

CHRISTOPHER ARTS & SCIENCE COLLEGE (WOMEN)

**KALAKAD ROAD, SURANGUDI, NANGUNERI (TLK), TIRUNELVELI-
627108.**

III B.Sc PHYSICS

DATA ANALYTICS WITH TABLEAU

**PROJECT TITLE: PLUGGING INTO THE FUTURE: AN EXPLORATION OF
ELECTRICITY CONSUMPTION PATTERNS**

INTRODUCTION:

Energy efficiency and conservation have numerous benefits for both the environment and human health. It can reduce the demand for nuclear power as well as for fossil fuels such as coal, oil, natural gas and propane. Saving electricity looks like a difficult task due to the nature of electricity, which remains invisible right from its discovery and perhaps due to consumers' attitude and behavior. This will drive consumers to pay more attention to unnecessary use of electricity and most probably change their everyday behavior. The use of best available technology with best practice behaviour has been estimated to reduce consumption by 1300kwh/year

per European households. This can be achieved through proper education and knowledge on basic features of electricity. Using tableau and Mysql software we analysed the energy consumption patterns for overall states.

1.1 OVERVIEW:

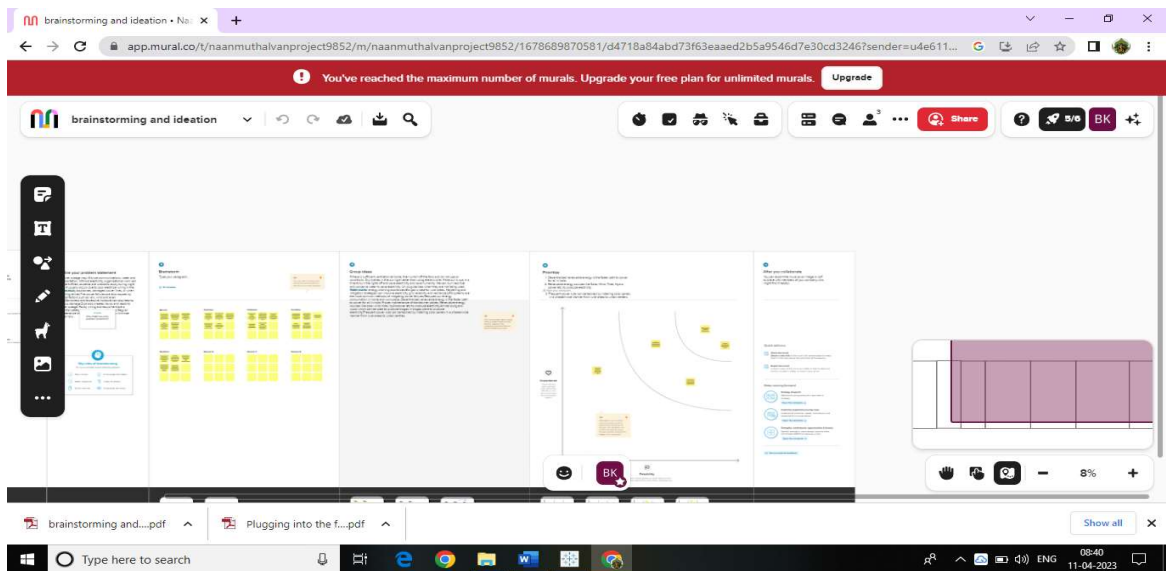
- (i)** Define the problem/Problem understanding
- (ii)** Data collection & Extaction from database
- (iii)** Data preparation
- (iv)** Data visualization
- (v)** Dashboard
- (vi)** Story
- (vii)** Web integration
- (viii)** Project demonstration & Documentation
- (ix)**

2. PURPOSE:

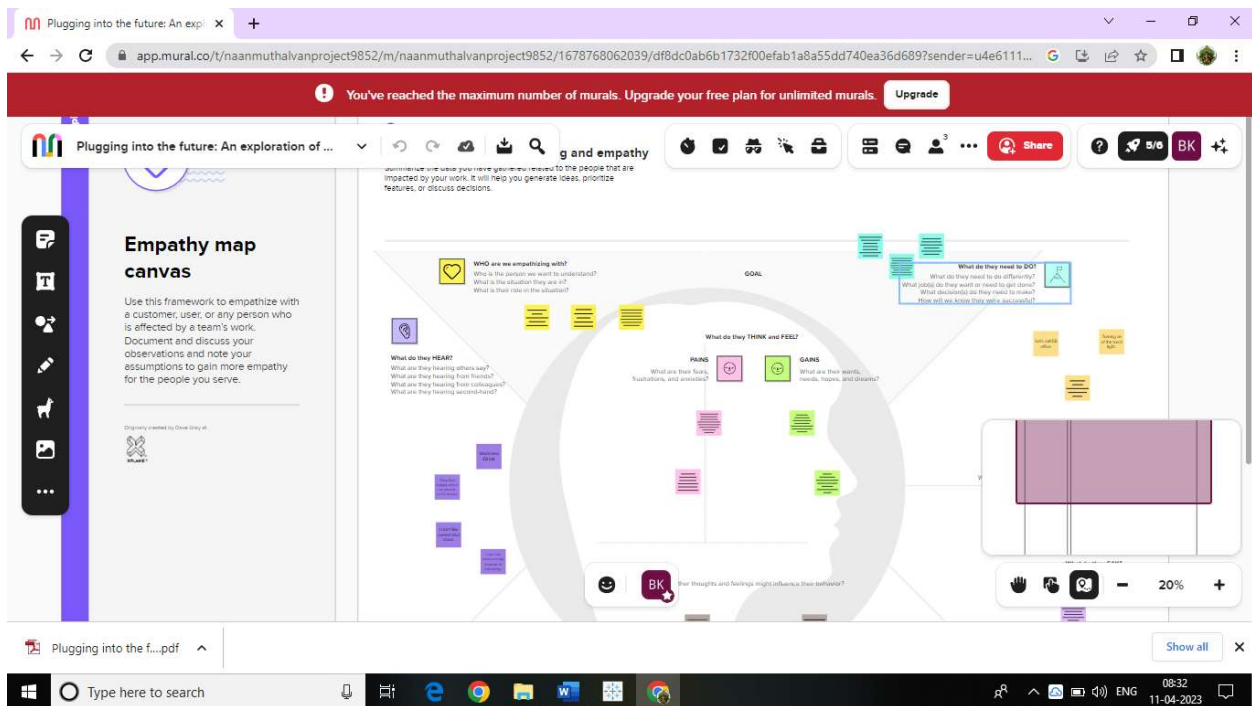
We analyze the electricity consumption patterns for different states and region in 2019 & 2020 before and after lockdown.

