

## Project Development

### Project Development Template (Data Connectivity, Data Preparation, Dashboard, Story)

|              |  |
|--------------|--|
| Date         | 11 February 2026   |
| Team ID      | LTVIP2026TMIDS80901  |
| Project Name | Plugging in to the future : An exploration of electricity consumption patterns |

#### Preprocessing Steps Performed On Dataset :

##### 1. Data Cleaning :

- Removed duplicate values
- Removed Inconsistent or missing values

Example :

Duplicate values of same household and date were removed

##### 2. Column Renaming :

- Renamed column headers to meaningful names

Example :

Column “dt” was renamed to “Date”.

##### 3. Data Type Conversion :

- Converted Date column to proper Date format
- Converted Consumption column to Number (Measure)
- Converted State and Region fields to categorical (dimension) data types to support grouping and filtering.

Example :

State field converted to Dimension for region-wise grouping

##### 4. Created Parameters :

- Parameters were created to allow dynamic control of dashboard views and user interaction.
- Top N
- Bottom N

##### 5. Filtering Irrelevant Data :

- Removed unnecessary columns not used for analysis

- Filtered out invalid or zero consumption values

Example :

Columns unrelated to analysis were removed to simplify the dataset.

## 6. Created Calculation Fields :

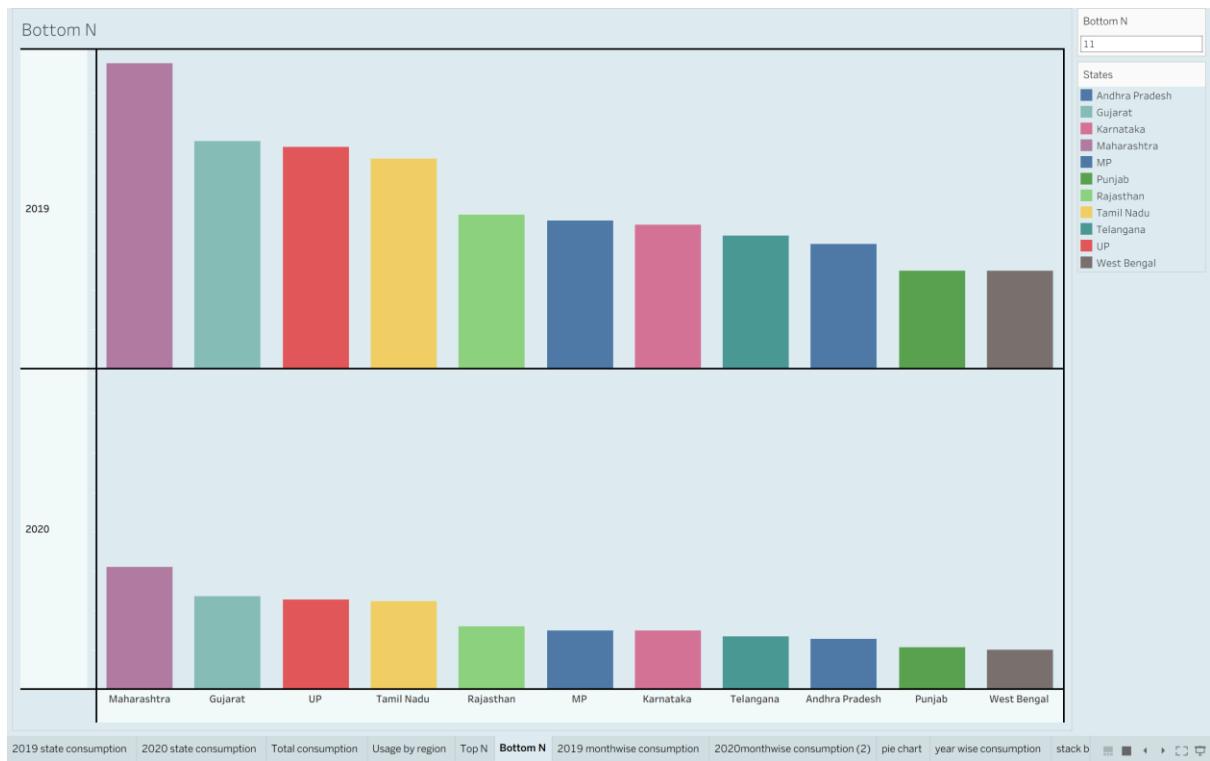
- Created Calculation Field for Quarter
- Created Calculation Field for Total Usage

