Project Report Template

1. Introduction

1.1 Overview

Electricity Consumption during the COVID – 19 Period as State Wise and Region Wise.

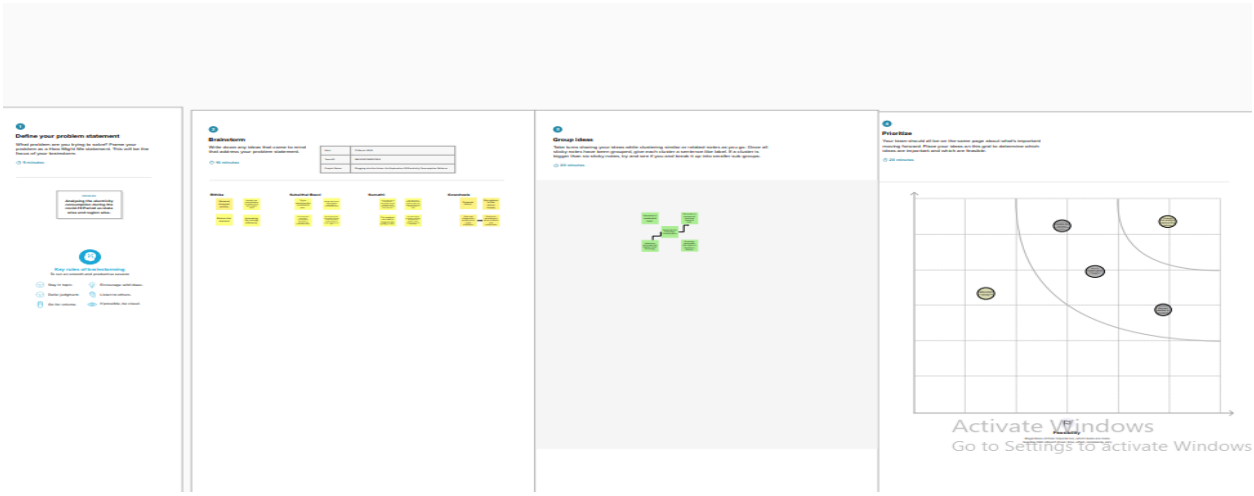
1.2 Purpose

It is used to develop the policies and to promote energy efficiency. We can observe from this to reduce the Consumption of Electricity help us to recover the demand.

2. Problem Definition & Design Thinking

2.1 Empathy Map

2.2 Ideation & Brainstorming Map



3. Data set

https://drive.google.com/file/d/1JxIkHNwXxjFztKq7ad0_KtkukCqTckNy/view?usp=sharing

In Dataset Consumption.csv data is in the form of a time series for a period of 24 months beginning from 2nd Jan 2019 till 5th December 2020. Columns contains States, Regions, Latitude, Longitude, Dates and Usage. The dataset has been scraped from the weekly energy reports of POSOC.

Fields Include:

States - Indian States

Regions- States in Regions on Indian Map

Latitude - States in Regions on Indian Map

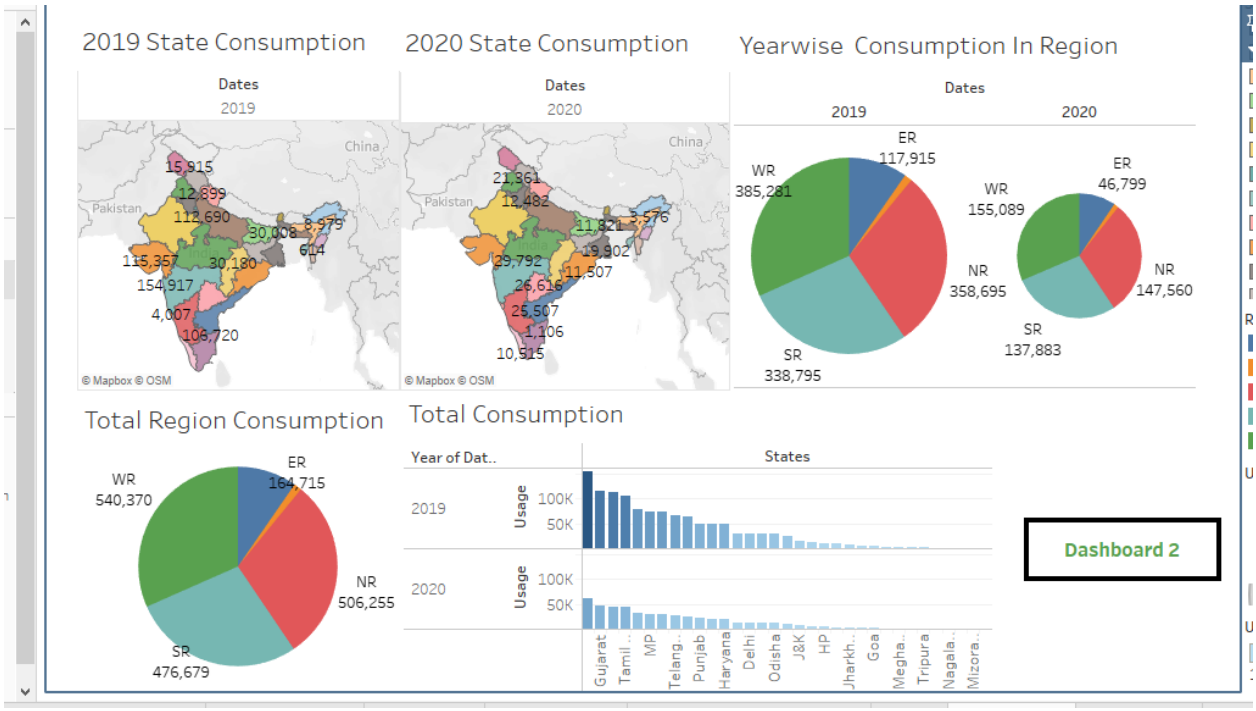
Longitude - Geographical Coordinate of States