2. Problem defining and design thinking

2.1. Empathy Map

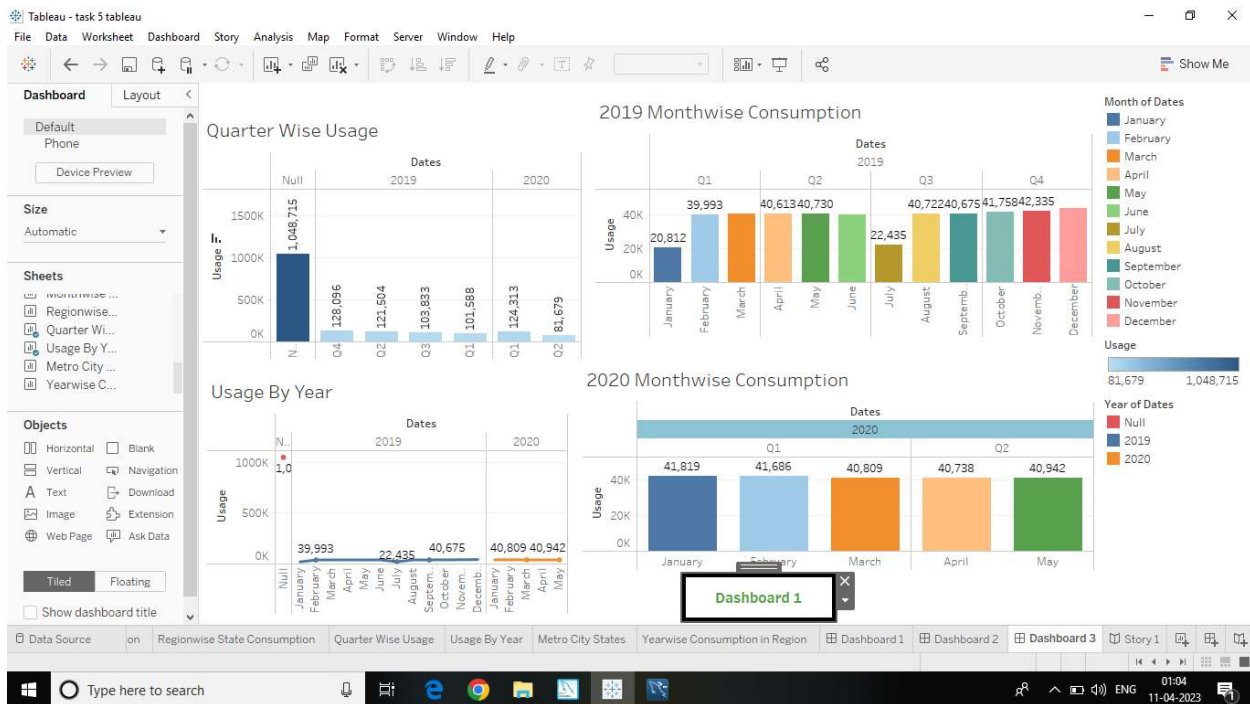


2.2 Ideation & Brainstorming

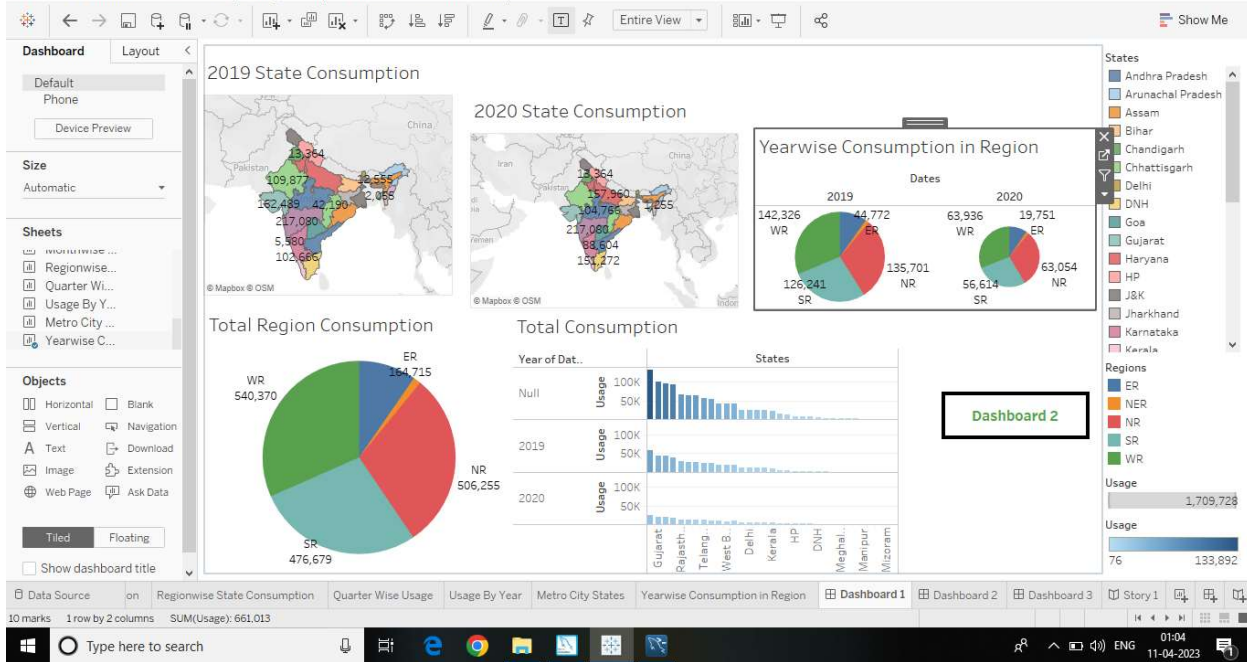


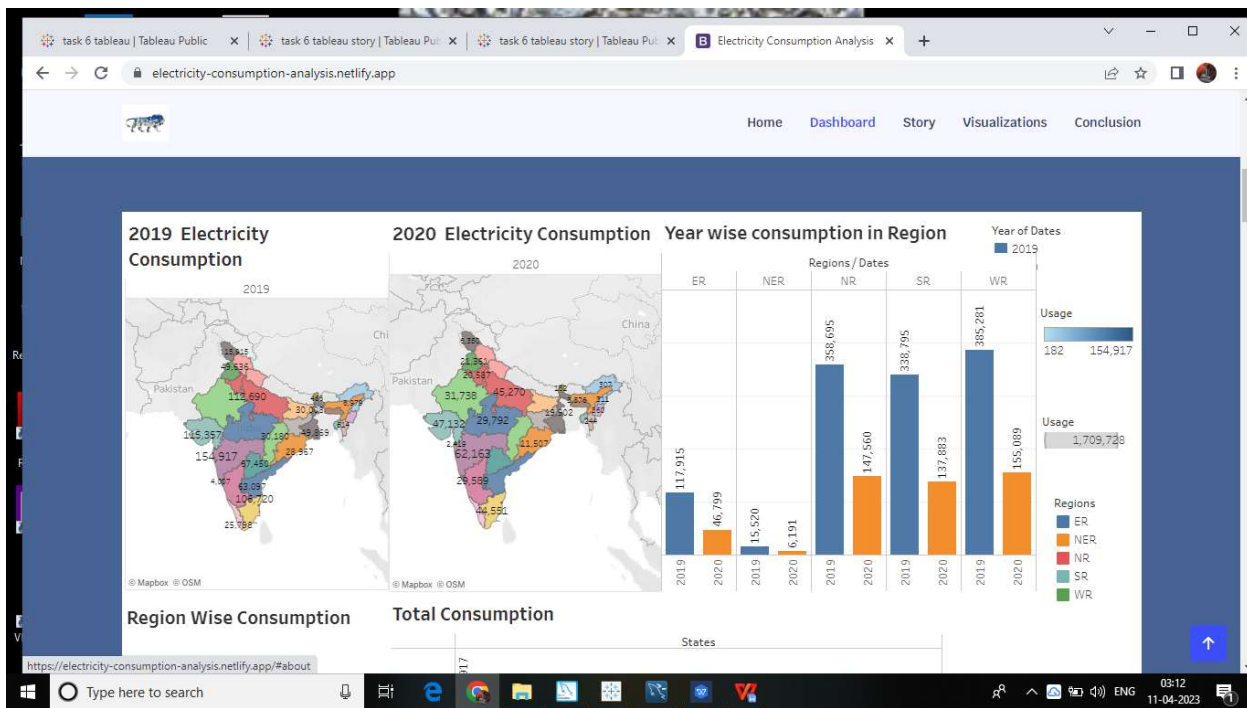
3.Results:

Dashboard 1

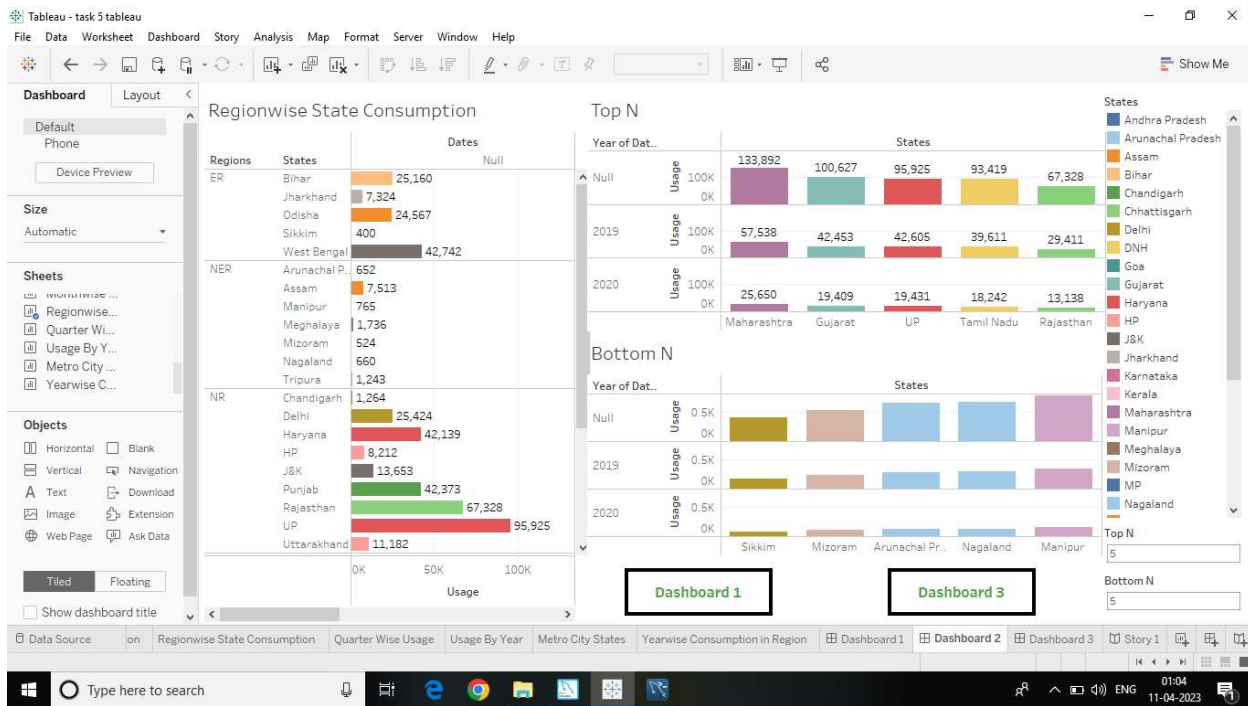


Dashboard 2

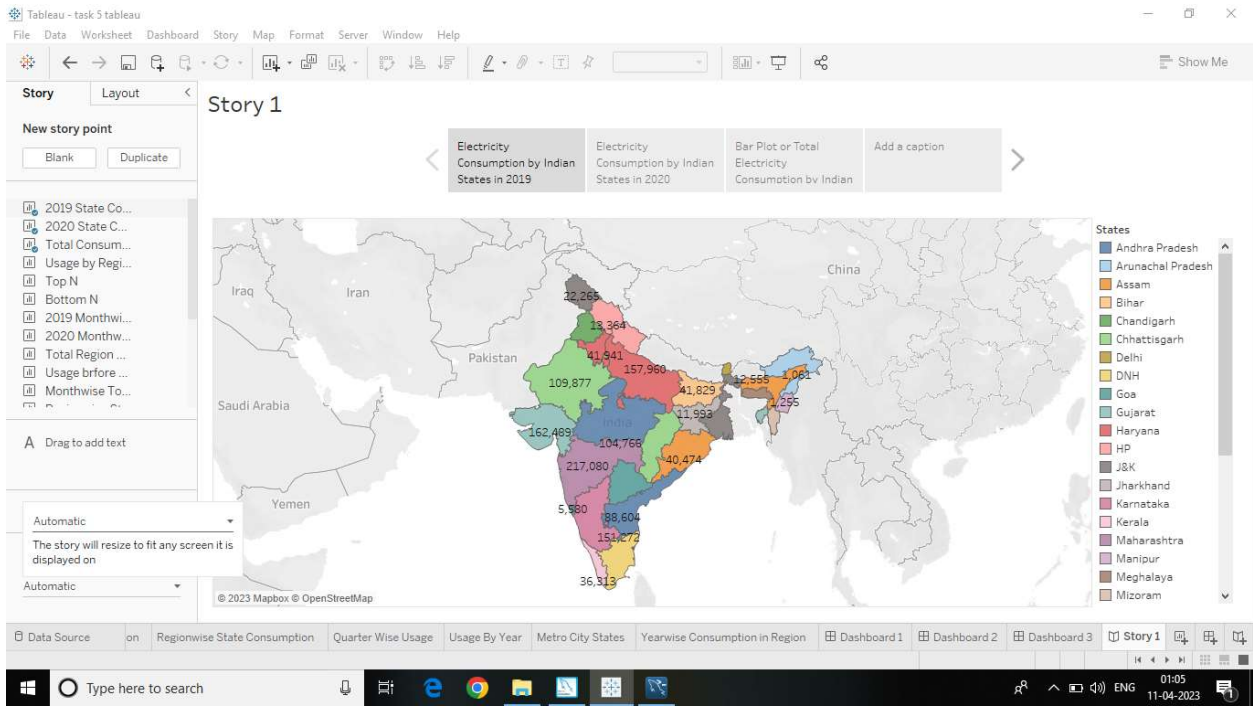


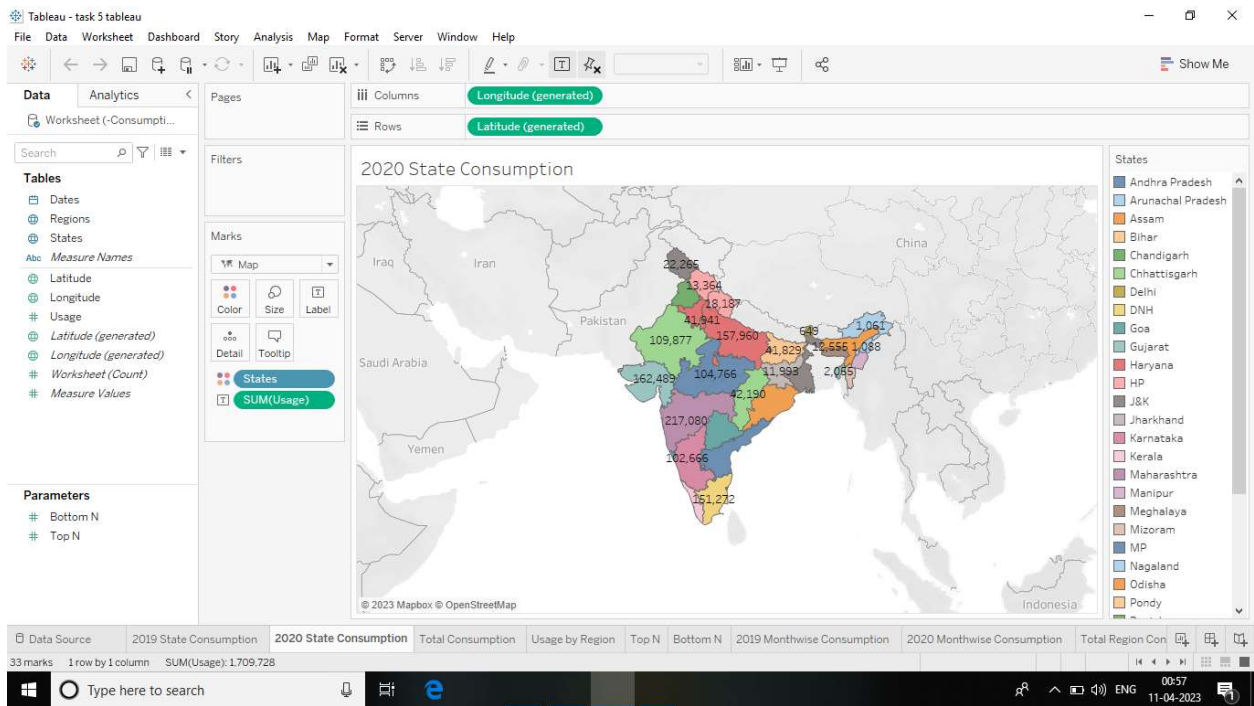


