to filter the years to get only the consumption of 2020.



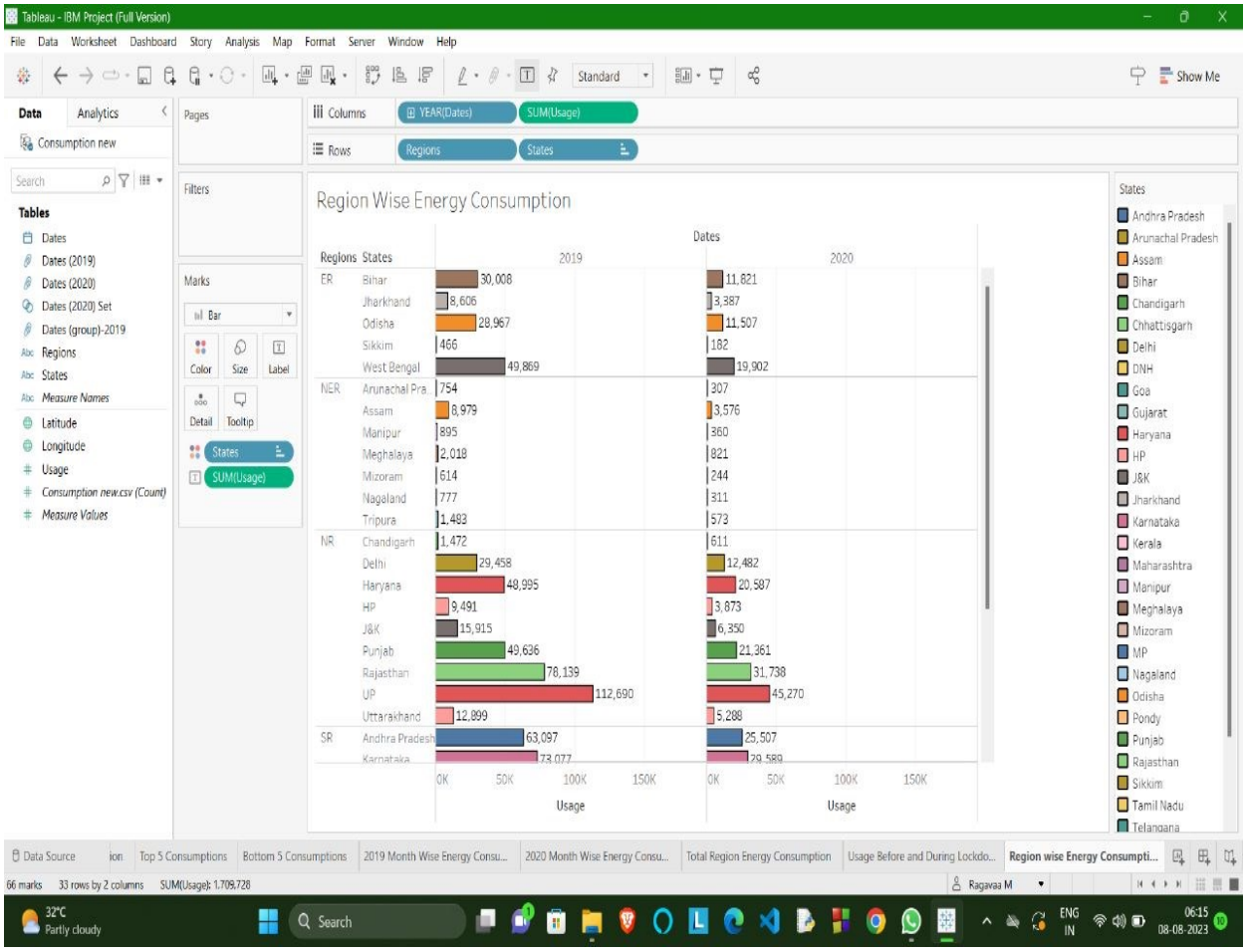
(Fig 3.8- electricity Consumption in metros)

- ✓ This chart represents the electricity consumption by metro cities
- ✓ This can be achieved by filtering the states which has highest consumptions.