Dates - Dates of Usage

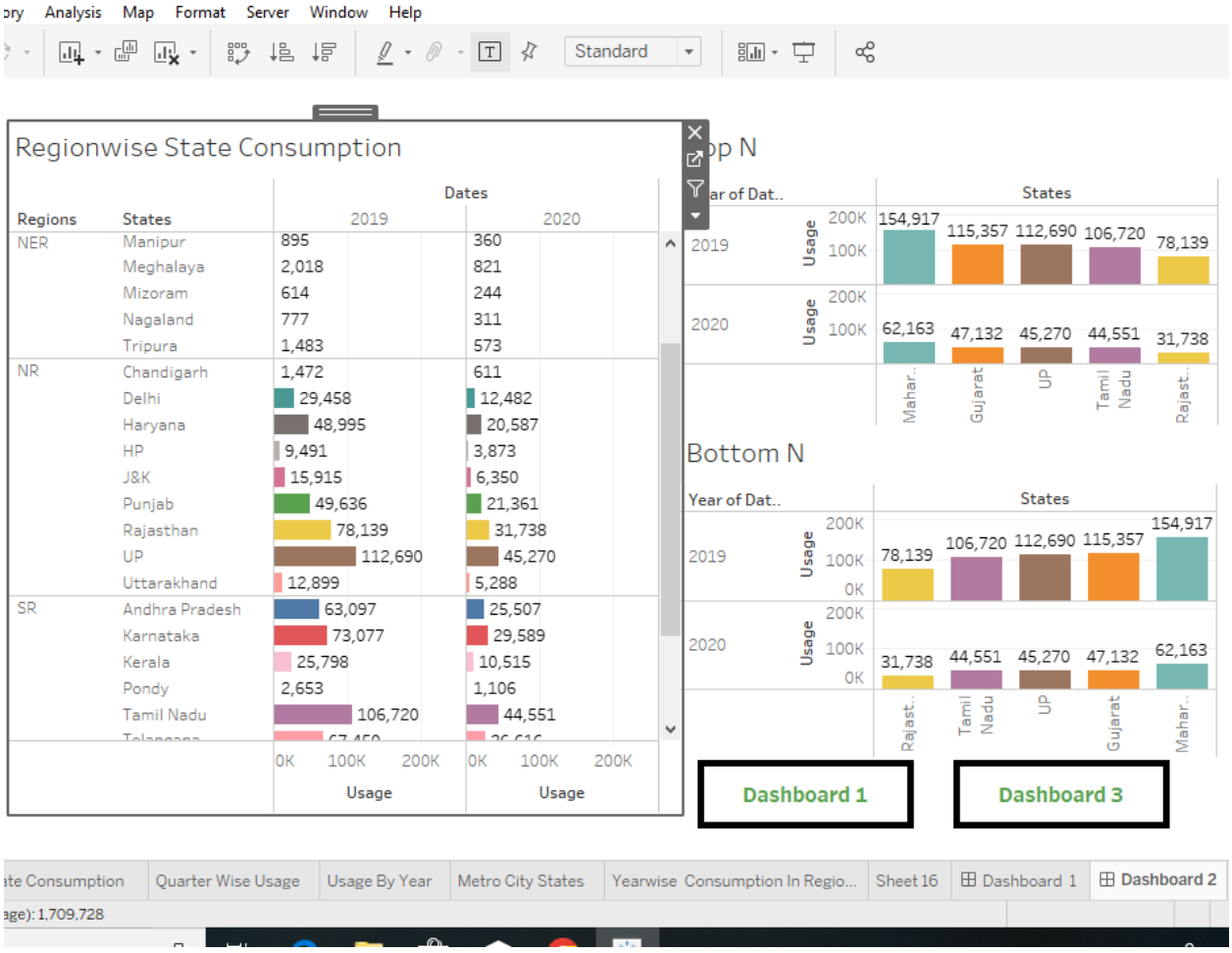
Usage - Power consumed in Mega Units (MU)

4. Result

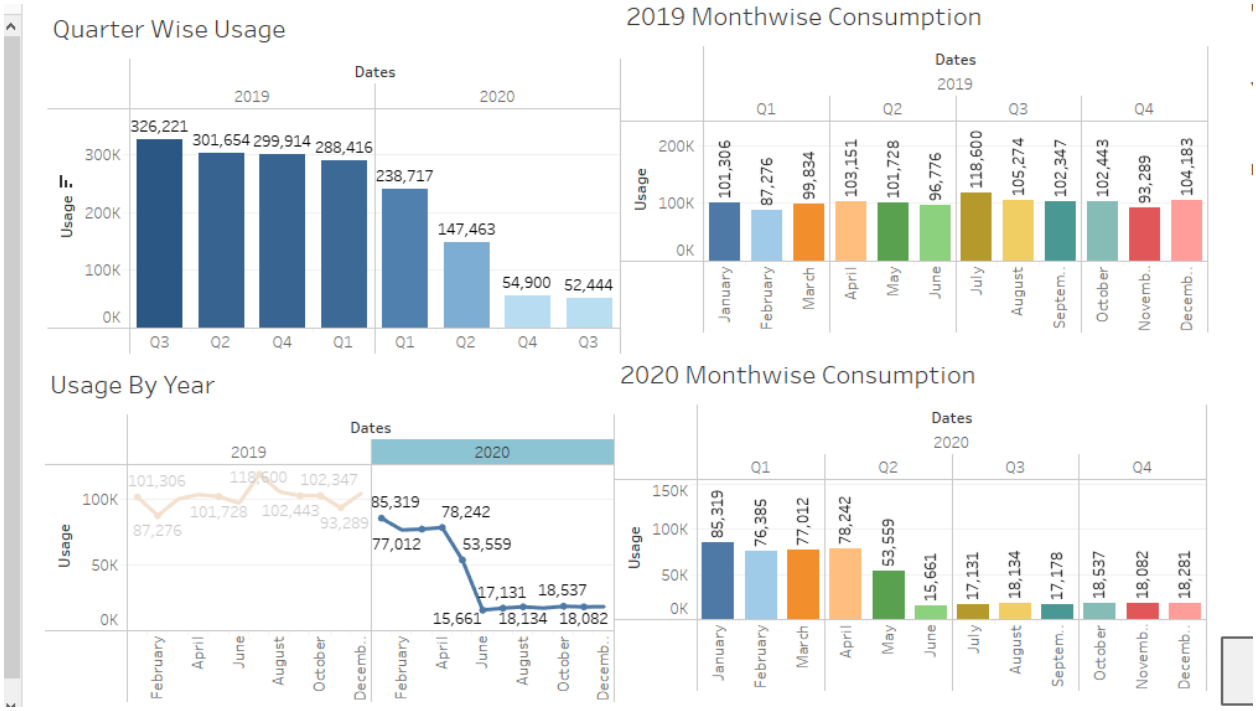
Dashboard 1



Dashboard 2


ory Analysis Map Format Server Window Help
Standard
Regionwise State Consumption
Regions
States
Dates
2019
2020
NER
Manipur 895 360
Meghalaya 2,018 821
Mizoram 614 244
Nagaland 777 311
Tripura 1,483 573
NR
Chandigarh 1,472 611
Delhi 29,458 12,482
Haryana 48,995 20,587
HP 9,491 3,873
J&K 15,915 6,350
Punjab 49,636 21,361
Rajasthan 78,139 31,738
UP 112,690 45,270
Uttarakhand 12,899 5,288
SR
Andhra Pradesh 63,097 25,507
Karnataka 73,077 29,589
Kerala 25,798 10,515
Pondy 2,653 1,106
Tamil Nadu 106,720 44,551
0K 100K 200K
Usage
op N
States
Usage
2019
2020
154,917 115,357 112,690 106,720 78,139
62,163 47,132 45,270 44,551 31,738
Mahar..
Gujarat
UP
Tamil Nadu
Rajast..
Bottom N
Year of Dat..
78,139 106,720 112,690 115,357 154,917
31,738 44,551 45,270 47,132 62,163
Rajast..
Tamil Nadu
UP
Gujarat
Mahar..
Dashboard 1
Dashboard 3
te Consumption
Quarter Wise Usage
Usage By Year
Metro City States
Yearwise Consumption In Regio...
Sheet 16
Dashboard 1
Dashboard 2
age): 1,709,728