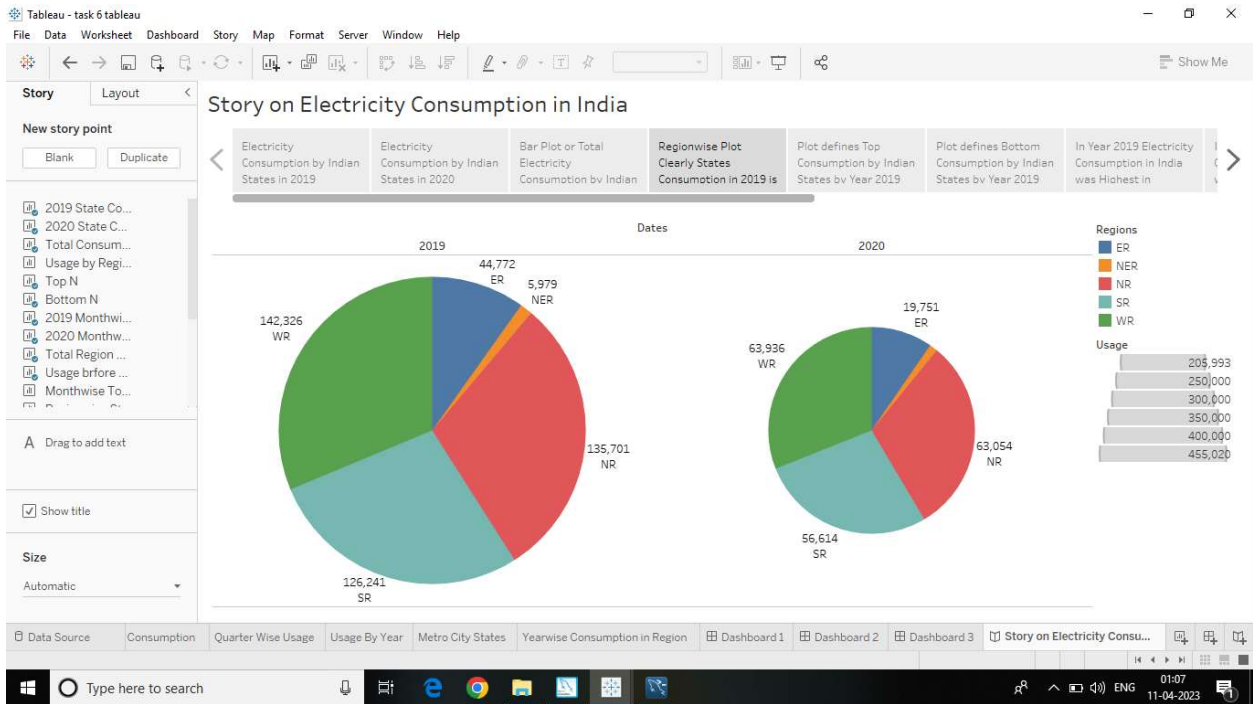
Dashboard 3

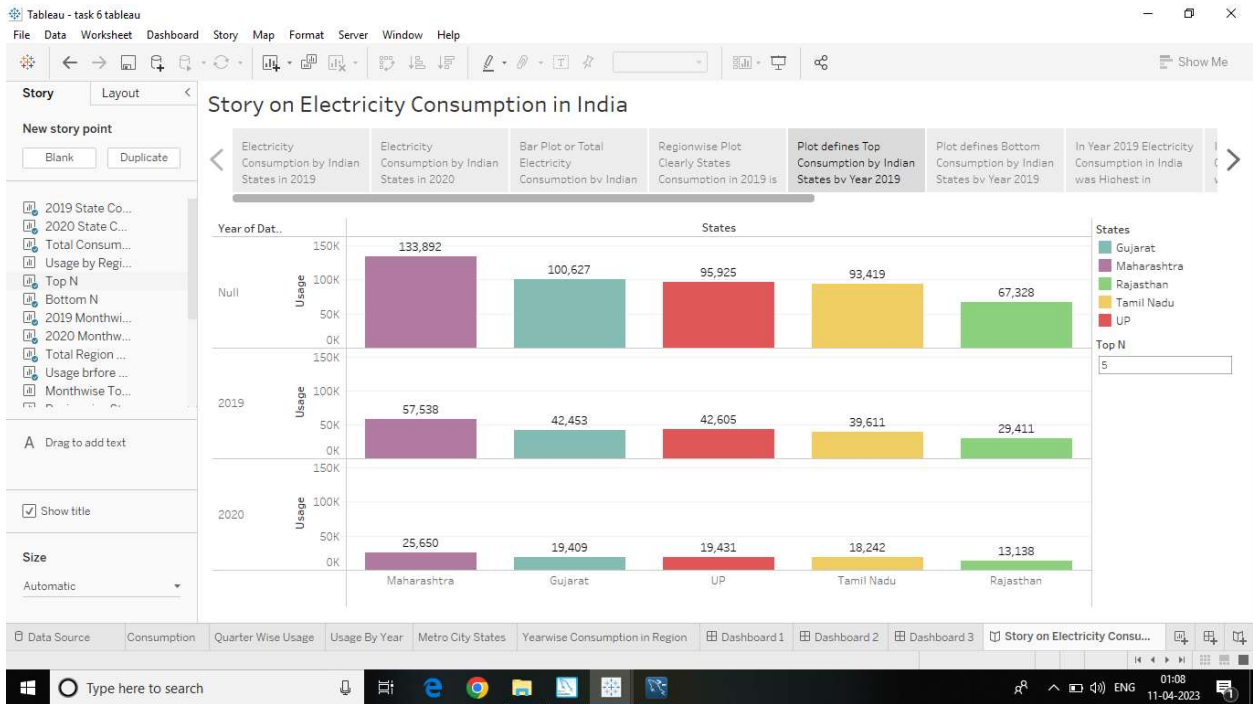


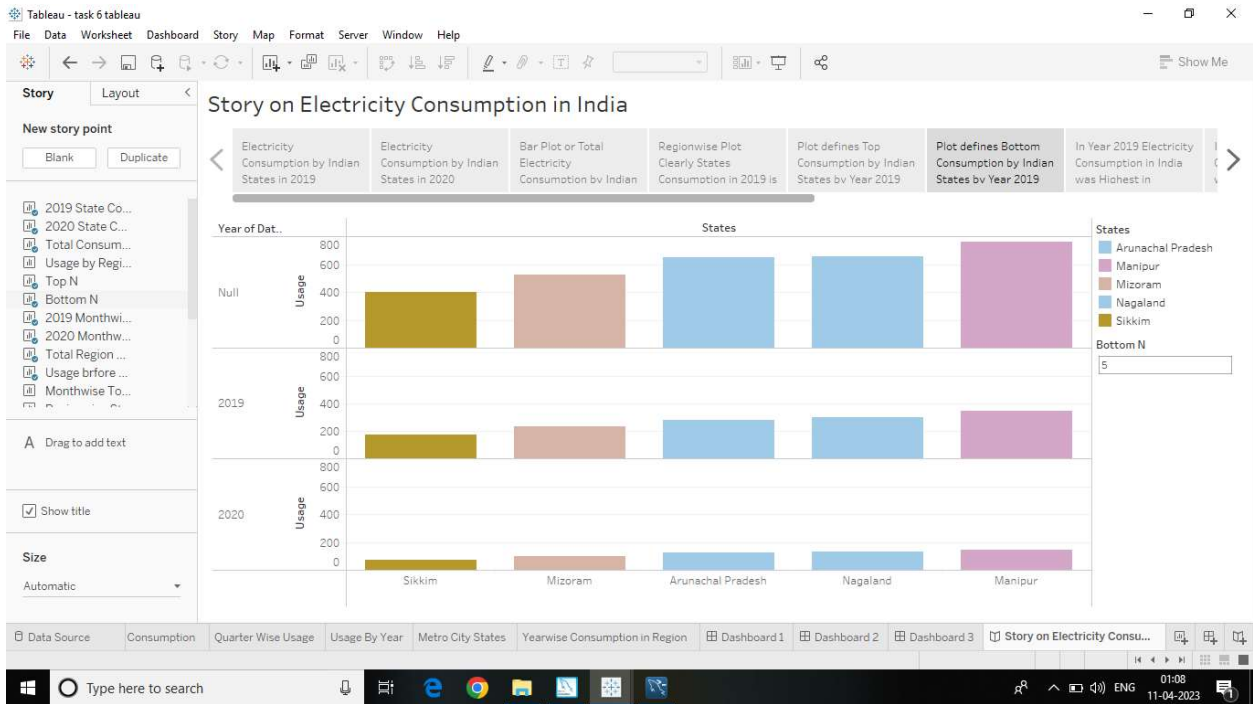
Story

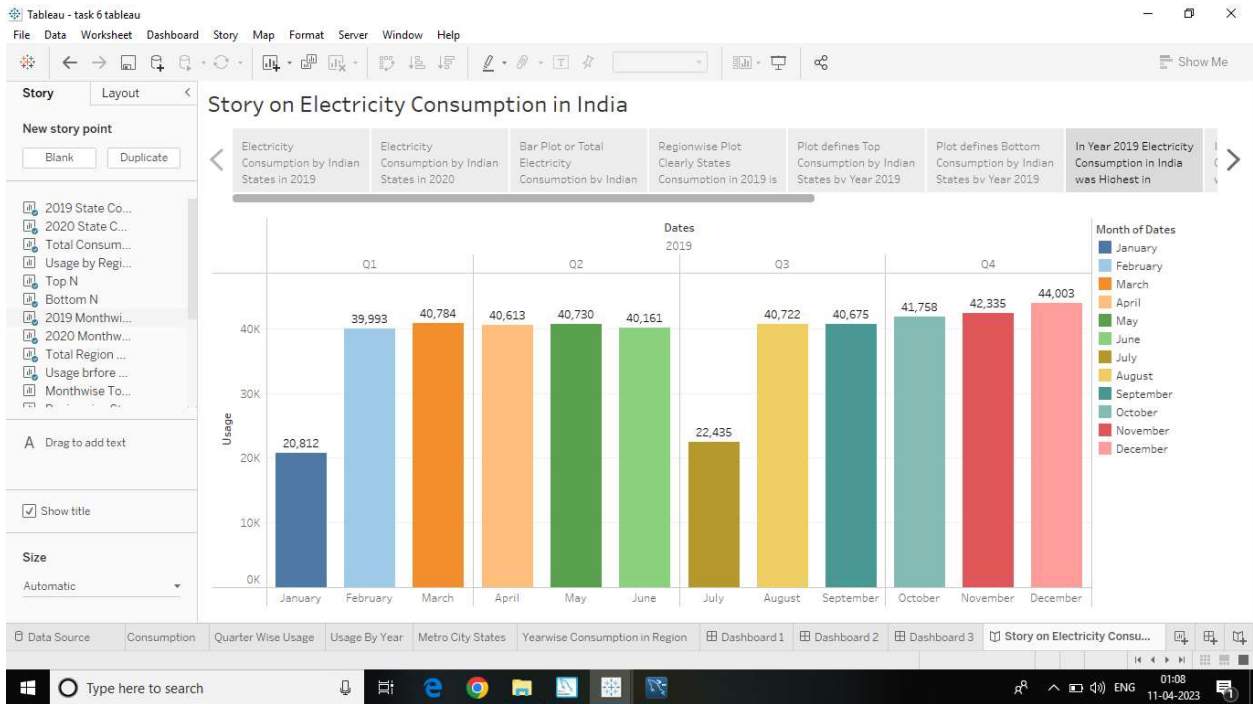