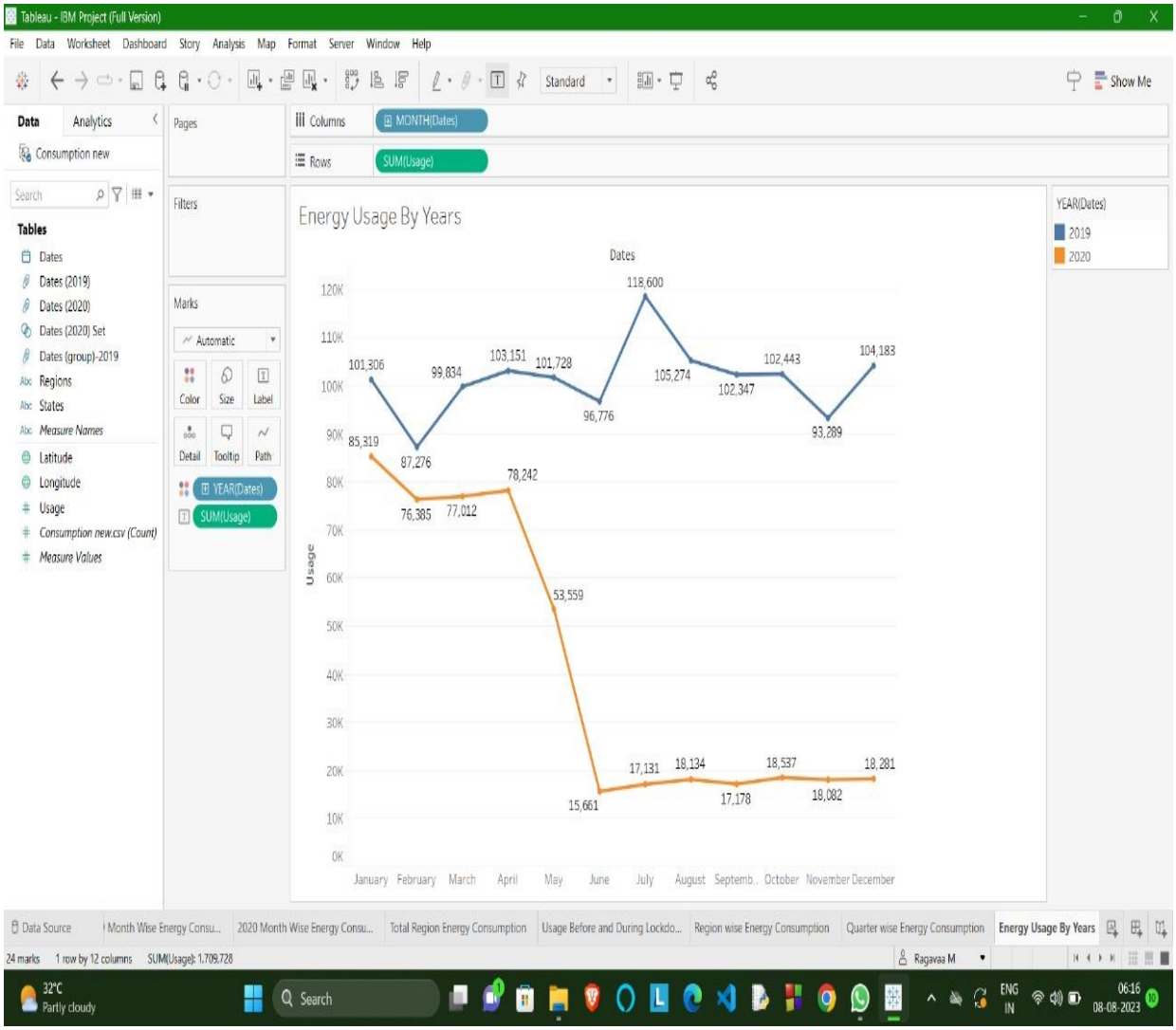
(Fig 3.9- electricity Consumption before and after lockdown)

- ✓ This chart represents the electricity usage before and after lockdown in India.
- ✓ As we can see that the usage of electricity consumption has been reduced in the 2020 due to covid-19.