Dashboard 3


Quarter Wise Usage
Dates
2019
2020
Usage
300K
200K
100K
0K
326,221
301,654
299,914
288,416
238,717
147,463
54,900
52,444
Q3
Q2
Q4
Q1
Q1
Q2
Q4
Q3
2019 Monthwise Consumption
Dates
2019
Q1
Q2
Q3
Q4
Usage
200K
100K
0K
101,306
87,276
99,834
103,151
101,728
96,776
118,600
105,274
102,347
102,443
93,289
104,183
January
February
March
April
May
June
July
August
Septem..
October
Novemb..
Decemb..
Usage By Year
Dates
2019
2020
Usage
100K
50K
0K
101,306
87,276
101,728
118,600
102,443
102,347
93,289
85,319
77,012
78,242
53,559
15,661
17,131
18,134
18,537
18,082
February
April
June
August
October
Decemb..
February
April
June
August
October
Decemb..
2020 Monthwise Consumption
Dates
2020
Q1
Q2
Q3
Q4
Usage
150K
100K
50K
0K
85,319
76,385
77,012
78,242
53,559
15,661
17,131
18,134
17,178
18,537
18,082
18,281
January
February
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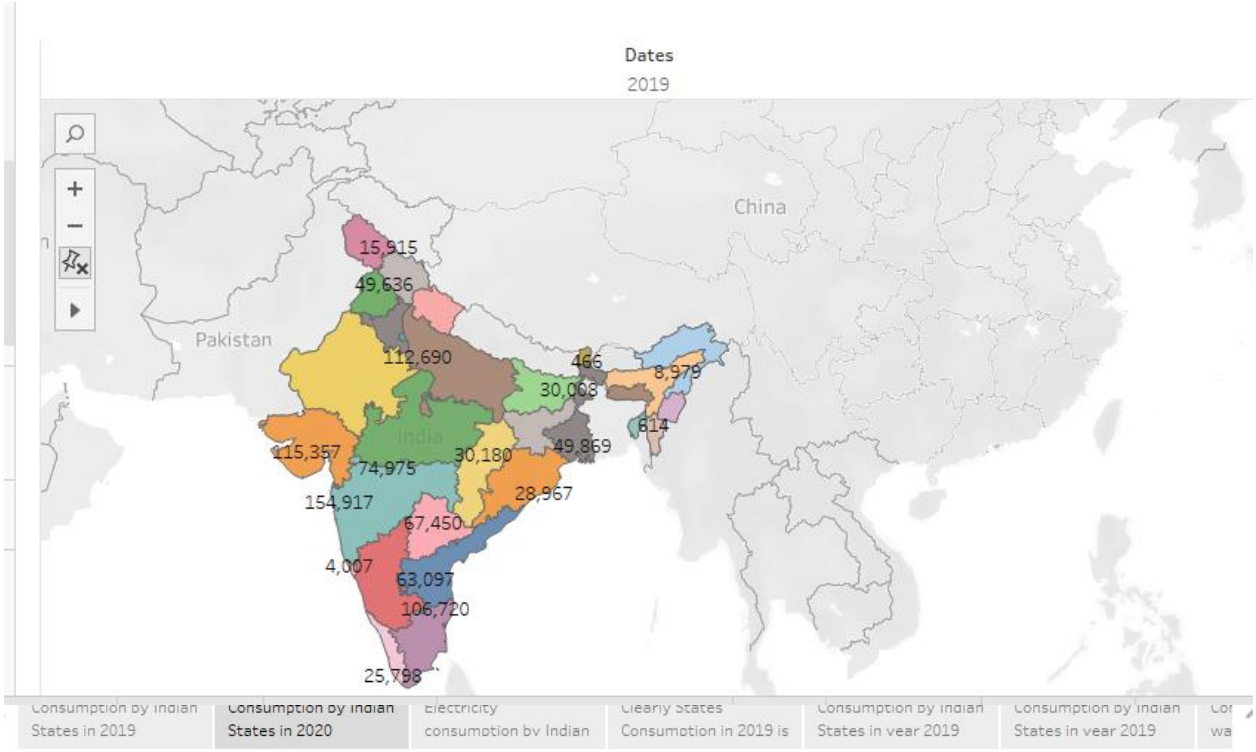
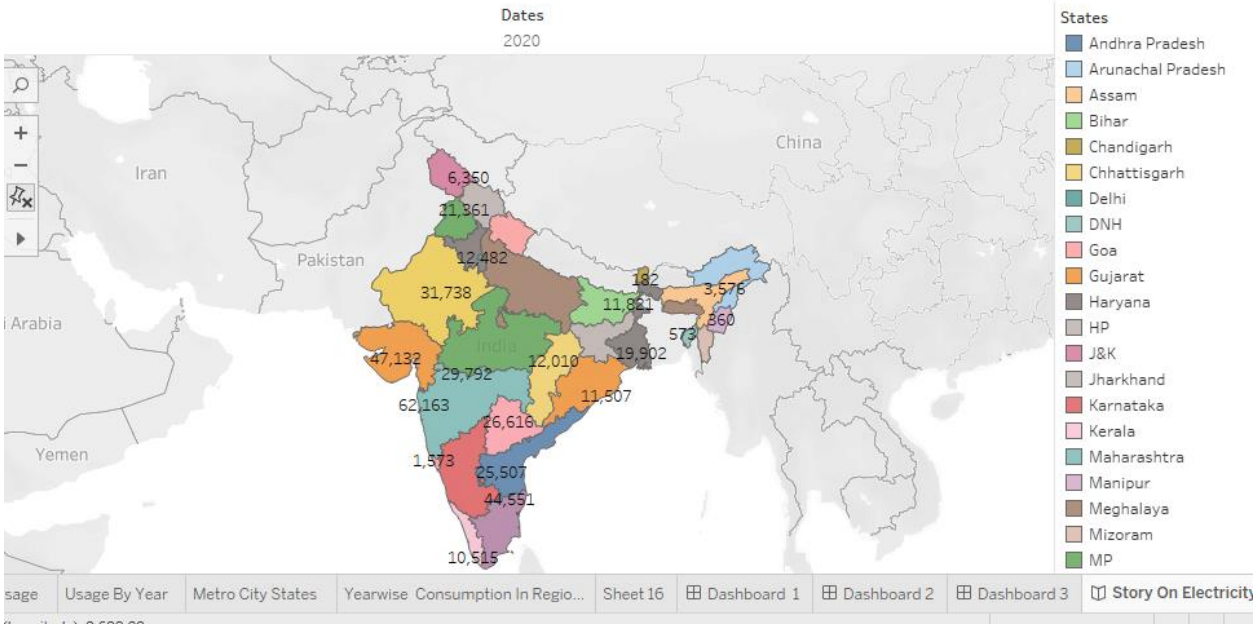
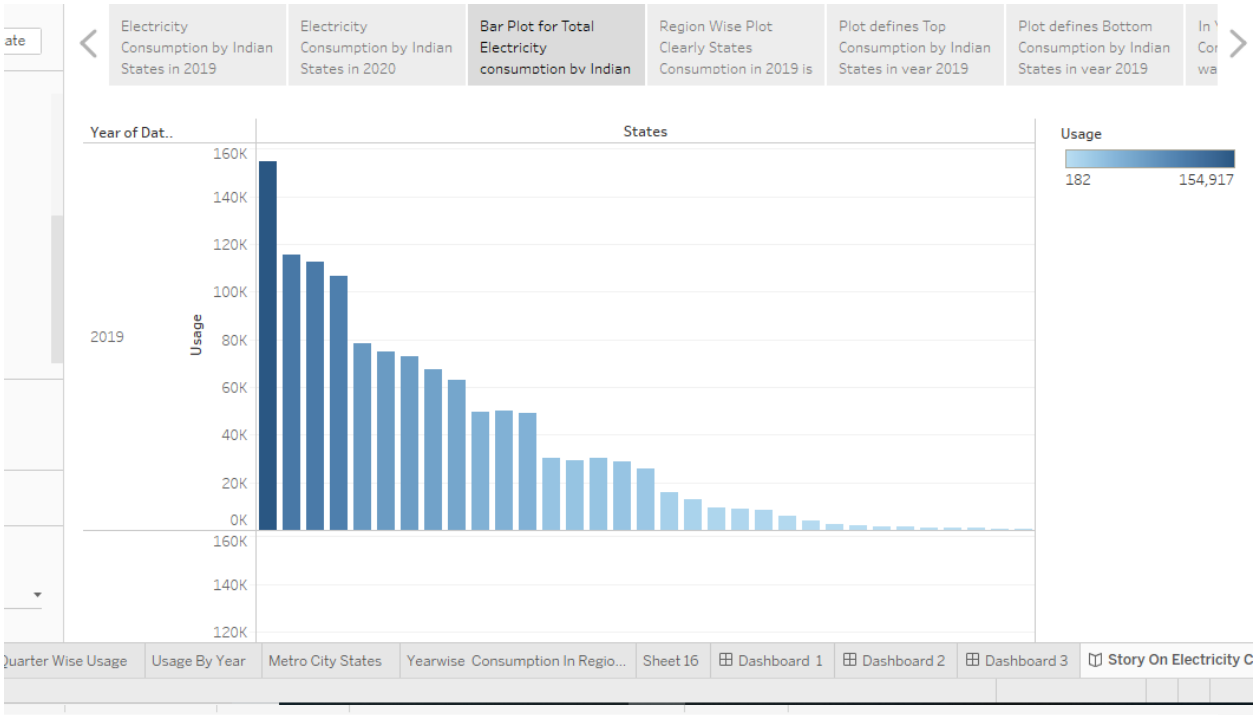
June
July
August
Septem..
October
Novemb..
Decemb..