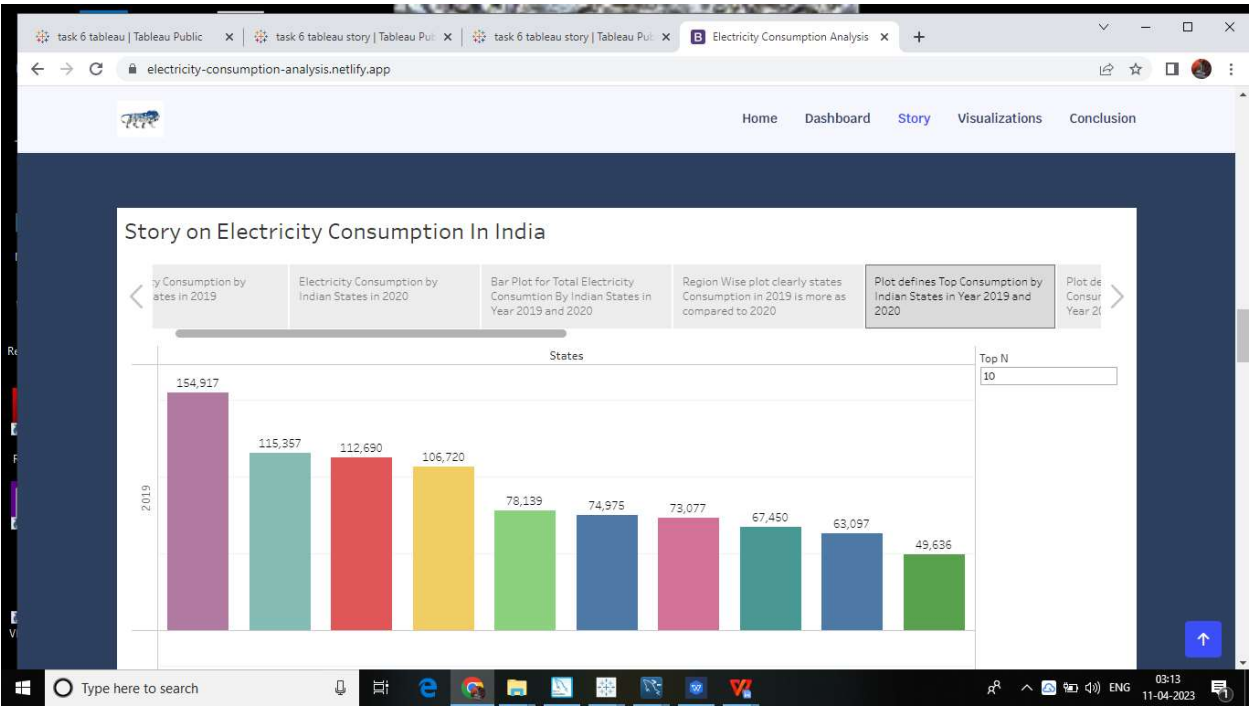


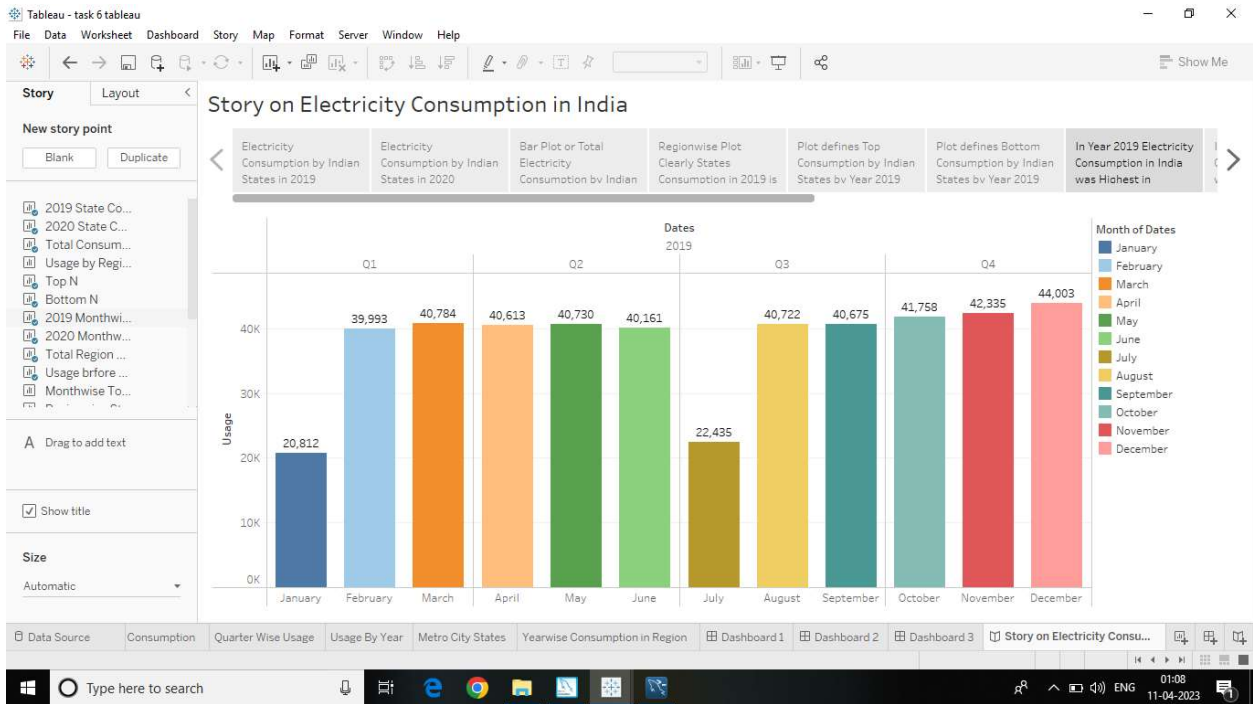


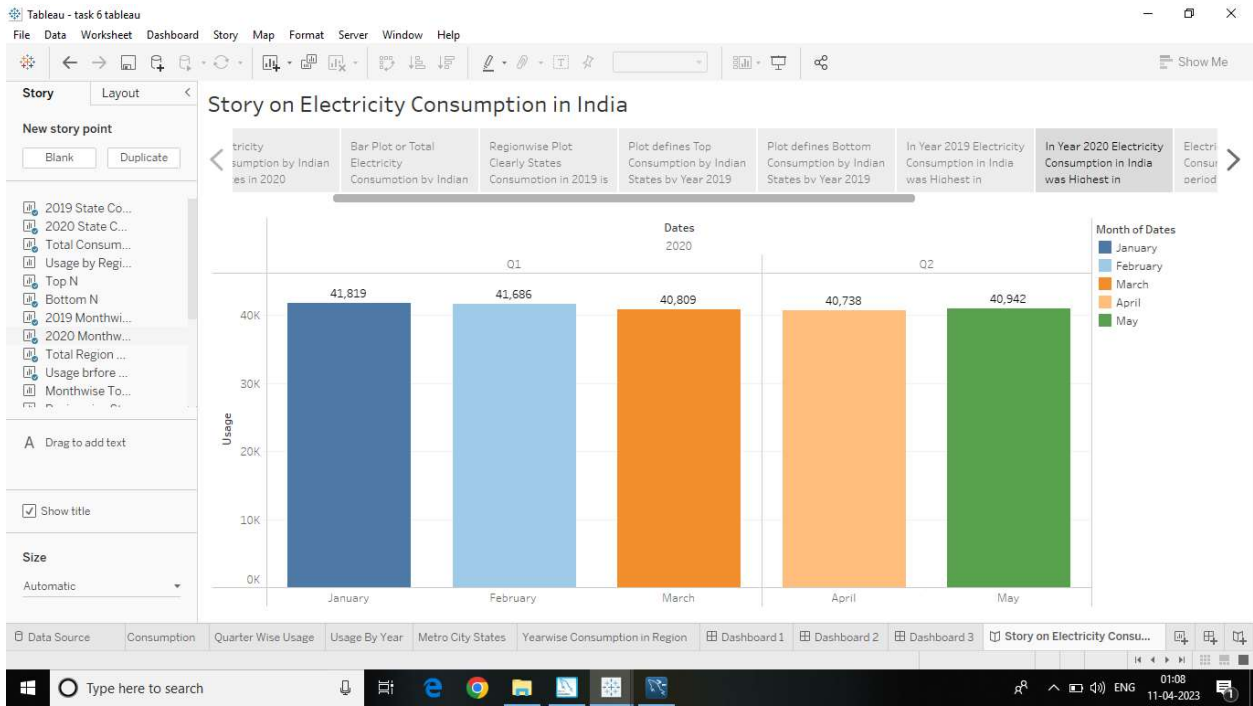


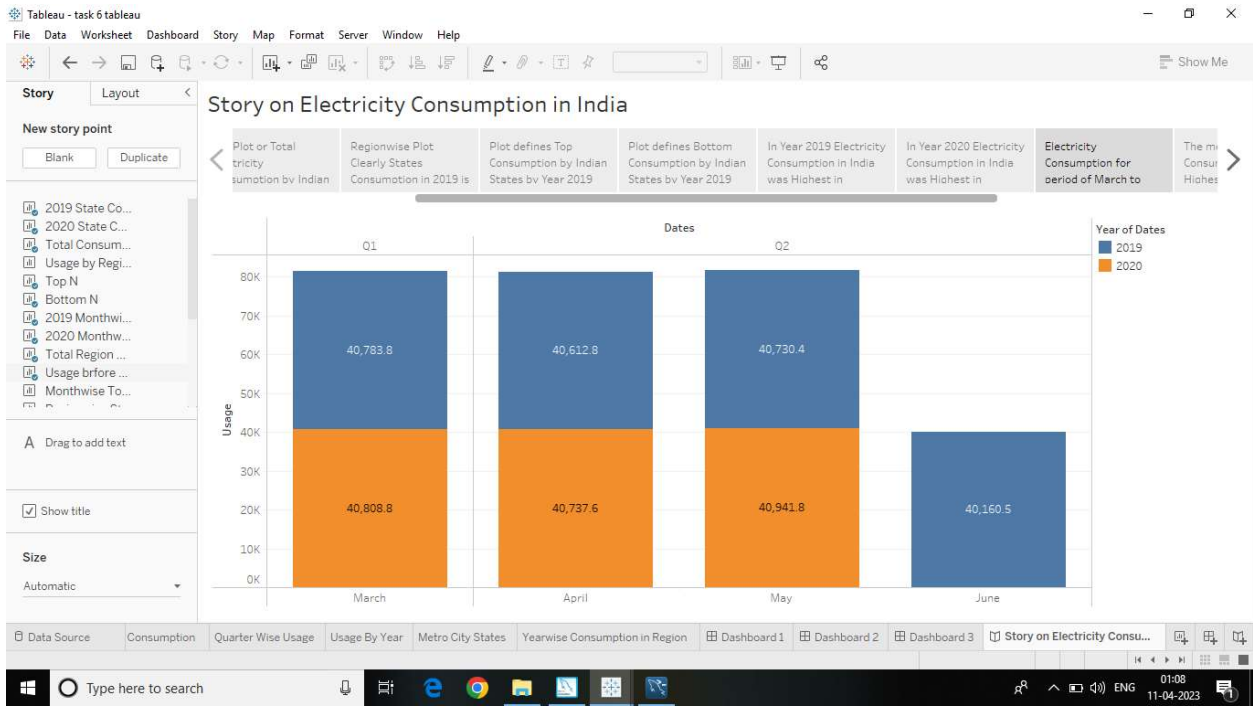