### Proofs for few preprocessing steps :

Here the image shows that I removed unwanted columns then I load the dataset in to tableau and also I changed the data types of region and states

| Consumption States | Consumption Regions | Consumption Latitude | Consumption Longitude | Consumption Dates | Consumption Usage | Calculation Total usage | Calculation Quarter |
|--------------------|---------------------|----------------------|-----------------------|-------------------|-------------------|-------------------------|---------------------|
| Punjab             | NR                  | 31.5200              | 75.9800               | 02-01-2019        | 119.900           | 119.900                 | 01-01-2019 00:00:00 |
| Haryana            | NR                  | 28.4500              | 77.0200               | 02-01-2019        | 130.300           | 130.300                 | 01-01-2019 00:00:00 |
| Rajasthan          | NR                  | 26.4500              | 74.6400               | 02-01-2019        | 234.100           | 234.100                 | 01-01-2019 00:00:00 |
| Delhi              | NR                  | 28.6700              | 77.2300               | 02-01-2019        | 85.800            | 85.800                  | 01-01-2019 00:00:00 |
| UP                 | NR                  | 27.6000              | 78.0500               | 02-01-2019        | 313.900           | 313.900                 | 01-01-2019 00:00:00 |
| Uttarakhand        | NR                  | 30.3204              | 78.0500               | 02-01-2019        | 40.700            | 40.700                  | 01-01-2019 00:00:00 |
| HP                 | NR                  | 31.1000              | 77.1666               | 02-01-2019        | 30.000            | 30.000                  | 01-01-2019 00:00:00 |

The below image shows parameter which one I used in my project i.e Bottom N



The below image shows that calculation fields in left side of the worksheet

Tableau - final project - Tableau license expires in 5 days

File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

Data Analytics < Pages

Consumption (tabDB)

Search

Tables

- Dates
- Quarter
- Regions
- States
- Measure Names
- Latitude
- Longitude
- Total usage
- Usage
- Consumption (Count)
- Latitude (generated)
- Longitude (generated)
- Measure Values

Parameters

- Bottom N
- Top N

iii Columns  
iii Rows

Sheet 18

Drop field here

Marks

Automatic

Color Size Text

Detail Tooltip

Drop field here

Add data to visualize

Double-click or drag fields from the data pane.

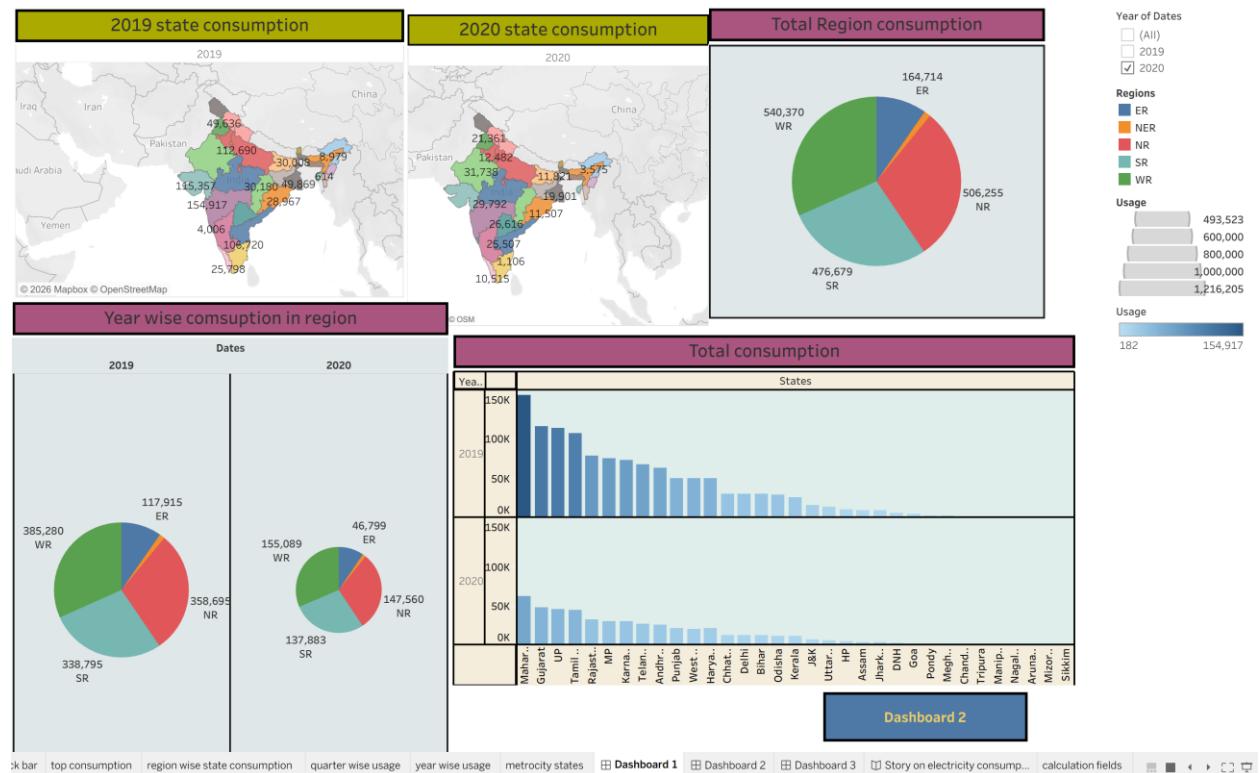
Data Source region wise state consumption quarter wise usage year wise usage metrocity states Dashboard 1 Dashboard 2 Dashboard 3 Story on electricity consum... calculation fields Sheet 18