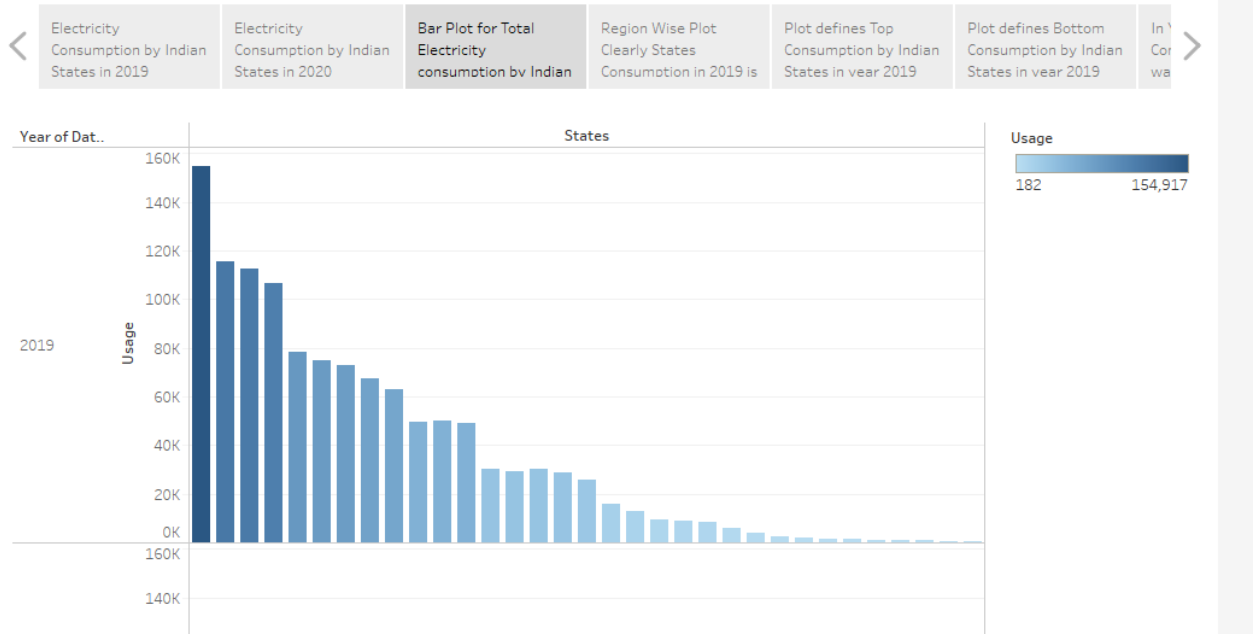
Story

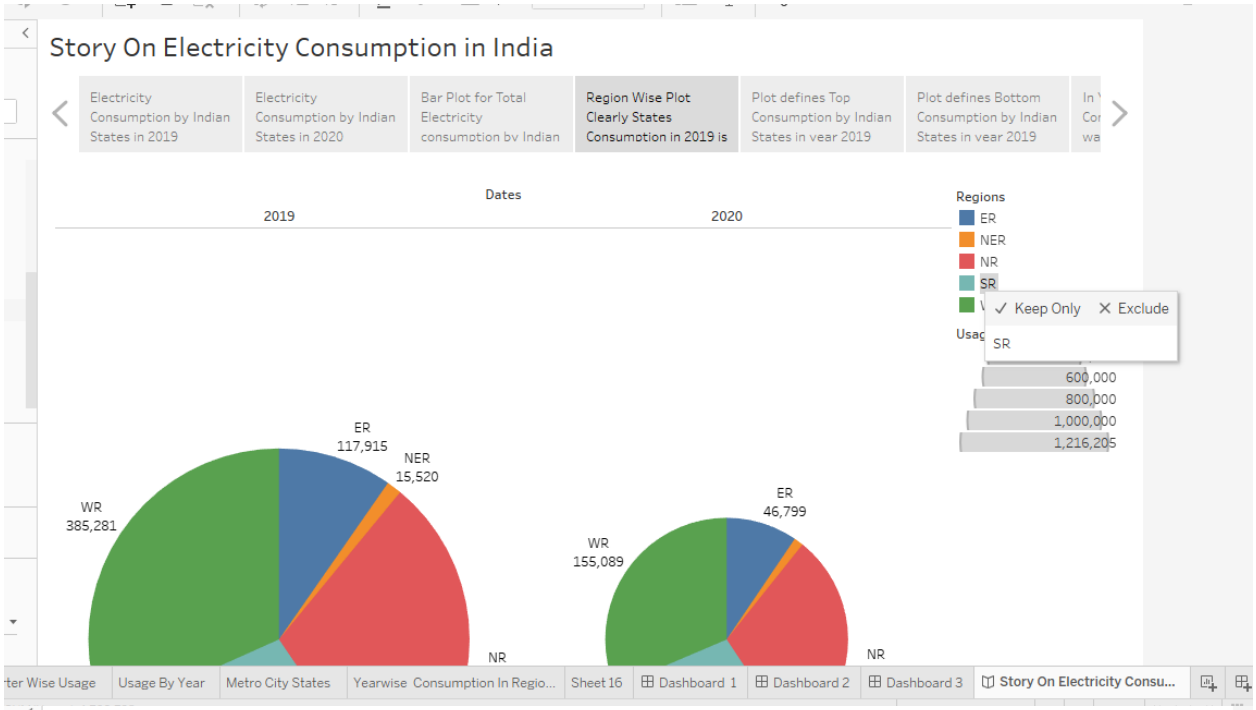

Dates
2019
China
Pakistan
India
15,915
49,636
112,690
466
8,979
30,008
614
115,357
74,975
30,180
49,869
154,917
28,967
67,450
4,007
63,097
106,720
25,798
Consumption by Indian States in 2019
Consumption by Indian States in 2020
Electricity consumption by Indian
Clearly States Consumption in 2019 is
Consumption by Indian States in year 2019
Consumption by Indian States in year 2019


Dates
2020
China
Iran
Pakistan
Arabia
India
Yemen
6,350
11,361
12,482
31,738
182
3,578
11,831
360
573
47,132
29,792
12,010
19,902
62,163
11,507
26,616
1,573
25,507
44,551
10,515
States
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Delhi
DNH
Goa
Gujarat
Haryana
HP
J&K
Jharkhand
Karnataka
Kerala
Maharashtra
Manipur
Meghalaya
Mizoram
MP
Usage By Year
Metro City States
Yearwise Consumption In Regio...
Sheet 16
Dashboard 1
Dashboard 2
Dashboard 3
Story On Electricity