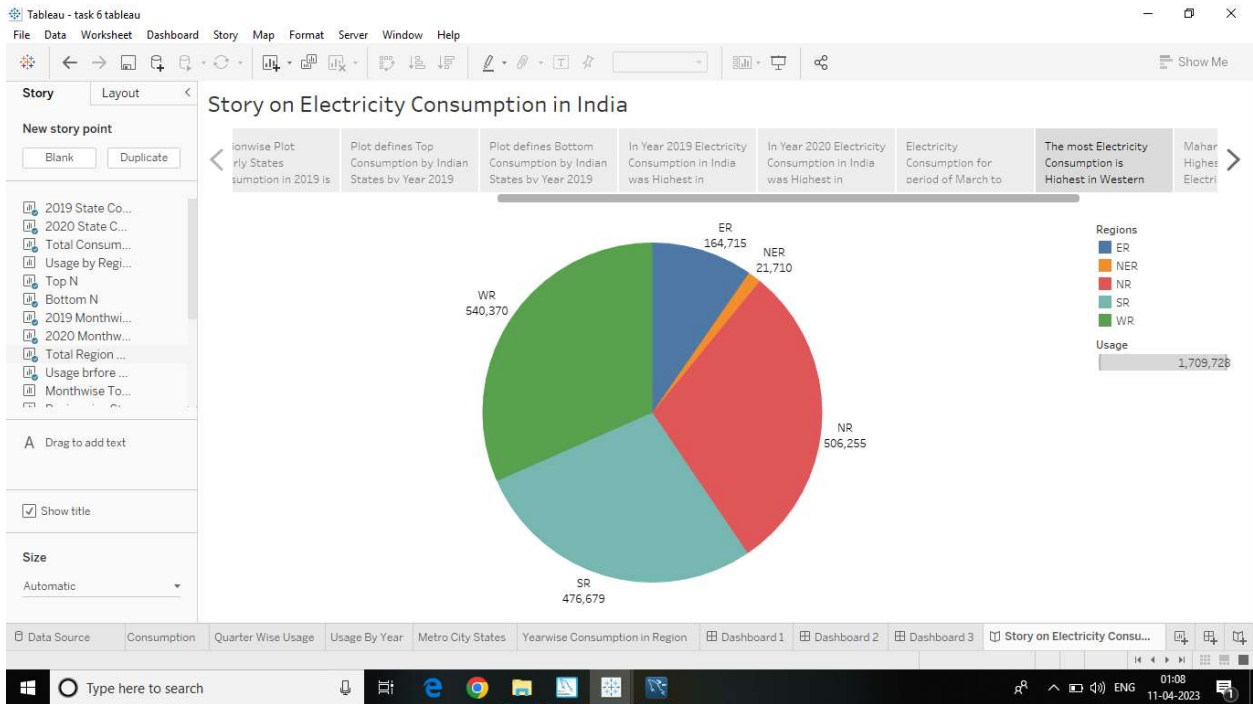


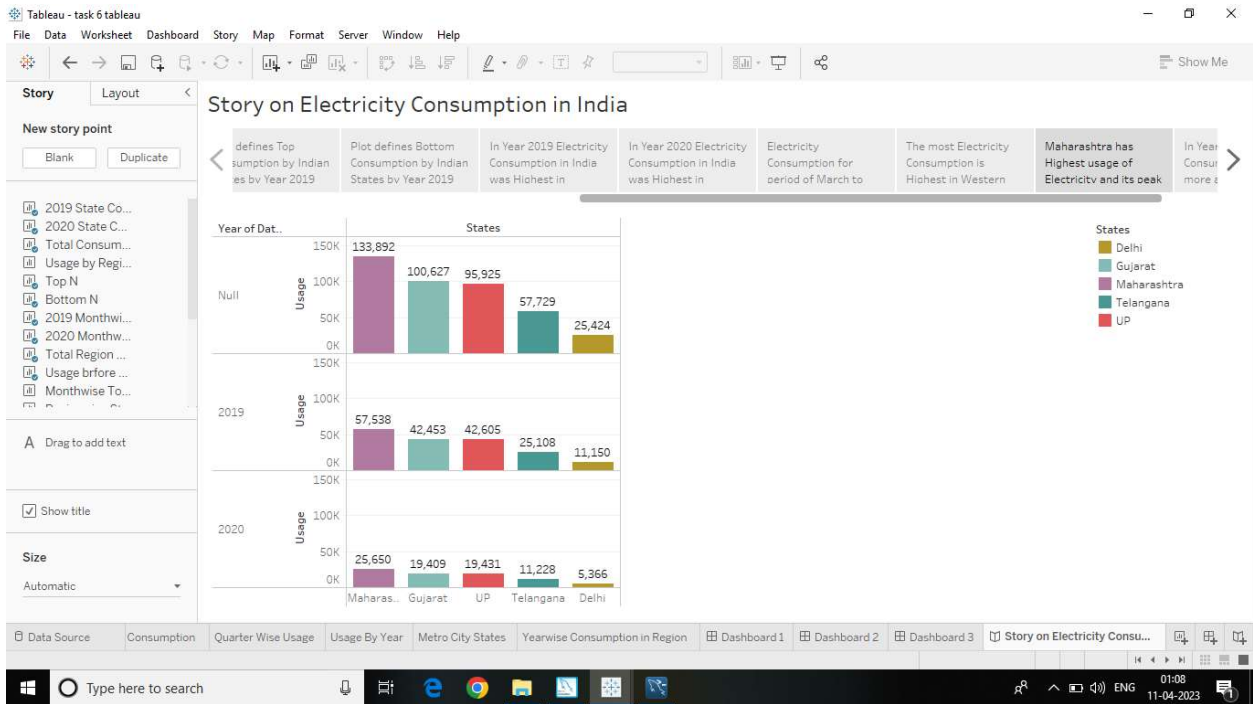


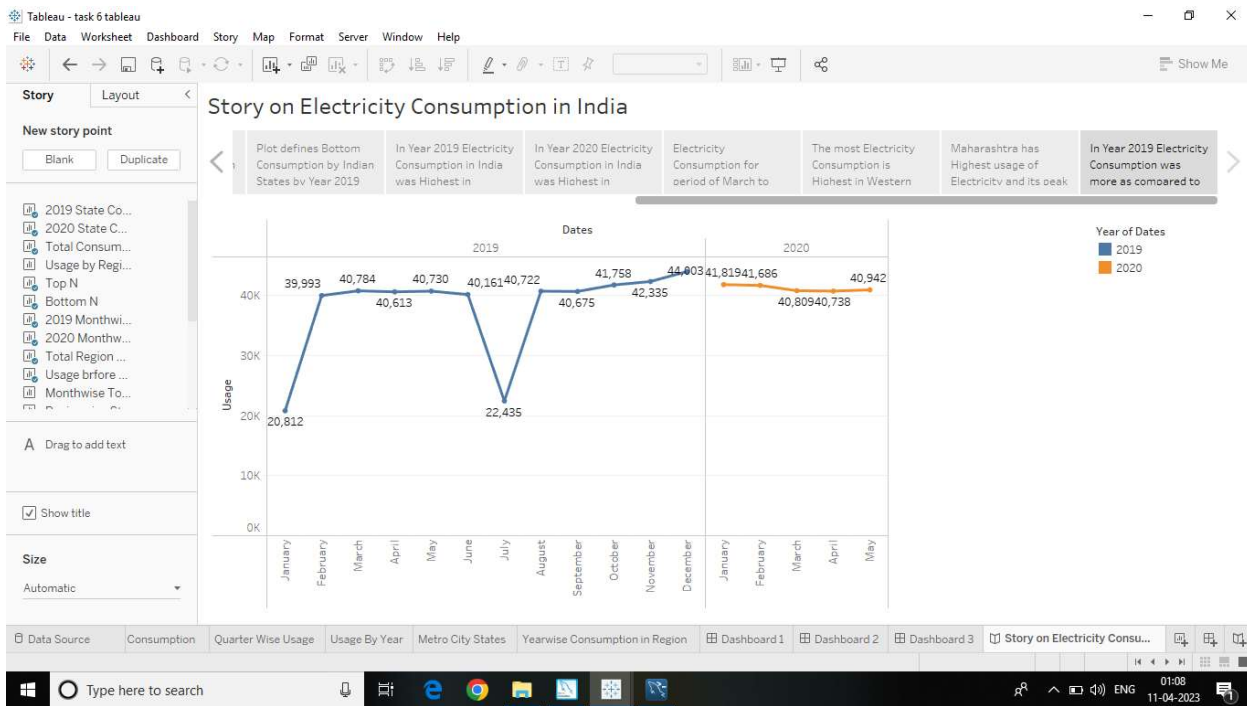












4. Advantages and Disadvantages

- We identify which are region is lowest and highest electricity energy consumption.
- Total electricity energy consumption in north eastern region is lowest.