## **Dashboard Implementation :**

A dashboard was created in Tableau to analyze electricity consumption patterns using trend charts, regional comparison views, and interactive filters for time period and region selection.

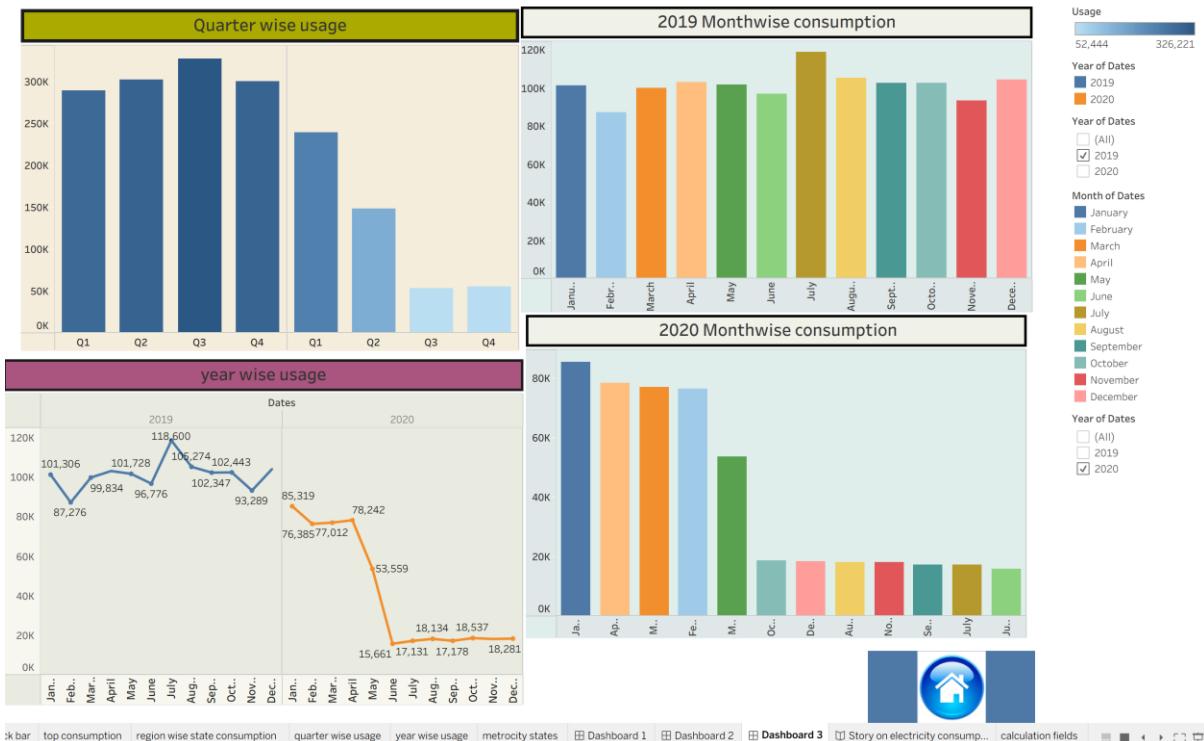
Examples:

- Monthly electricity consumption trend visualization
- Region-wise electricity consumption comparison





ok bar top consumption region wise state consumption quarter wise usage year wise usage metrocity states  Dashboard 1  Dashboard 2  Dashboard 3  Story on electricity consum... calculation fields



ok bar top consumption region wise state consumption quarter wise usage year wise usage metrocity states  Dashboard 1  Dashboard 2  Dashboard 3  Story on electricity consum... calculation fields

## Story Implementation :

A Tableau Story was created to present insights in a step-by-step flow including overall trends, peak consumption periods, and regional usage patterns.

Examples:

- Story point showing yearly electricity consumption trend
- Story point highlighting peak usage months