Story On Electricity Consumption in India




Story On Electricity Consumption in India
Electricity Consumption by Indian States in 2019
Electricity Consumption by Indian States in 2020
Bar Plot for Total Electricity consumption by Indian
Region Wise Plot Clearly States Consumption in 2019 is
Plot defines Top Consumption by Indian States in year 2019
Plot defines Bottom Consumption by Indian States in year 2019
Dates
2019
2020
Regions
ER
NER
NR
SR
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SR
600,000
800,000
1,000,000
1,216,205
ER
117,915
NER
15,520
WR
385,281
NR
ER
46,799
WR
155,089
NR
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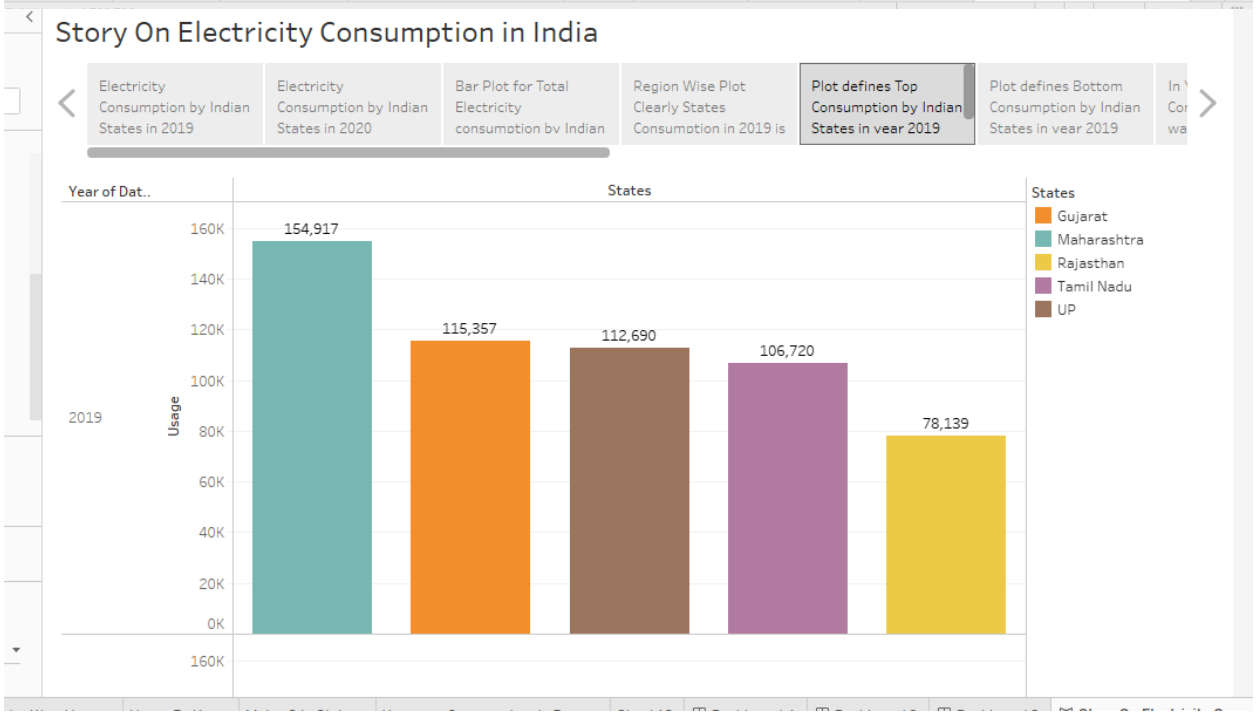
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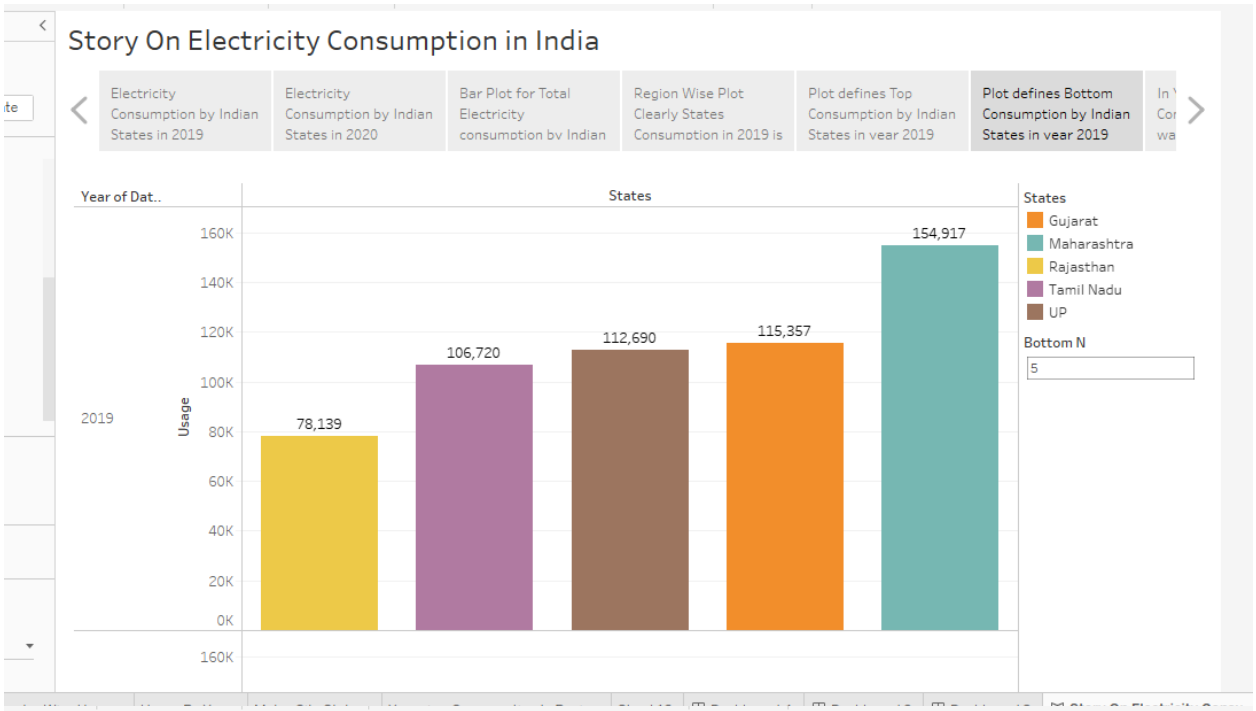