- Total electricity energy consumption in western region is highest.
- Electricity consumption in 2020 for quarter 3 was lowest.
- Power cut & energy shortage from coal, oil and gas are the main disadvantage

5. Applications

- In this project used to analyze the energy consumption in various states and region
- We learned a lot of information about energy consumption in our country.
- We studied how to work with MYSQL and Tableau software.
- We learned more information using graphical presentation.

6. Conclusion

Maharashtra is the highest electricity consumption use of India.

Gujarat is the second highest electricity consumption user of India.

Sikkim is the lowest electricity consumption user of India.

7. Future Scope

Due to energy consumption, we increase more solar plants in our country.

8. Appendix

Dashboard 1 Public link

<file:///C:/Users/USER/Desktop/Electricity%20consumption/dashboard1.html>

HTML code

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Electricity Consumption Dashboard</title>
```

```
<!-- Include CSS stylesheets -->
```

```
<link rel="stylesheet" href="styles.css">
```

</head>

<body>

<header>

<h1>Electricity Consumption Dashboard</h1>

</header>

<main>

<section id="tableau">

<div class='tableauPlaceholder' id='viz1681720316556' style='position: relative'><noscript></noscript><object class='tableauViz' style='display:none;'><param name='host_url' value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed_code_version' value='3' /> <param name='site_root' value='' /><param name='name' value='task6tableau&Dashboard1' /><param name='tabs' value='no' /><param name='toolbar' value='yes' /><param name='static_image' value='https://public.tableau.com/static/images/ta/task6tableau&Dashboard1&1.png' /> <param name='animate_transition' value='yes' /><param name='display_static_image' value='yes' /><param name='display_spinner' value='yes' /><param name='display_overlay' value='yes' /><param name='display_count' value='yes' /><param name='language' value='en-US' /></object></div> <script type='text/javascript'>

```
var divElement = document.getElementById('viz1681720316556');          var vizElement =  
divElement.getElementsByTagName('object')[0];          if ( divElement.offsetWidth > 800 )  
{ vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';} else if  
( divElement.offsetWidth > 500 )  
{ vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';} else  
{ vizElement.style.width='100%';vizElement.style.height='1827px';}          var scriptElement =  
document.createElement('script');          scriptElement.src = 'https://public.tableau.com/javascripts/api/viz_v1.js';  
vizElement.parentNode.insertBefore(scriptElement, vizElement);          </script>
```

</section>

</body>

</html>

Dashboard 2 Public link

Public link

<file:///C:/Users/USER/Desktop/Electricity%20consumption/dashboard2.html>

HTML code

<!DOCTYPE html>

```
<html>
```

```
<head>
```

```
<title>Electricity Consumption Dashboard</title>
```

```
<!-- Include CSS stylesheets -->
```

```
<link rel="stylesheet" href="styles.css">
```

```
</head>
```

```
<body>
```

```
<header>
```

```
<h1>Electricity Consumption Dashboard</h1>
```

```
</header>
```

```
<main>
```

```
<section id="tableau">
```

```

<div class='tableauPlaceholder' id='viz1681721340957' style='position: relative'><noscript><a href='#'><img
alt='Dashboard 2 '
src='https://public.tableau.com/static/images/ta/task6tableau/Dashboard2&1_
rss.png' style='border: none' /></a></noscript><object class='tableauViz' style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed_code_version' value='3' /> <param
name='site_root' value='' /><param name='name' value='task6tableau&Dashboard2' /><param name='tabs'
value='no' /><param name='toolbar' value='yes' /><param name='static_image'
value='https://public.tableau.com/static/images/ta/task6tableau/Dashboard2&1.
png' /> <param name='animate_transition' value='yes' /><param name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param name='display_overlay' value='yes' /><param name='display_count'
value='yes' /><param name='language' value='en-US' /></object></div>
<script type='text/javascript'>
var divElement = document.getElementById('viz1681721340957');
divElement.getElementsByTagName('object')[0];
if ( divElement.offsetWidth > 800 )
{ vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';} else if
( divElement.offsetWidth > 500 )
{ vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';} else
{ vizElement.style.width='100%';vizElement.style.height='1277px';}
var scriptElement =
document.createElement('script');
scriptElement.src = 'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);
</script>

</section>

</body>

</html>

```

Dashboard 3

Public link

<file:///C:/Users/USER/Desktop/Electricity%20consumption/dashboard%203.html>

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Electricity Consumption Dashboard</title>
```

```
<!-- Include CSS stylesheets -->
```

```
<link rel="stylesheet" href="styles.css">
```

```
</head>
```

```
<body>
```

```
<header>
```

```
<h1>Electricity Consumption Dashboard</h1>
```

</header>

<main>

<section id="tableau">

```
<div class='tableauPlaceholder' id='viz1681721544647' style='position: relative'><noscript><a href='#'><img
alt='Dashboard 3 '
src='https://public.tableau.com/static/images/ta/task6tableau/Dashboard3/1_
rss.png' style='border: none' /></a></noscript><object class='tableauViz' style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed_code_version' value='3' /> <param
name='site_root' value='' /><param name='name' value='task6tableau/Dashboard3' /><param name='tabs'
value='no' /><param name='toolbar' value='yes' /><param name='static_image'
value='https://public.tableau.com/static/images/ta/task6tableau/Dashboard3/1_
1.png' /> <param name='animate_transition' value='yes' /><param name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param name='display_overlay' value='yes' /><param name='display_count'
value='yes' /><param name='language' value='en-US' /></object></div>      <script type='text/javascript'>
var divElement = document.getElementById('viz1681721544647');      var vizElement =
divElement.getElementsByTagName('object')[0];      if ( divElement.offsetWidth > 800 )
{ vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';} else if
( divElement.offsetWidth > 500 )
{ vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';} else
{ vizElement.style.width='100%';vizElement.style.height='1477px';}      var scriptElement =
document.createElement('script');      scriptElement.src = 'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);      </script>
```

</section>

</body>

</html>

Story

Public link

<file:///C:/Users/USER/Desktop/Electricity%20consumption/story.html>

HTML code for story

<!DOCTYPE html>

<html>

<head>

<title>Electricity Consumption Dashboard</title>

<!-- Include CSS stylesheets -->

<link rel="stylesheet" href="styles.css">

</head>

<body>

<header>

<h1>Electricity Consumption Dashboard</h1>

</header>

<main>

<section id="tableau">

<div class='tableauPlaceholder' id='viz1681721802895' style='position: relative'><noscript></noscript><object class='tableauViz' style='display:none;'><param name='host_url' value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed_code_version' value='3' /> <param name='site_root' value='' /><param name='name' value='task6tableaustory/StoryonElectricityConsumptioninIndia' /><param name='tabs' value='no' /><param name='toolbar' value='yes' /><param name='static_image' value='https://public.tableau.com/static/images/ta/task6tableaustory/StoryonElectricityConsumptioninIndia/1.png' /> <param name='animate_transition' value='yes' /><param name='display_static_image' value='yes' /><param name='display_spinner' value='yes' /><param

```
name='display_overlay' value='yes' /><param name='display_count' value='yes' /><param name='language' value='en-US' /></object></div>
<script type='text/javascript'>
    var divElement =
document.getElementById('viz1681721802895');
    var vizElement =
divElement.getElementsByTagName('object')[0];
    vizElement.style.width='100%';vizElement.style.height=(divElement.offsetWidth*0.75)+'px';
    var scriptElement
= document.createElement('script');
    scriptElement.src = 'https://public.tableau.com/javascripts/api/viz_v1.js';
    vizElement.parentNode.insertBefore(scriptElement, vizElement);
</script>
```

</section>

</main>

<footer>

<p>© 2023 Plugging into the Future</p>

</footer>

</script>

</body>

</html>