(Fig 3.10-Region Wise electricity Consumption)

This chart represents the region wise energy consumption.



(Fig 3.11- Electricity Consumption usage over years)

- ✓ This chart represents the energy usage by years.
- ✓ The best way to compare anything , we use line graphs to find whether the worm goes up or down.

STORIES

STORY:

It is a sequence of visualization for work together to convey information. Here it tell about a data narrative, provide context, demonstrate how decisions relate to outcomes, or to simply make a compelling case.

A story is a sheet, so the methods you use to create, name, and manage worksheets and dashboards also apply to stories (for more details, see workbook and sheets).

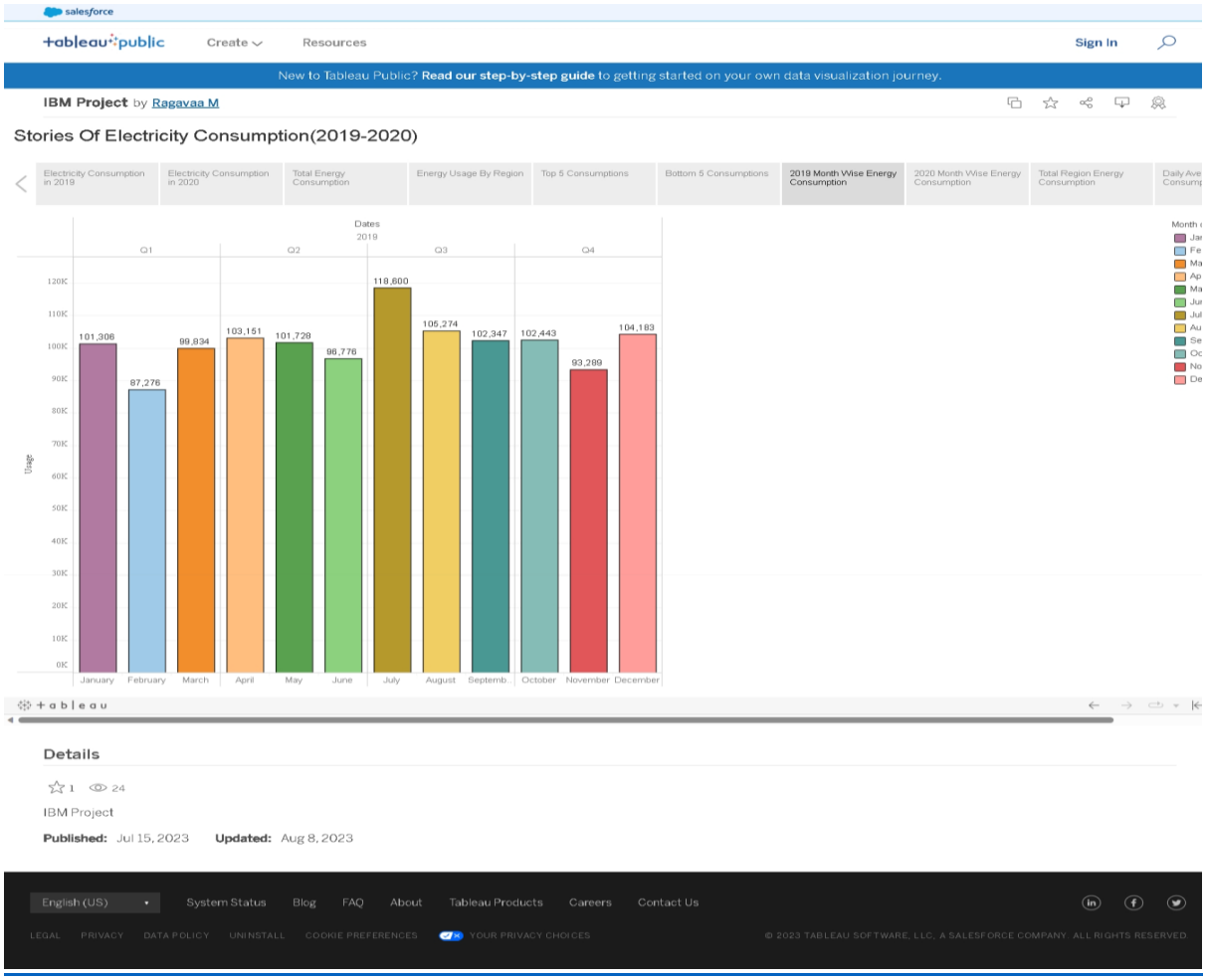
A story can have more than a sheet.