Electricity Consumption by Indian States in 2020
Bar Plot for Total Electricity consumption by Indian
Region Wise Plot Clearly States Consumption in 2019 is
Plot defines Top Consumption by Indian States in year 2019
Plot defines Bottom Consumption by Indian States in year 2019
Year of Dat..
2019
States
Usage
160K
140K
120K
100K
80K
60K
40K
20K
0K
154,917
115,357
112,690
106,720
78,139
States
Gujarat
Maharashtra
Rajasthan
Tamil Nadu
UP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Year of Dat..
States
2019
Usage
160K
140K
120K
100K
80K
60K
40K
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0K
78,139
106,720
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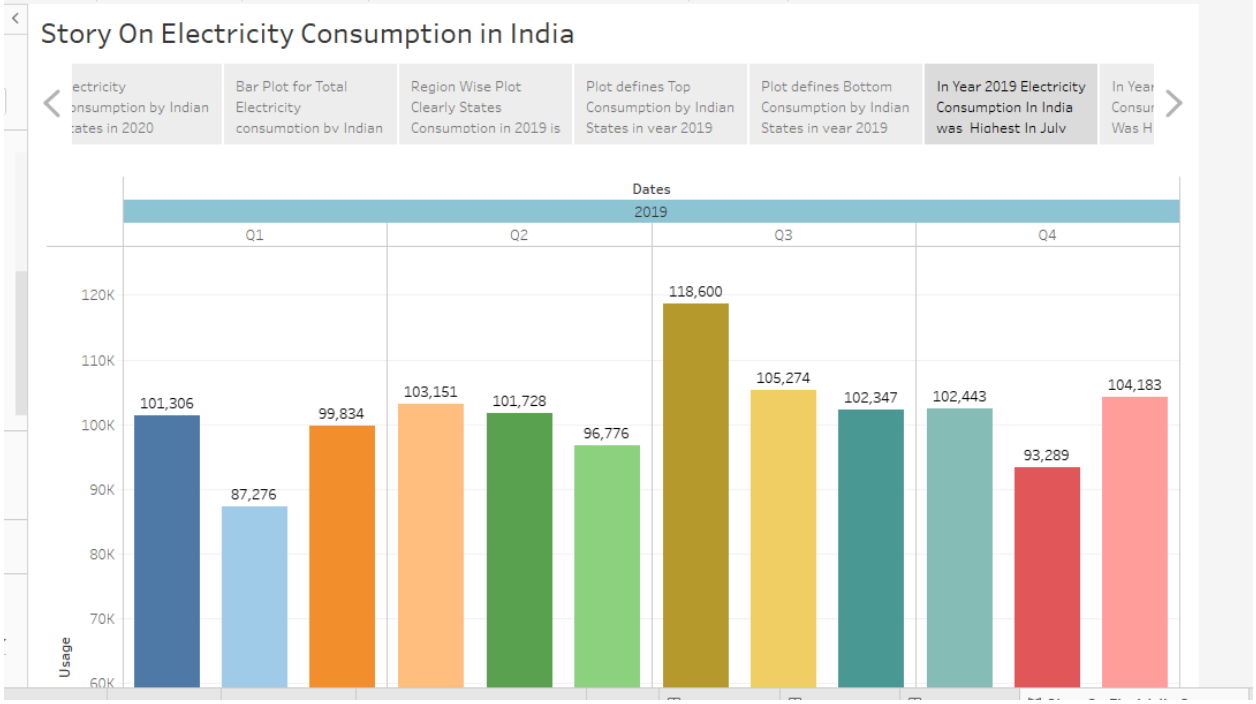
States
Gujarat
Maharashtra
Rajasthan
Tamil Nadu
UP
Bottom N
5


Story On Electricity Consumption in India
Bar Plot for Total Electricity consumption by Indian
Region Wise Plot Clearly States Consumption in 2019 is
Plot defines Top Consumption by Indian States in year 2019
Plot defines Bottom Consumption by Indian States in year 2019
In Year 2019 Electricity Consumption In India was Highest In July
Dates
2019
Q1
Q2
Q3
Q4
Usage
120K
110K
100K
90K
80K
70K
60K
101,306
87,276
99,834
103,151
101,728
96,776
118,600
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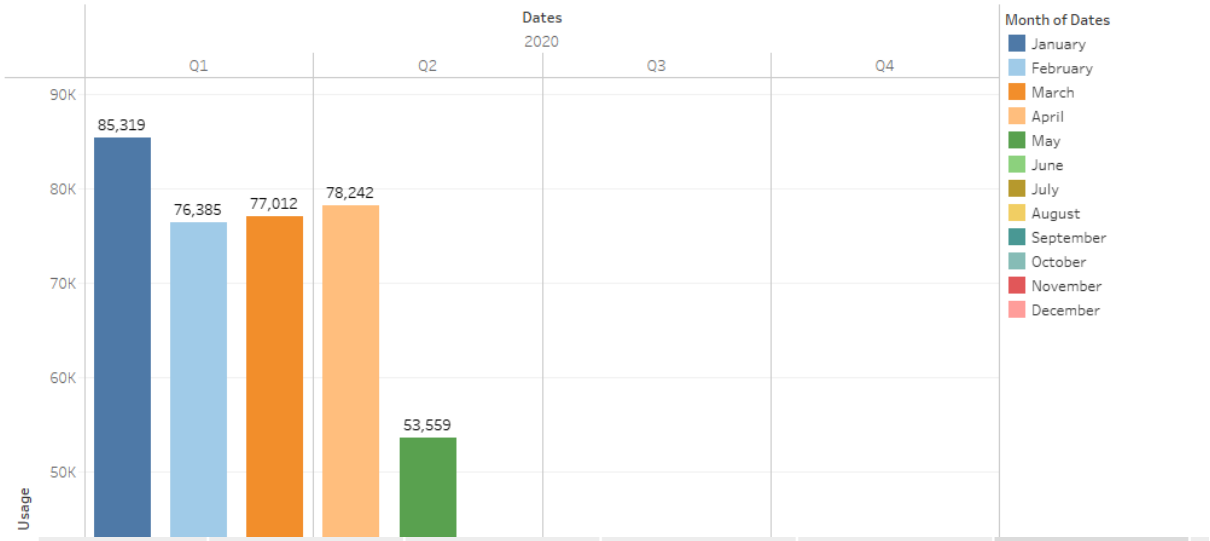
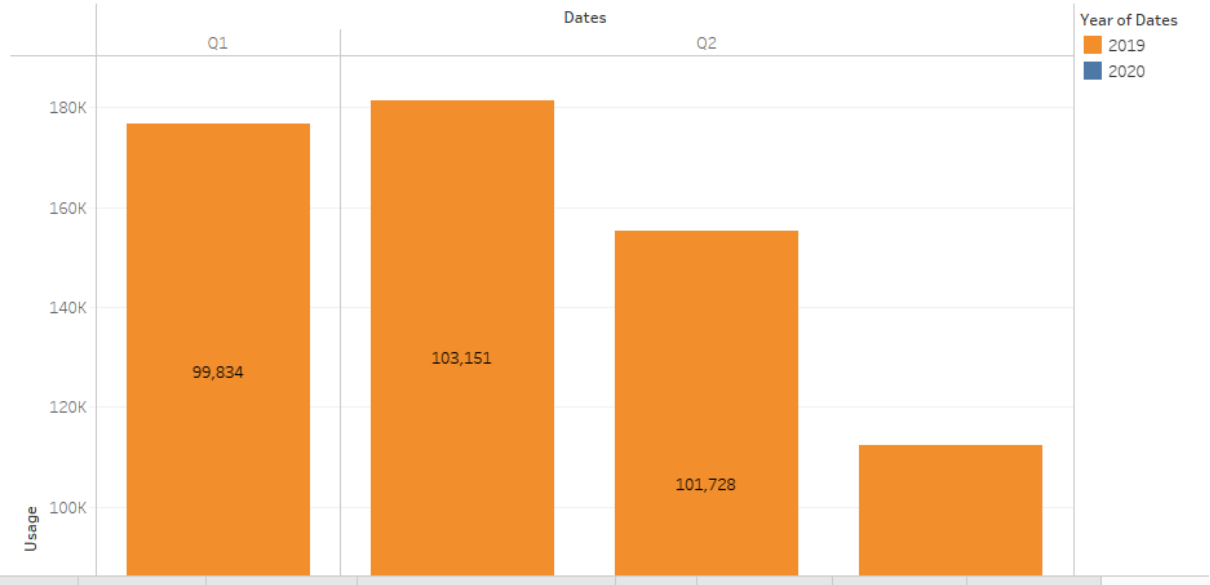
104,183

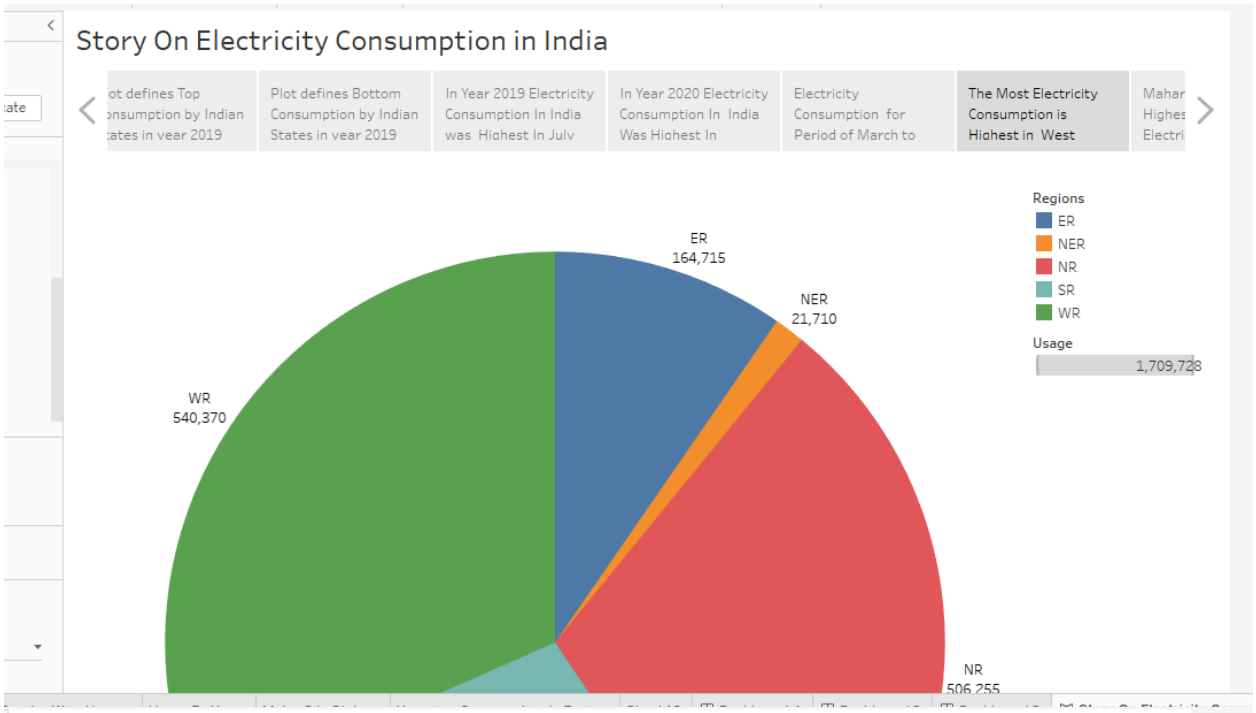
Story On Electricity Consumption in India