It simply used to collect all the sheets and make them visible in a single page by clicking on the captions.

Tableau Public story link:

https://public.tableau.com/app/profile/ragavaa.m/viz/IBMProject_16893860193820/StoriesOfElectricityConsumption2019-2020?publish=yes

Story Screenshot:



DASHBOARD

- ✓ A dashboard is a collection of several views, letting you compare a variety of data simultaneously. For example, if you have a set of views that you review every day, you can create a dashboard that displays all the views at once, rather than navigate to separate worksheets.
- ✓ Like worksheets, you access dashboards from tabs at the bottom of a workbook. Data in sheets and dashboards is connected; when you modify a sheet, any dashboards containing it change, and vice versa. Both sheets and dashboards update with the latest available data from the data source.
- ✓ Dashboard Contains Various fields in it.

1. FEATURES:

- ✓ Here there are lots of features to create charts and dashboard, here some of them like,

2. FILTER:

- ✓ Filter actions trim down the amount of data displayed in the dashboard in order to help the viewer zero in on the information that's most valuable to them. For example, a filter could let you select a school district to see only the schools in that district rather than all schools in the state or region.

3. HIGHLIGHT:

✓ You can call attention to particular marks and dim others with highlight actions in a number of different ways: use the legend to select related marks, use highlighter to search for marks, or create an advanced action defining the highlight criteria.

4. URL:

✓ Hyperlink to a browser. Alternately, if there's a web page element in the dashboard, open the page embedded in the dashboard with URL actions. This is particularly helpful when you want the user to be able to see more information that is hosted outside of Tableau.

Tableau Public Dashboard 1 Link:

https://public.tableau.com/app/profile/ragavaa.m/viz/IBMProject-Dashboard/Dashboard1?publish=yes

Tableau Dashboard Screenshot 1:

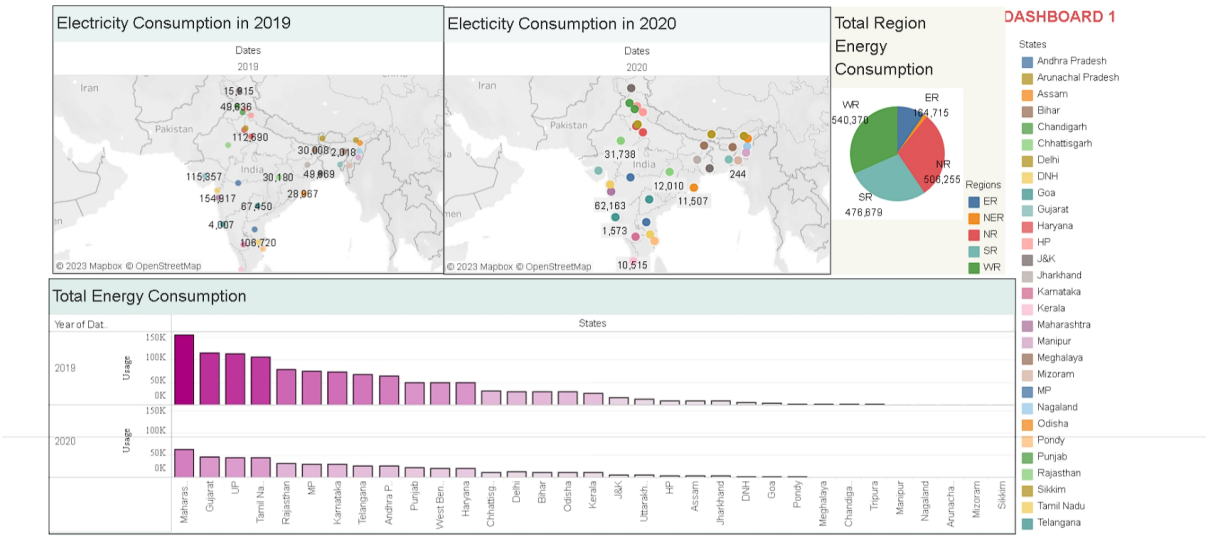
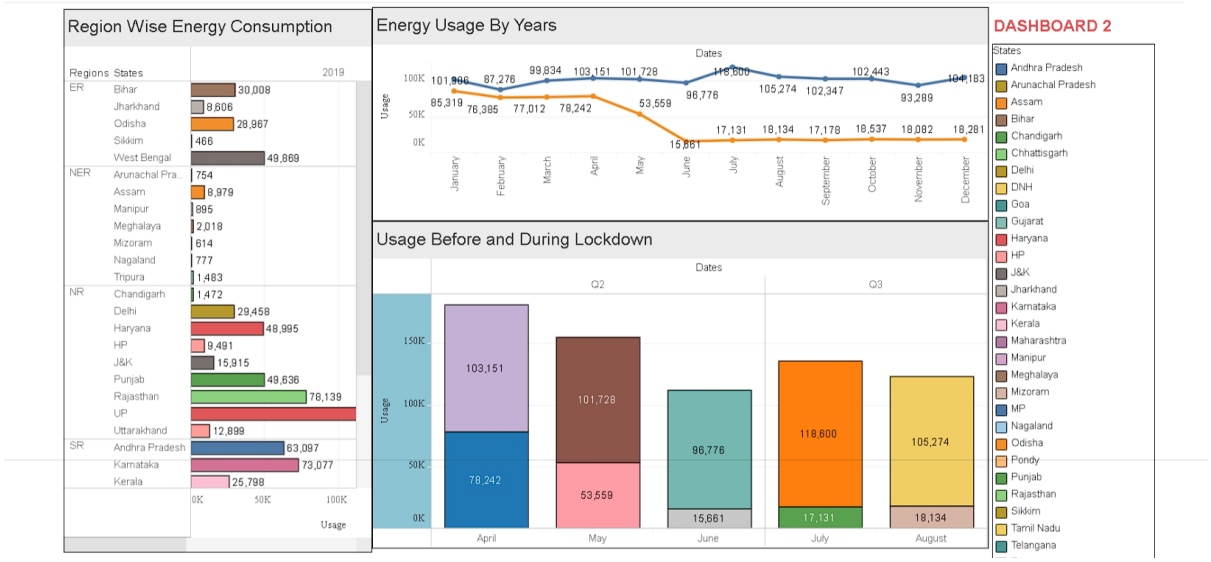


Tableau Public Dashboard 2 Link:

https://public.tableau.com/app/profile/ragavaa.m/viz/IBMProject-Dashboard2/Dashboard2?publish=yes



CONCLUSION

Electricity Consumption Stats.

- ✓ 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.