ar Plot for Total ectricity nsumption by Indian | Region Wise Plot Clearly States Consumption in 2019 is | Plot defines Top Consumption by Indian States in year 2019 | Plot defines Bottom Consumption by Indian States in year 2019 | In Year 2019 Electricity Consumption In India was Highest In July | **In Year 2020 Electricity Consumption In India Was Highest In** | Electri Consur Period



egion Wise Plot early States nsumption in 2019 is | Plot defines Top Consumption by Indian States in year 2019 | Plot defines Bottom Consumption by Indian States in year 2019 | In Year 2019 Electricity Consumption In India was Highest In July | In Year 2020 Electricity Consumption In India Was Highest In | **Electricity Consumption for Period of March to**




Story On Electricity Consumption in India
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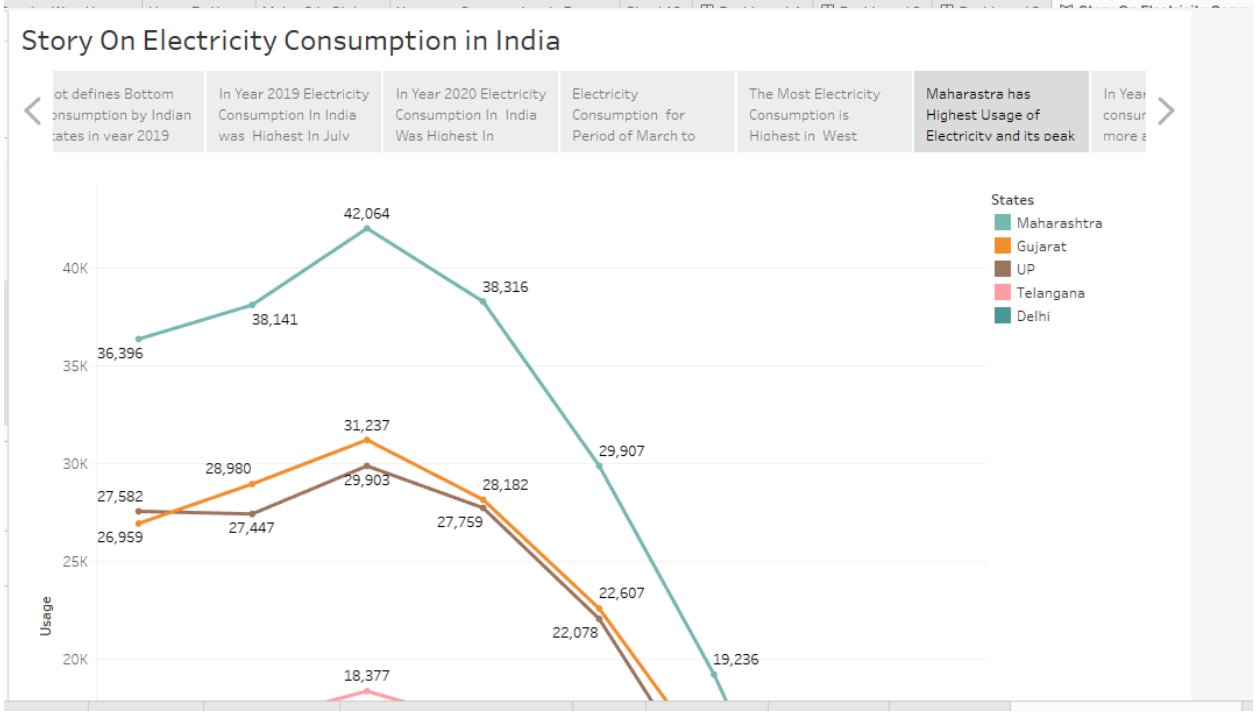
Plot defines Bottom
Consumption by Indian
States in year 2019
In Year 2019 Electricity
Consumption In India
was Highest In July
In Year 2020 Electricity
Consumption In India
Was Highest In
Electricity
Consumption for
Period of March to
The Most Electricity
Consumption is
Highest in West
Mahar
Highes
Electri
Regions
ER
NER
NR
SR
WR
Usage
1,709,728
ER
164,715
NER
21,710
WR
540,370
NR
506,255


Story On Electricity Consumption in India
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In Year 2019 Electricity
Consumption In India
was Highest In July
In Year 2020 Electricity
Consumption In India
Was Highest In
Electricity
Consumption for
Period of March to
The Most Electricity
Consumption is
Highest in West
Maharastra has
Highest Usage of
Electricity and its peak
In Year
consur
more a
States
Maharashtra
Gujarat
UP
Telangana
Delhi
Usage
40K
35K
30K
25K
20K
42,064
38,141
36,396
38,316
29,907
31,237
28,980
27,582
26,959
29,903
27,447
28,182
27,759
22,607
22,078
19,236
18,377

5. Advantages & Disadvantages

ADVANTAGES

- The major advantages of this analysis are to develop Policies.
- Precaution for investment.
- To determine whether the consumption is high or low in which State or Region.
- To recover the level of Electricity demand.

DISADVANTAGES

- Electricity usage increase in residential use.
- Electricity usage decrease in Industrial and commercial use.
- Has a surplus power generation capacity but a lack adequate fuel supply and power distribution.
- Disruptions to the power supply.

6. Applications

- This application helps us to analyze the more data source.
- This application helps us to analyze the different regions in India.
- This help us to identify the consumption where it is high & low.
- This help us to analyze the year wise and month wise consumption variation.

7. Conclusion

We are analyzing through this project the Electricity Consumption is increased & decreased in which State or Region in India.

First, we create a Empathy Map in which say, Think, feel, does etc…

Second, we create a template of Ideation & Brainstorming Map in which the appropriate ideas are given by everyone in the team with the Leader.

Third, Analyzing the consumption by using visual elements such as charts, maps, graphs. This visualization helps us to quickly identify patterns, trends, outliers in the data.

Finally, visualized data can be presented as Dashboard & Story that presents the data in logical and systematic way and also highlight their implications.

8. Future Scope

- India's energy demand was projected to increase by almost 50% between 2019 and 2030.
- Consume electricity by using natural light.
- India will need to add a power system.
- An expanding economy, population , urbanization and industrialization mean that India sees the largest increase in energy demand in future.

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